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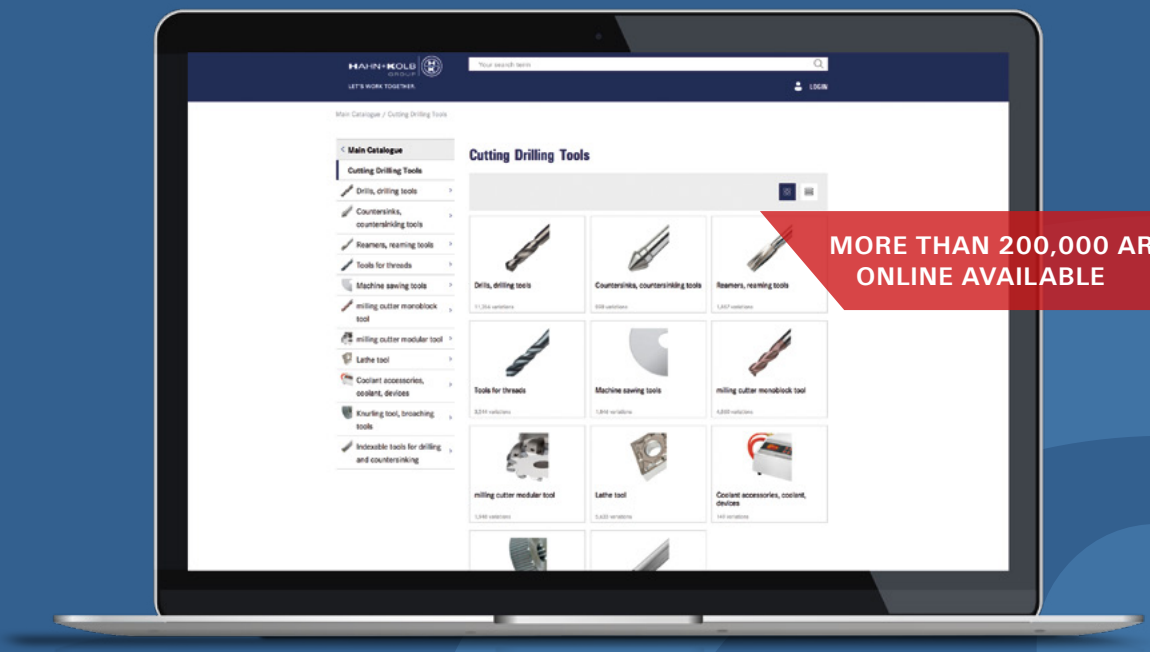

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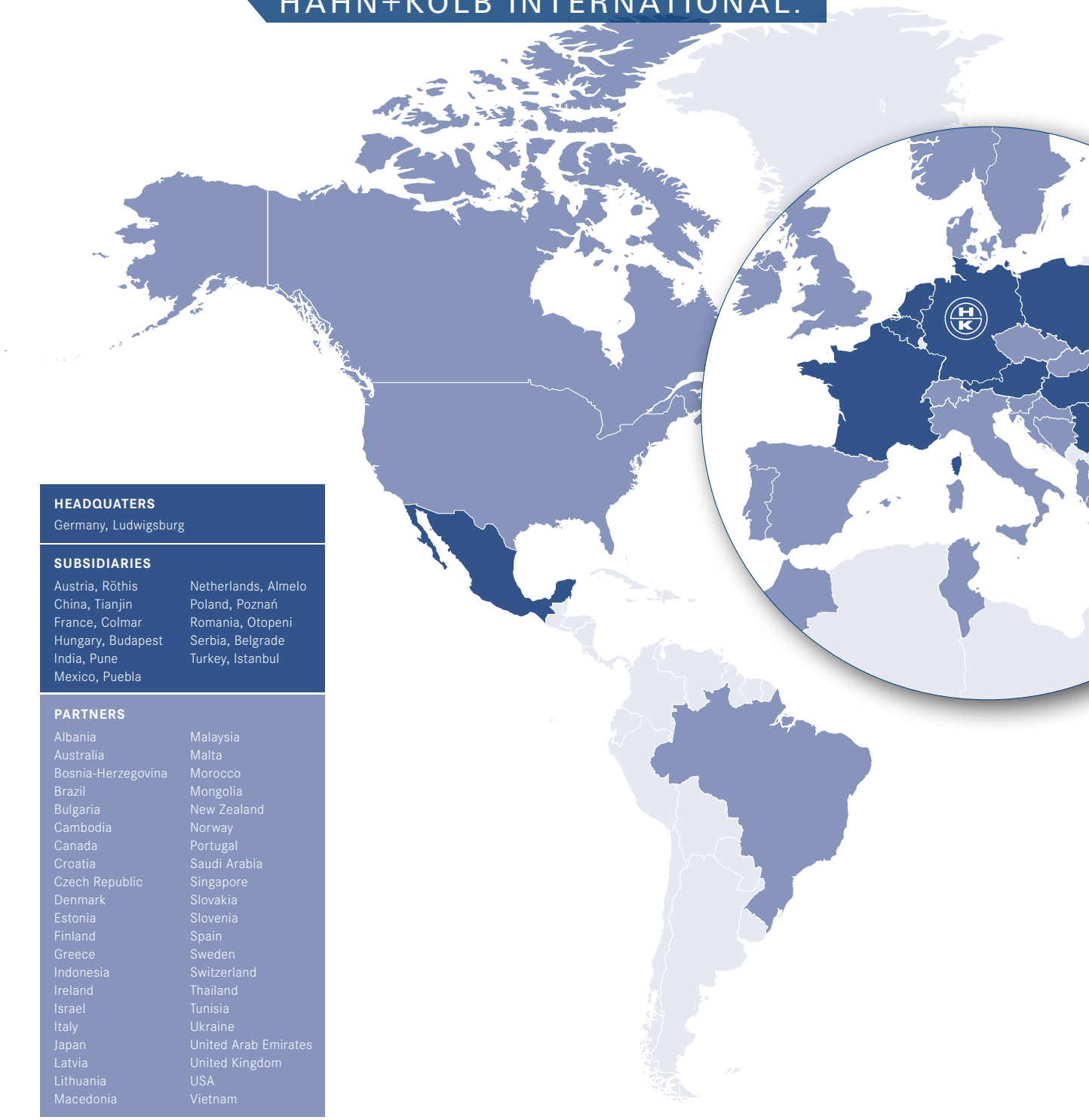
INDEX

WHEREVER YOU ARE: WE ARE THERE FOR YOU.

HAHN+KOLB INTERNATIONAL.



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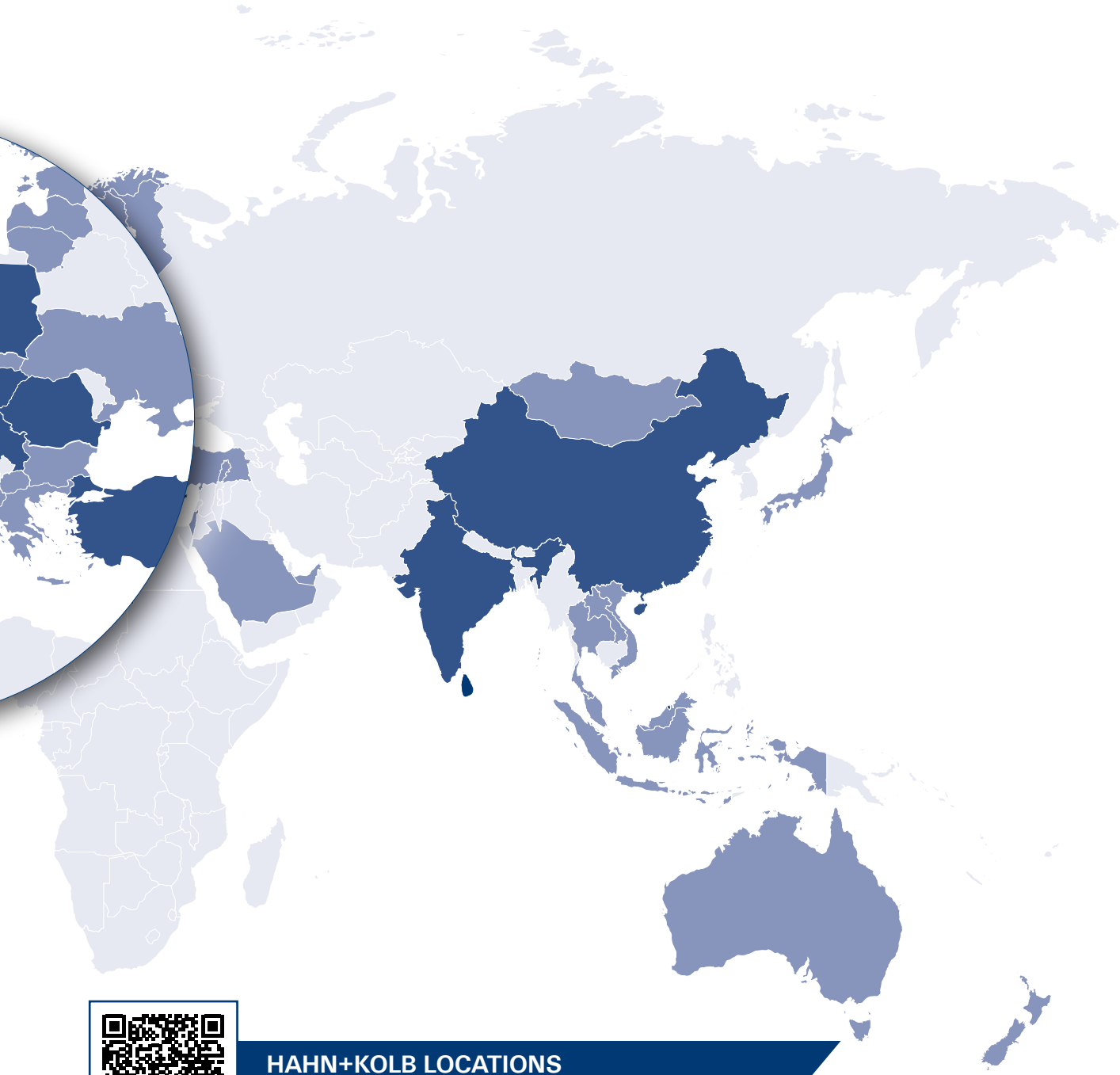
HAHN+KOLB WORLDWIDE

HAHN+KOLB is represented on every continent. With HAHN+KOLB companies in 14 countries and sales partners in more than 40 countries, we are serving more than 60 countries all around the world. The HAHN+KOLB Group employs more than 800 employees worldwide, who are always in full activity to offer the first-class service that you have come to expect from us.



HAHN+KOLB LOCATIONS
WE ARE THERE FOR YOU. WHEREVER YOU ARE.

HAHN+KOLB IN GERMANY

Everything started in 1898: Hermann Hahn and Adolf Kolb founded a company that soon became known as a specialist in tools and machines. The company has applied the highest standards right from the start and these still apply today: maximum quality, customer-oriented service, and first-class products. The first, handwritten HAHN+KOLB tool catalogue, published in 1904, soon became a printed catalogue packed full of products. Nowadays the complete range is online available with more than 100,000 items. HAHN+KOLB is one of the leading companies in the tool and machine industry. Since 2013, the company manages its worldwide operations from the company headquarters in Ludwigsburg. Spanning 48,000 square metres, these headquarters include the distribution centre, the technology centre, and the logistics building.

HAHN+KOLB Werkzeuge GmbH
Schlieffenstr. 40 | 71636 Ludwigsburg | Germany
Phone: +49 7141498 40
info@hahn-kolb.de | www.hahn-kolb.de

HAHN+KOLB IN AUSTRIA

Since METZLER GmbH & Co. KG was founded in 1990, the company has become a major name in the distribution of tools and manufacturing solutions. The company is part of the HAHN+KOLB Group and is located in Röthis in the heart of Europe – at the point where Germany, Austria and Switzerland meet. METZLER serves the entire metal working and processing industry in the Austrian market. Its range of products also include in-house developments such as the innovative hard foam solutions OPT-I-STORE and the CLIP-O-FLEX flexible mounting system. Both of these solutions are produced in-house by METZLER, ensure greater organisation and quality in production, and are available worldwide.

Metzler GmbH & Co. KG
Interpark Focus 40 | 6832 Röthis | Austria
Phone: +43 5523 90 909 | Fax: +43 5523 90 909 400
office@metzler.at | www.metzler.at

HAHN+KOLB IN SERBIA

HAHN+KOLB Serbia was founded in 2004 as an independent subsidiary of HAHN+KOLB Werkzeuge GmbH. Today, HAHN+KOLB DOO is the leading tool distributor and service provider in Serbia. In the Serbian market, the company is known as a reliable and expert partner focusing on maximum customer orientation. The product catalogue supports the sales team, and presents the HAHN+KOLB DOO portfolio in the local language. HAHN+KOLB DOO is working with a calibration service and measurement laboratory to calibrate length gauges in order to further increase the service offering.

HAHN+KOLB DOO
Pančevački put 36v | 11210 Belgrade | Serbia
Phone: +381 1165577 83 | Fax: +381 1165577 85
office@hahn-kolb.rs | www.hahn-kolb.rs

HAHN+KOLB IN THE BENELUX COUNTRIES

In early 2015, a ten-person team started their work at the location in Almelo, Netherlands. This office serves customers in the Netherlands, Belgium and Luxembourg with the full HAHN+KOLB range. The experts in the fields of machining, measurement technology, clamping technology, and hand tools primarily serve customers from the mechanical engineering sector. The focus is not only on the product range, but on comprehensive services such as tool procurement, workshop planning, and advice on lean management.

HAHN+KOLB Tools Benelux
Ambachtstraat 16 | 7609 RA Almelo | Netherlands
Phone: +31 854865 420 | Fax: +31 854865 499
verkoop@hahn-kolb.nl | www.hahn-kolb.nl

HAHN+KOLB IN POLAND

The HAHN+KOLB subsidiary in Poland was created in 1998 following the acquisition of an established company on the Polish market, whose core competence was measuring instruments and tools. Since 1998, HAHN+KOLB Polska has been supplying its customers both with the entire HAHN+KOLB product range and with customised solutions. The company also installs machinery and workshop equipment and conducts specific training courses. It is available to provide its customers with helpful advice about the products at all times and uses its DEMOCAR presentation vehicle to present machines and tools to potential new customers.

HAHN+KOLB Polska Sp. z o.o.
Bukowska 41a | 62-081 Wysogotowo | Poland
Phone: +48 61 849 87 00
info@hahn-kolb.com.pl | www.hahn-kolb.pl

HAHN+KOLB IN ROMANIA

HAHN+KOLB Romania was founded in 2005 with the aim of supplying the local market with high-quality and professional tools at attractive prices. In the steadily improving economic environment, HAHN+KOLB Romania has strengthened its market position and is known as a reliable business partner on the Romanian market.

HAHN+KOLB Romania s.r.l.
Strada Gării Otopeni 25-35 | Otopeni 075100 | Romania
Phone: +40 2130007 57
office@hahn-kolb.ro | www.hahn-kolb.ro

HAHN+KOLB IN TURKEY

The Turkish branch of HAHN+KOLB was founded in 2014. The company based in Istanbul supplies Turkish customers with the entire HK quality range. Delivery of all items in stock is guaranteed within two days of receiving the order. Since the company was founded, it has become well-known for the reliability of its products and services: The recognition and popularity of HAHN+KOLB in Turkey are steadily increasing.

HAHN+KOLB Endüstri Ürünleri Tic. Ltd. Şti.
tatürk Mh. Atatürk Cd. A2 Blok No:31C / 9 | Büyükçekmece İstanbul
Phone: +90 2128615 585 | Fax: +90 2128615 685
info@hahn-kolb.com.tr | www.hahn-kolb.com.tr

HAHN+KOLB IN FRANCE

HAHN+KOLB France is located in the heart of the Alsace region. Founded in 1999, the branch serves the whole country with the full HAHN+KOLB range, targeting major clients in particular. Thanks to its immediate proximity to the head office in Germany, HAHN+KOLB France benefits from direct delivery from the German warehouse, and can therefore offer its customers lightning-fast delivery times and extensive delivery capabilities.

HAHN+KOLB France
50, avenue d'Alsace | 68000 Colmar | France
Phone: +33 1691943 90 | Fax +33 1691943 99
info@hahn-kolb.fr | www.hahn-kolb.fr

HAHN+KOLB IN HUNGARY

The subsidiary HAHN+KOLB Hungária Kft. was founded in Budapest in 2001. The company has developed dynamically from the very beginning and is able to build on a steadily growing customer base. In 2012, the “Key Account Division” was established, offering customers the optimum comprehensive service and the best possible support. The company is also known for its particularly creative and innovative solutions.

HAHN+KOLB Hungária Kft.
Budafoki u. 60 | 1117 Budapest | Hungary
Phone: +36 137129 00 | Fax: +36 137129 01
hahn.kolb@hahn-kolb.hu | www.hahn-kolb.hu

HAHN+KOLB IN MEXICO

In August 2015, HAHN+KOLB opened its branch in Puebla, Mexico. HAHN+KOLB supplies the Mexican market with the entire HAHN+KOLB product range from the country’s fourth-largest city, where old and new Mexico meet. In Puebla, many big players of the industry have located their subsidiaries, so HAHN+KOLB is in close proximity to considerable customers. The continuously growing company offers expert advice and further local services.

HAHN+KOLB MÉXICO, S. de R. L. de C. V.
Río Papaloapan 123 | 72730 Sanctorum, Puebla | Mexico
Phone: +52 222 813 7097
info@hahn-kolb.mx | www.hahn-kolb.mx

HAHN+KOLB IN INDIA

HAHN+KOLB India was founded in 2007 in one of the world's fastest growing markets. The company is based in Pune, also known as the "Detroit of the East": Not only automotive manufacturers such as Daimler, VW, GM, and Tata Motors do have their head offices there, but also numerous suppliers. From Pune, HAHN+KOLB India has established itself throughout the sub-continent, with local representatives for customers in cities such as Chennai, Bangalore, and Vadodara. This presence is particularly important because most Indian buyers prefer to hold the products in their hands before making a decision.

HAHN+KOLB Tools Pvt. Ltd.
5, Sri Swamy Resid., 322, Sect 27 | PCNTDA. Nigdi, Pune 411044 | India
Phone: +91 20606006 32 | Fax: +91 202765557 52
sales.pune@hahn-kolb.co.in | www.hahn-kolb.in

HAHN+KOLB IN CHINA

In 2001, HAHN+KOLB entered the Chinese market in order to offer personal consultation and services on site to Chinese customers. Since then, the Chinese subsidiary has been serving and supplying the market. Nowadays, HAHN+KOLB in China enjoys an excellent reputation for the quality of its services and products.

HAHN+KOLB Tianjin International Trade Co., Ltd.
No. 391 Zhonghuanxi Road, Airport Economic Area | 300308 Tianjin | P.R. China
Phone: +86 22 58631700 | Fax: +86 22 58631780
tianjin@hahn-kolb.com.cn | www.hahn-kolb.cn

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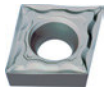	CC.. ISO indexable inserts, positive	624
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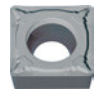	SC.. ISO indexable inserts, positive	646
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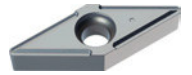	VB.. ISO indexable inserts, positive	658
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drilling tools coatings

Titanium nitride

TiN

- Universal layer for machining in ferrous metals and steel materials
- Very high cutting speed, high level of accuracy
- High level of hardness and adhesion
- Good resistance to chemicals
- Low edge rounding
- Good temperature resistance in air
- Relatively low heat conductivity
- Titanium nitride has a low level of reactivity toward ferrous metals. Tool wear through galling is therefore significantly reduced.

Technical data:

- Vickers hardness: 2200-2300 HV
- Friction coefficient: 0.5
- Temperature resistance: 500-600°
- Colour: gold
- Coating method: PVD

Titanium aluminium nitride

TiAlN

- Universal coating for high-performance machining with high cutting speeds
- Thermally and chemically very stable
- Dry machining
- Very high hardness
- Very good heat resistance
- Relatively low heat conductivity

Technical data:

- Vickers hardness: 3200 HV
- Steel friction coefficient: 0.55
- Temperature resistance: 900-1000°
- Colour: dark blue grey
- Coating method: PVD

TiNAlOX

TiNAlOX

- Universal coating for high-performance machining with high cutting speeds
- Can be described as a multi-range laminate, as it can be used in a wide range of applications from steel machining to the machining of stainless steels right through to cast iron machining with a high level of success
- Extremely smooth
- Thermally and chemically very stable
- Very high hardness
- Very good heat resistance
- Relatively low heat conductivity

Technical data:

- Vickers hardness: 3500 HV
- Steel friction coefficient: 0.5
- Temperature resistance: 1000-1100°
- Colour: blue-violet
- Coating method: PVD

TiAlN Plus

TiAlN plus

- Universal coating for high-performance machining of steels and cast iron
- Wear-resistant multi-layer coating
- Extremely smooth
- Thermally and chemically very stable
- Very high hardness
- Good heat resistance

Technical data:

- Vickers hardness: 3300 HV
- Steel friction coefficient: 0.6
- Temperature resistance: 800°
- Colour: grey-purple
- Coating method: PVD

ULTRA M

ULTRA M

- Special coating for high-performance machining of stainless steels and steels
- Wear-resistant multi-layer material
- Extremely smooth
- Thermally and chemically very stable
- Very high hardness
- Very good heat resistance

Technical data:

- Vickers hardness: 3400 HV
- Steel friction coefficient: 0.55
- Temperature resistance: 900°
- Colour: grey-purple
- Coating method: PVD

ULTRA N-Pro

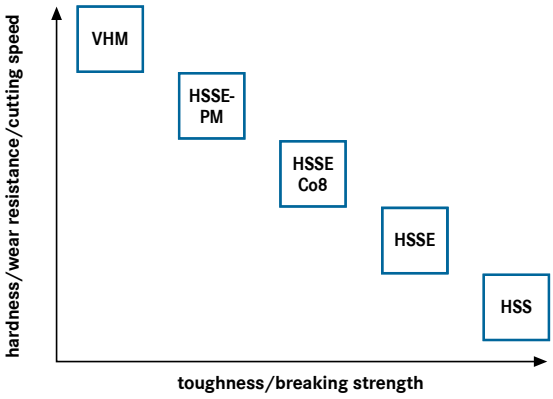
ULTRA N PRO

- Special coating for high-performance machining of non-ferrous metals
- The high wear resistance increases the service life of the tools and reduces the need for frequent replacement and maintenance
- Minimises heat generation and improves machining efficiency
- Suitable for high-speed machining, performance is maintained even under extreme conditions

Technical data:

- Steel friction coefficient: >0.10
- Temperature resistance: >500°
- Colour: Rainbow
- Coating method: PVD

drilling tools cutting materials



Solid carbide
- Very high hardness
- For applications up to 65 HRC
- Very high cutting speed
- High precision

HSSE-PM high-speed steel powder metal
- For applications up to 1300 N/mm²
- Medium to high cutting speeds
- Highly elastic

HSSE Co8 high-speed steel
- For applications up to 1300 N/mm²
- Medium to high cutting speeds
- Approx. 8 % cobalt content
- Extremely high elasticity

HSSE high-speed steel
- For applications up to 1300 N/mm²
- Low to medium cutting speeds
- Approx. 5 % cobalt content
- Extremely high elasticity

HSS high-speed steel
- For applications up to 1000 N/mm²
- Low cutting speeds
- Low alloy content
- Extremely high elasticity

Drilling tool geometries

HPC UNI

Grinding/geometry:
- Tip angle 140°
- 4-facet point
- Helix angle 30°
- Two margins for 3xD and 5xD
- Four margins for 8xD and 12xD
- Dia. tolerance h7 or m7

Advantages:
- These geometries have been specially developed for universal use
- The various coatings with cutting edge preparation prevent micro-breakouts on the cutting edge, thereby increasing the service life

HPC VA

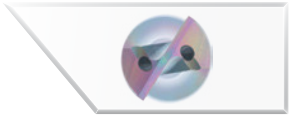
Grinding/geometry:
- Tip angle 140°
- For HPC bore machining in the stainless steel, titanium, nickel and special alloy material groups
- 4-facet point
- Helix angle 30°
- 2 margins
- Dia. tolerance m7

Advantages:
- Specifically developed geometry for machining stainless steel, titanium, nickel alloys and special alloys
- Ultra M coating with cutting edge preparation prevents micro-breakouts on the cutting edge, thereby increasing the service life

HPC ALU

Grinding/geometry:
- For HPC boring
- Tip angle 130°
- Helix angle 15°
- 2 margins
- 4-facet point
- Dia. tolerance m7

Advantages:
- Specially developed geometry for machining non-ferrous metals such as aluminium, brass, bronze and plastics.
- Perfect chip breaking due to the sharp, specially prepared cutting edges
- The specially designed ULTRA N PRO coating prevents built-up edges
- Very good chip removal even in the case of long-chipping material due to the large and polished flutes
- Excellent borehole quality due to low friction coefficient



Typ U4

Grinding/geometry:
- Tip angle 118°
- Helix angle 38°
- Precision 4-face grinding
- Optimised cross-hatch-like point thinning
- Straight main cutting edge

Cutting material:
- HSSE: HSS steel with 5 % cobalt alloy featuring outstanding hot hardness to cater for increased loads

Advantages:
- Wide range of applications due to the universal geometry design
- High level of process reliability through precision grinding
- Extremely good centring properties thanks to the 4-face grinding with cross-hatch-like point thinning (no centring required)
- Low process forces (feed force and torque) due to optimised flute profile
- Very precise, dimensionally accurate drilling in terms of diameter and roundness due to the smooth-cutting geometry design

Typ N

Grinding/geometry:
- Tip angle 118°
- Helix angle 30°
- Conical chisel point

Cutting material:
- Universal HSS steel cutting material, for alloyed and unalloyed steels up to 1,000 N/mm², cast steel, cast iron and iron alloys

Advantages:
- Wide range of applications due to the universal geometry design
- Minimises tool costs
- Flexible use on both conventional and CNC machines, even in unstable conditions
- Low hardness, resulting in high breaking strength

Typ NV

Grinding/geometry:
- Helix angle 20°
- Split point 135°
- Point thinning ≥ 1.0 mm

Cutting material:
- HSSE Co 8 %-alloyed steel for increased hot hardness

Advantages:
- Robust drill bit geometry for higher-alloy, higher-strength materials from 700 N/mm²
- Reinforced core
- For use on conventional and CNC machines

Typ VA

Grinding/geometry:
- Conical chisel point 130°
- Helix angle 35°
- Point thinning shape C
- Increased core diameter

Cutting material:
- HSSE: HSS steel with 5 % cobalt alloy with increased hot hardness for increased loads up to 1,300 N/mm²

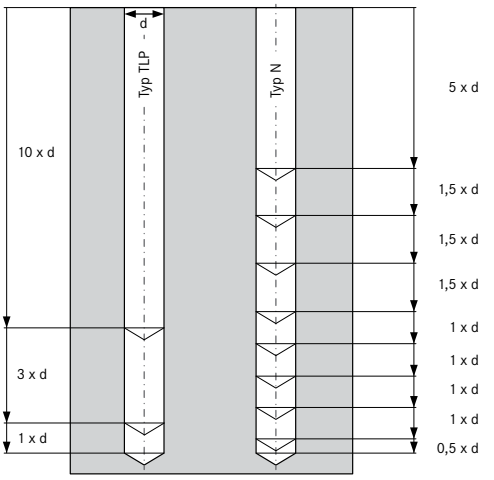
Advantages:
- Positive geometry specially developed for use in stainless steel and special alloys
- Special geometry with aggressive cutting edge design and free geometry for very smooth cutting

Typ TLP

Grinding/geometry:
- Conical chisel point 130°
- Helix angle 38°
- Point thinning shape A

Cutting material:
- Universal HSS steel cutting material, for alloyed and unalloyed steels up to 1,000 N/mm², cast steel, cast iron and iron alloys
- HSSE: HSS steel with 5 % cobalt alloy with increased hot hardness for increased loads up to 1,300 N/mm²

Advantages:
- Optimised flute profile for deep-hole drilling in unfavourable conditions such as insufficient cooling and poor chip removal
- Deep holes of up to 25xD can be achieved
- Special geometry for drilling long-chipping materials
- Deep-hole profile for optimised chip removal at greater drilling depths without venting
- Large chip space volume for excellent chip removal



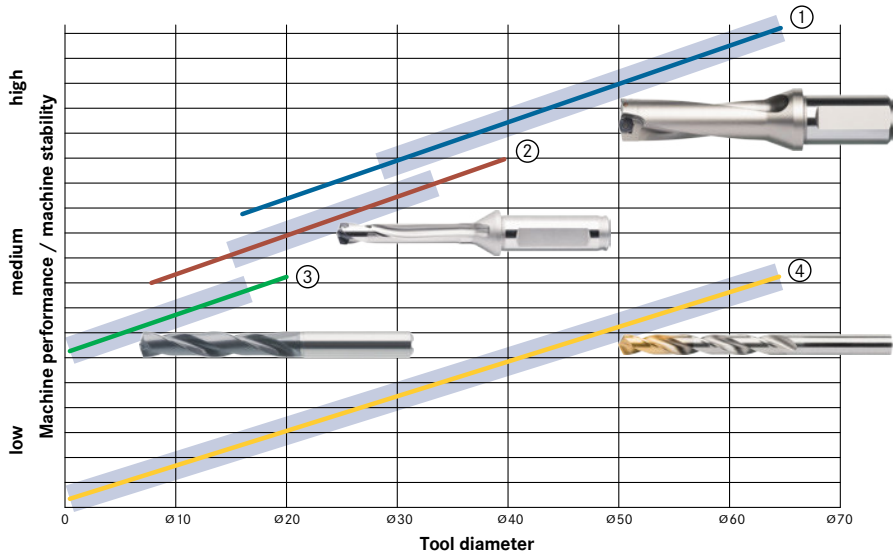
Typ X

Grinding/geometry:
- Tip angle 130°
- Precision-ground conical chisel point + point thinning combination shape A/shape B
- Chip angle correction using shape B point thinning element, therefore “strong, stable” cutting edge
- Straight main cutting edge

Cutting material:
- HSSE-PM steel maximum wear resistance due to powder metallurgical steel
- Very dense, homogeneous microstructure
- Higher level of hardness and heat resistance
- High level of wear resistance and cutting edge stability

Advantages:
- Maximum wear resistance and heat resistance due to HSSE-PM cutting material and TiN coating
- Economical drill bit that closes the gap between standard HSS drill bits and solid carbide drill bits for medium-strength materials and medium batch sizes
- High cutting edge stability and robust drill bit design thanks to the conical chisel point with combined shape A/B point thinning and optimised parabolic flute profile
- High process reliability due to the homogeneous microstructure of the HSSE-PM steel

economical range of different drill technologies

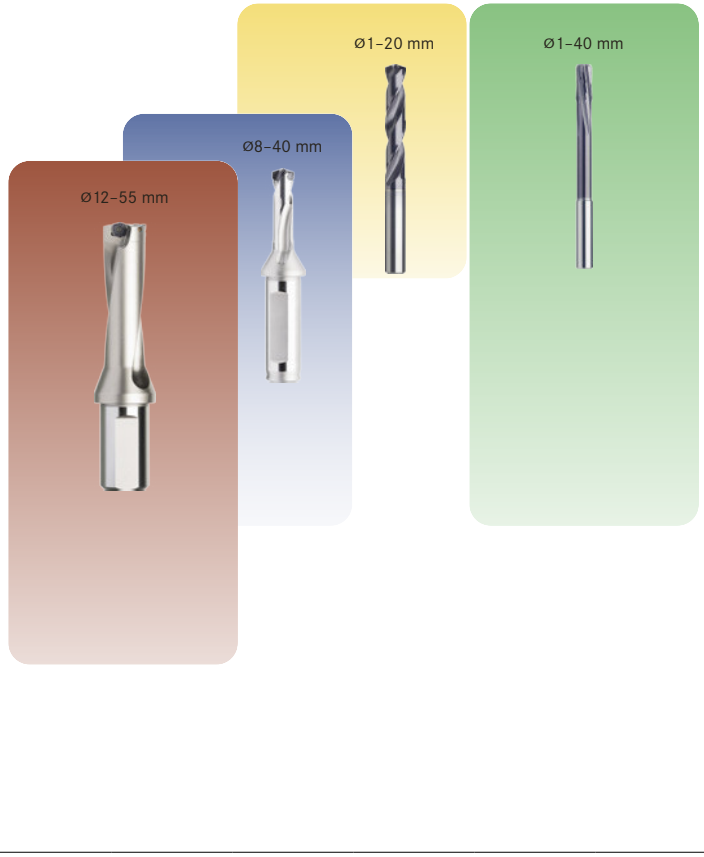


① indexable insert drill
② indexable insert drill
③ SC HPC drill
④ HSS/HSSE drill

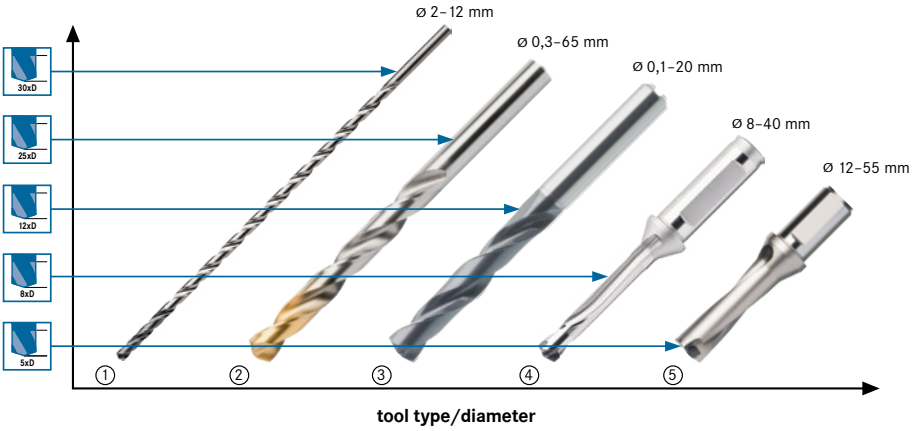
= efficiency range depending on the diameter

bore types and surfaces

	Machining type	rough machining		medium finishing		smoothing	
	Hole quality	IT11	IT10	IT9	IT8	IT7	IT6
solid drilling/reaming	Bore ∅						
	1 mm						
	3 mm						
	6 mm						
	9 mm						
	12 mm						
	15 mm						
	18 mm						
	21 mm						
	24 mm						
	27 mm						
	30 mm						
	33 mm						
	36 mm						
	39 mm						
	42 mm						
	45 mm						
	48 mm						
	51 mm						
	54 mm						
	57 mm						
	60 mm						
	63 mm						
	66 mm						
	69 mm						



tool type selection according to length and diameter



selection of small to medium-sized drill bit diameters
four different drill technologies are available for selection according to diameter and borehole depth.

① SC HPC deep hole drill
② HSS/HSSE drill
③ SC HPC drill
④ indexable insert drill
⑤ indexable insert drill

Recommended chucks for solid carbide drill bits

	Standard collet chucks	Precision collet chucks	Shrink-fit chucks	Hydro-expansion chucks	Surface chucks
Holding torques	○	○	○	○	●
Concentricity	○	○	●	●	◯
Vibration-reducing	○	○	◯	●	◯
Rotation speed/balancing quality	○	●	●	●	◯
Internal cooling	Yes	Yes	Yes	Yes	Yes
Overall rating	**Well suited**	**Very well suited**	**Very well suited**	**Very well suited**	**Limited suitability**

● = Very well suited ○ = Suitable ◯ = Limited suitability

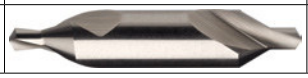
Recommended chucks for HSS/HSSE/HSSE-PM drill bits

	Standard collet chucks	Precision collet chucks	Drill chucks
Holding torques	○	○	○
Concentricity	○	●	○
Vibration-reducing	●	●	◯
Rotation speed/balancing quality	●	●	○
Overall rating	**Well suited**	**Very well suited**	**Well suited**

● = Very well suited ○ = Suitable ◯ = Limited suitability

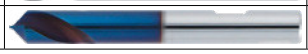
Centre drill, type A

Application:
For centre drilling with shape A on conventional and CNC machines.

	Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 55HRC		page
11008	1.0-5 mm	SC	●	●	●	●	●	●	●	○		20

90° NC spotting drill

Application:
For NC spot drilling 90° on conventional and CNC machines. For spot drilling and countersinking in one step.

	Ø	Cutting material	Surface	Angle of the tip	P 1300N/mm²	M	N	K	S	H 55HRC		page
11009020-200	2-20 mm	SC	Uncoated	90 Degree	●	●	●	●	●			20-21
11069020-200	2-20 mm	SC	TiAlSiN	90 Degree	●	●	●	●	●	●		20-21

120° NC spotting drill

Application:
For NC spot drilling 120° on conventional and CNC machines. Ensures optimum centring for drill bits with 118° tip angle.

	Ø	Cutting material	Surface	Angle of the tip	P 1300N/mm²	M	N	K	S	H 55HRC		page
11082020-200	2-20 mm	SC	Uncoated	120 Degree	●	●	●	●	●			20-21
11089020-200	2-20 mm	SC	TiAlSiN	120 Degree	●	●	●	●	●	●		20-21

142° NC spotting drill

Application:
For NC spot drilling 142° on CNC machines.
Ensures optimum centring for HPC drill bits with 135° or 140° tip angle.

Advantage:
- Exact positioning of the bore possible
- The follow-up tool does not run off centre
- Centring for HPC drill bit from 8xD recommended

	Ø	Cutting material	Surface	Angle of the tip	P 1300N/mm²	M	N	K	S	H 55HRC		page
11096020-200	2-20 mm	SC	Uncoated	142 Degree	●	●	●	●	●			20-21
11113020-200	2-20 mm	SC	TiAlSiN	142 Degree	●	●	●	●	●	●		20-21

TiAlN Plus solid carbide high-performance drill bit range
For universal use up to 1,300 N/mm²

Application:
For HPC bore machining up to a strength of 1,300 N/mm²

Advantage:
- Economic drilling in a wide variety of materials with high cutting values
- Newly developed geometry in conjunction with a multi-layer coating individually tailored to drilling provides significantly longer service lives
- Cutting edge finishing reduces micro-breakouts and increases the service life
- Very wide and in-depth range from 1.00 mm to 20.00 mm diameter in 3xD-12xD
- Core hole dimensions available for thread tapping and thread forming
- 3xD + 5xD with and without internal coolant supply

TiAlN plus

HPC UNI

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11102010-212	1.0-20 mm	Internal	HA parallel shank	3xD	●	●	●	○	●	○			21-22
11102204-400	3.0-20 mm	Internal	HB parallel shank	3xD	●	●	●	○	●	○			21-22
11104010-212	1.0-20 mm	External	HA parallel shank	3xD	●	●	●	○	●	○			23-24
11104230-400	3.0-20 mm	External	HB parallel shank	3xD	●	●	●	○	●	○			23-24
11105010-218	1.0-20 mm	Internal	HA parallel shank	5xD	●	●	●	○	●	○			24-25
11105230-400	3.0-20 mm	Internal	HB parallel shank	5xD	●	●	●	○	●	○			24-25
11108030-200	3.0-20 mm	Internal	HA parallel shank	8xD	●	●	●	○	●	○			26
11110030-200	3.0-20 mm	Internal	HA parallel shank	12xD	●	●	●	○	●	○			27

High-performance drill bit solid carbide TiNAlOX drill bit
For universal use up to 1,300 N/mm²

Application:
For HPC bore machining up to 1,300 N/mm².

Advantage:
- Latest coating technology: unique, extremely hard, low-friction, temperature-resistant and extremely thin TiNAlOX coating provides added service life and process stability.
- Cutting edge preparation minimises micro-breakouts on the cutting edge

TiNAlOX

HPC UNI

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11183	3.0-20 mm	External	HB parallel shank	3xD	●	●	●	○	●	○			29-30
11184030-555	3.0-20 mm	Internal	HB parallel shank	3xD	●	●	●	○	●	○			28-29
11188	3.0-20 mm	Internal	HB parallel shank	5xD	●	●	●	○	●	○			30-31

TiAlN solid carbide high-performance drill bit range

Application:
For HPC bore machining up to a strength of 1,300 N/mm².

Advantage:
- Universal high-performance tool with excellent value for money
- Wide range from 3xD to 12xD
- 3xD + 5xD with and without internal coolant supply

TiAlN

HPC UNI

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11173	3.0-20 mm	External	HB parallel shank	3xD	●	●	○	○	●	○			33-34
11174230-425	3.0-20 mm	Internal	HB parallel shank	3xD	●	●	○	○	●	○			32-33
11176230-403	3.0-20 mm	External	HB parallel shank	5xD	●	●	○	○	●	○			35-36
11177210-403	1.0-20 mm	Internal	HA parallel shank	5xD	●	●	○	○	●	○			34-35
11177210-403	1.0-20 mm	Internal	HB parallel shank	5xD	●	●	○	○	●	○			34-35
11178230-360	3.0-16 mm	Internal	HB parallel shank	8xD	●	●	○	○	●	○			37
11179230-360	3.0-16 mm	Internal	HB parallel shank	12xD	●	●	○	○	●	○			38

High-performance drill bit solid carbide TiAlSiN hard range

Application:
For HPC borehole machining up to 65 HRC

Advantage:
- High centring accuracy
- Special coating for drilling hardened steels up to 65 HRC
- Extremely hard, low-friction and temperature-resistant TiASiN coating for longer service life
- Reinforced core with special tip and cutting chisel edge

TiAlSiN

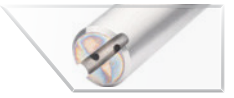
HPC HART

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11154010-200	1.0-20 mm	External	HA parallel shank	3xD	●	●			●		●		39-40

Ultra M solid carbide high-performance drill bit range

Application:
For HPC bore machining in the stainless steel, titanium, nickel and special alloy material groups.

Advantage:
- Special HPC rake: innovative rake with extremely smooth cutting edge and very long service life
- Latest coating technology: newly developed extremely thin ULTRA M coating for improved service life and process stability
- Cutting edge preparation minimises micro-breakouts on the cutting edge



ULTRA M

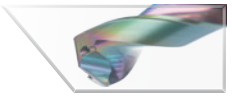
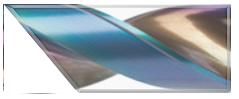
HPC VA

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11147030-203	3.0-20 mm	Internal	HA parallel shank	5xD			●			●			40-41
11147204-400	3.0-20 mm	Internal	HB parallel shank	5xD			●			●			40-41

SC ULTRA N PRO high-performance drill bit range

Application:
For HPC drilling in non-ferrous metals material groups

Advantage:
- Perfect chip breaking due to the sharp, specially prepared cutting edges
- The specially designed ULTRA N PRO coating prevents built-up edges
- Very good chip removal even in the case of long-chipping material due to the large and polished chip grooves
- Excellent borehole quality due to low friction coefficient

ULTRA N PRO

HPC ALU

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11199010-200	1.0-20 mm	Internal	HA parallel shank	5xD				●					42-43

High-feed drill bit solid carbide TiAlNPlus high-feed range

Application:
Designed for use with very high feed rates on stable and high-performance machines

Advantage:
- Up to 50 % higher productivity compared to dual-edge drill bits
- Perfect bore concentricity combined with excellent self-centring behaviour, even on uneven surfaces
- Extremely high feed rates thanks to the special rake
- Polished chip spaces and optimised core tapering ensure perfect chip removal
- Minimum burr formation at hole exit thanks to the 135° tip angle

TiAlN plus

HPC UNI

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11131030-200	3.0-20 mm	Internal	HA parallel shank	5xD	●	●			●				44-45

High-performance deep-hole drill bit range - 16-30XD

Application:
For HPC deep-hole bore machining up to a strength of 1,300 N/mm².

Advantage:
- The entire range is coordinated in terms of angle and diameter
- Very good all-round properties and precise cutting performance with high cutting rates
- Very good chip removal and chip control thanks to polished chip space
- State-of-the-art coating technology provides a long service life in series production
- High drilling accuracy thanks to newly developed drill heels
- Cutting edge preparation minimises micro-breakouts on the cutting edge
- Available in 40xD and 50xD upon request

TiAlN

HPC UNI

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11181202-442	2.02-12.02 mm	Internal	HA parallel shank	5xD	●	●	●	○	●	○			46
11179430-520	3.0-12 mm	Internal	HA parallel shank	16xD	●	●	●	○	●	○			47
11181020-120	2.0-12 mm	Internal	HA parallel shank	20xD	●	●	●	○	●	○			47-48
11189230-320	3.0-12 mm	Internal	HA parallel shank	25xD	●	●	●	○	●	○			48-49
11182020-120	2.0-12 mm	Internal	HA parallel shank	30xD	●	●	●	○	●	○			49

High-performance micro drill bit solid carbide

Application:
For HPC micro bore machining up to a strength of 1,300 N/mm².

Advantage:
- High-quality solid carbide cutting material and cutting edge preparation minimise micro-breakouts on the cutter
- Smallest diameter from 0.10 mm to 3.00 mm

TiAlN

HPC UNI

	Ø	Coolant supply	Tool holding device	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11137010-300	0.1-3 mm	External	HA parallel shank	●	○	○	●	○	○			50-51
11137310-600	0.1-3 mm	External	HA parallel shank	●	●	○	●	○	○			50-51

Solid carbide TiALN high-performance drill, 180°

Applications:
For producing drill holes with 180° bore hole bottom.

Advantages:
- Drilling on slanted surfaces
- Drilling on convex surfaces
- Drilling despite slugs
- Drilling on existing drill hole
- Drilling through cross hole

TiAlN

HPC UNI

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11128030-200	3.0-20 mm	Internal	HA parallel shank	3xD	●	●	○	○	●			52-53

Solid carbide TiNALOX high-performance drill bit for tolerance bores

Application:
HPC special geometry for producing tolerance bores in H7 quality.

Advantage:
- High drilling accuracy provided by four drill heels even at high cutting speeds
- Innovative coating technology provides long service life

H7

TiNAlOX

HPC UNI

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11176030-200	3.0-20 mm	Internal	HA parallel shank	5xD	●	●	●	○	●	○		54

Solid carbide drill bit with three cutting edges

Application:
For drilling solid bodies, for precisely positioned and shaped bores.

Advantage:
- Special geometry with three cutting edges: innovative rake for precisely positioned and shaped bores in solid bodies without the need for centring
- Universal use: wide range of carbide grades and geometries for highly varied applications; thus increasing service life and providing a high degree of process stability

TiN

Z 3

	Ø	Coolant supply	Tool holding device	Max. drilling depth (D)	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11164	3.0-10.2 mm	External	HA parallel shank	5xD	○	○	○	○	○			55
11166	3.0-10.2 mm	External	HA parallel shank	5xD	○	○			○			55
11167	3.0-10.2 mm	External	HA parallel shank	5xD	○	○	○	○	○			55

SC TiAINPlus drill mill range

Application:
For drilling out high-strength material connections on bodywork

Advantage:
- Low-vibration running due to four cutting edges with unequal pitch
- High stability due to corner protection chamfer
- Very good spot drilling behaviour due to centring tip with two cutting edges above centre
- No spinning in the drill chuck due to the 3-flat shank

TiAIN plus

	Ø	Coolant supply	Tool holding device	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC	page
11201060-110	6.0-10 mm	External	Parallel shank with three tightening surfaces	●	●					●	56
11200060-110	6.0-11 mm	External	Parallel shank with three tightening surfaces	●	●					●	56

TYPE N solid carbide twist drill bit range

Application:
Standard geometry for use up to a strength of 1,300 N/mm².

Advantage:
- Excellent all-round properties and precise cutting behaviour in a wide range of materials
- Universal use: Minimises tool costs and improves flexibility
- High-quality cutting material and cutting edge preparation minimise micro-breakouts on the cutter

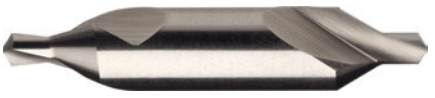
Typ N

TiAIN

	Ø	Coolant supply	Tool holding device	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11150	0.5-16 mm	External	HA parallel shank	●	●	○	●	●	○		57-58
11153	0.5-16 mm	External	HA parallel shank	●	●	○	●	●	○		57-58
11155	1.0-13 mm	External	HA parallel shank	●	●	○	●	●	○		58-59
11157	1.0-13 mm	External	HA parallel shank	●	●	○	●	●	○		58-59

ATORN Solid carbide centre drill, form A (DIN 333)

for universal use up to 1300 N/mm²



Application:
For centre drilling on CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- radial relief ensures optimum chip breaking
- Solid carbide cutting material ensures a broad application range and an extremely long service life in series production

Notes:
For making centring holes in accordance with DIN 332

p. 12 p. 123

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	60	40	30	25	180	190	70	60	60	50	40	40	60	20	20	20	4	

					Surface	Uncoated	
mm	mm	mm	mm		f steel 1300 ● (mm/r)	11008... Ident. No.	
1	3.15	1.3-1.9 mm	31.5		0.03	010	●
1.25	3.15	1.6-2.2 mm	31.5		0.04	012	●
1.6	4	2-2.8 mm	35.5		0.05	016	●
2	5	2.5-3.3 mm	40		0.06	020	●
2.5	6.3	3.1-4.1 mm	45		0.07	025	●
3.15	8	3.9-4.9 mm	50		0.09	031	●
4	10	5-6.2 mm	56		0.11	040	●
5	12.5	6.3-7.5 mm	63		0.13	051	●

Prod. Gr. 1AC

ATORN NC spotting drill VHM 90°/120°/142°

For universal use up to 1300 N/mm²

Application:
No. 11009–11069: For 90° spot drilling and simultaneous countersinking for smaller bore diameters on CNC machines.
No. 11082–11089: For 120° spot drilling for the following twist drills on CNC machines.
No. 11096–11113: For 142° spot drilling for the following twist drills on CNC machines.

Execution:
- Spiral-fluted design

Advantage:
- Short design with precise point geometry and chisel edge ensure form-true and process-reliable spot drilling
- The follow-on tool does not run off centre
- Precise gauge thanks to special point thinning of the chisel edge
- **No. 11069 020–11069 200, 11089 020–11089 200, 11113 020–11113 200:** Maximal service life thanks to innovative coating

Notes:
Diameter less than 6 mm with HA shaft

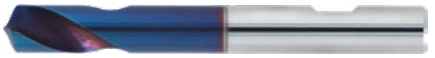
No. 11009

No. 11069

No. 11082

No. 11089

No. 11096


No. 11113

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11009020-200; 11082020-200; 11096020-200	80	60	50	35	30	240	260	150	130	80	70	50		90	40	20	20		
11069020-200; 11089020-200; 11113020-200	80	60	50	35	30	240	260	150	130	80	70	50		90	40	20	20	16	

				Surface	Uncoated		TiAlSiN		Uncoated		TiAlSiN		Uncoated		TiAlSiN	
				Angle of the tip (Degree)	90		90		120		120		142		142	
mm	mm	mm		f steel 1300 ● (mm/r)	11009... Ident. No.		11069... Ident. No.		11082... Ident. No.		11089... Ident. No.		11096... Ident. No.		11113... Ident. No.	
2	6	32		0.03	020	●	020	●	020	●	020	●	020	●	020	●
3	12	46		0.07	030	●	030	●	030	●	030	●	030	●	030	●
4	12	55		0.11	040	●	040	●	040	●	040	●	040	●	040	●
5	14	62		0.12	050	●	050	●	050	●	050	●	050	●	050	●
6	20	66		0.14	060	●	060	●	060	●	060	●	060	●	060	●

			Surface	Uncoated		TiAlSiN		Uncoated		TiAlSiN		Uncoated		TiAlSiN	
			Angle of the tip (Degree)	90		90		120		120		142		142	
mm	mm	mm	f steel 1300 ● (mm/r)	11009... Ident. No.		11069... Ident. No.		11082... Ident. No.		11089... Ident. No.		11096... Ident. No.		11113... Ident. No.	
8	25	79	0.15	080	●	080	●	080	●	080	●	080	●	080	●
10	25	89	0.16	100	●	100	●	100	●	100	●	100	●	100	●
12	30	102	0.18	120	●	120	●	120	●	120	●	120	●	120	●
16	35	115	0.2	160	●	160	●	160	●	160	●	160	●	160	●
20	40	131	0.23	200	●	200	●	200	●	200	●	200	●	200	●

Prod. Gr. 1AC

TiAlN Plus solid carbide high-performance drill bit range
For universal use up to 1,300 N/mm²

Application:
For HPC bore machining up to a strength of 1,300 N/mm²

Advantage:
- Economic drilling in a wide variety of materials with high cutting values
- Newly developed geometry in conjunction with a multi-layer coating individually tailored to drilling provides significantly longer service lives
- Cutting edge finishing reduces micro-breakouts and increases the service life
- Very wide and in-depth range from 1.00 mm to 20.00 mm diameter in 3xD-12xD
- Core hole dimensions available for thread tapping and thread forming
- 3xD + 5xD with and without internal coolant supply

TiAlN plus

HPC UNI

ATORN high-performance drill, solid carbide TiAlN plus HPC 3xD with internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiAlN plus | 3xD | HPC UNI | 140° | IK | HA | HB

Application:
for HPC boring up to a strength of 1300 N/mm²

Execution:
- solid carbide TiAlNplus high-performance drill
- 2 drill heels
- Cone polished section
- 30° spiral angle
- Straight main cutting edge

Advantage:
- economic drilling in a wide variety of materials with high cutting values
- newly developed geometry in conjunction with a multi-layer coating individually tailored to drilling ensures significantly longer service lives
- Cutting edge finishing reduces micro-fractures and increases the service life

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	135	110	90	35	30	210	260	230	180	160	130	60		110	40	35	30		

					Tool holding device	HA parallel shank		HB parallel shank	
					Surface	TiAlN plus		TiAlN plus	
					Coolant supply	Internal		Internal	
					Tolerance of cutting edge Ø	h7		h7	
mm	mm	mm	mm	f steel 1000 ● (mm/r)		11102... Ident. No.		11102... Ident. No.	
1	4	7	45	0.025		010	●	-	-
1.1	4	7	45	0.025		011	●	-	-
1.2	4	7	45	0.025		012	●	-	-
1.3	4	7	45	0.025		013	●	-	-
1.4	4	7	45	0.025		014	●	-	-
1.5	4	14	55	0.033		015	●	-	-
1.6	4	14	55	0.033		016	●	-	-
1.7	4	14	55	0.033		017	●	-	-
1.8	4	14	55	0.033		018	●	-	-
1.9	4	14	55	0.033		019	●	-	-
2	4	20	55	0.045		020	●	-	-
2.1	4	20	55	0.045		021	●	-	-
2.2	4	20	55	0.045		022	●	-	-
2.3	4	20	55	0.045		023	●	-	-
2.4	4	20	55	0.045		024	●	-	-
2.5	4	20	55	0.045		025	●	-	-
2.6	4	20	55	0.045		026	●	-	-

					Tool holding device	HA parallel shank		HB parallel shank	
					Surface	TiAlN plus		TiAlN plus	
					Coolant supply	Internal		Internal	
					Tolerance of cutting edge Ø	h7		h7	
mm	mm	mm	mm	f steel 1000 ● (mm/r)		11102... Ident. No.		11102... Ident. No.	
2.7	4	20	55	0.045		027	●	-	-
2.8	4	20	55	0.045		028	●	-	-
2.9	4	20	55	0.045		029	●	-	-
3	6	20	62	0.16		030	●	230	●
3.1	6	20	62	0.16		031	●	231	●
3.2	6	20	62	0.16		032	●	232	●
3.25	6	20	62	0.16		201	●	204	●
3.3	6	20	62	0.16		033	●	233	●
3.4	6	20	62	0.16		034	●	234	●
3.5	6	20	62	0.16		035	●	235	●
3.6	6	20	62	0.16		036	●	236	●
3.7	6	20	62	0.16		037	●	237	●
3.8	6	24	66	0.16		038	●	238	●
3.9	6	24	66	0.16		039	●	239	●
4	6	24	66	0.16		040	●	240	●
4.1	6	24	66	0.16		041	●	241	●
4.2	6	24	66	0.16		042	●	242	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11102... Ident. No.		11102... Ident. No.	
4.3	6	24	66	0.16	043	●	243	●
4.4	6	24	66	0.16	044	●	244	●
4.5	6	24	66	0.16	045	●	245	●
4.6	6	24	66	0.16	046	●	246	●
4.65	6	24	66	0.16	202	●	205	●
4.7	6	24	66	0.16	047	●	247	●
4.8	6	28	66	0.16	048	●	248	●
4.9	6	28	66	0.16	049	●	249	●
5	6	28	66	0.16	050	●	250	●
5.1	6	28	66	0.16	051	●	251	●
5.2	6	28	66	0.16	052	●	252	●
5.3	6	28	66	0.16	053	●	253	●
5.4	6	28	66	0.16	054	●	254	●
5.5	6	28	66	0.16	055	●	255	●
5.55	6	28	66	0.16	203	●	206	●
5.6	6	28	66	0.16	056	●	256	●
5.65	6	28	66	0.16	207	●	208	●
5.7	6	28	66	0.16	057	●	257	●
5.8	6	28	66	0.16	058	●	258	●
5.9	6	28	66	0.21	059	●	259	●
6	6	28	66	0.21	060	●	260	●
6.1	8	34	79	0.21	061	●	261	●
6.2	8	34	79	0.21	062	●	262	●
6.3	8	34	79	0.21	063	●	263	●
6.4	8	34	79	0.21	064	●	264	●
6.5	8	34	79	0.21	065	●	265	●
6.6	8	34	79	0.21	066	●	266	●
6.7	8	34	79	0.21	067	●	267	●
6.8	8	34	79	0.21	068	●	268	●
6.9	8	34	79	0.21	069	●	269	●
7	8	34	79	0.21	070	●	270	●
7.1	8	41	79	0.21	071	●	271	●
7.2	8	41	79	0.21	072	●	272	●
7.3	8	41	79	0.21	073	●	273	●
7.4	8	41	79	0.21	074	●	274	●
7.5	8	41	79	0.21	075	●	275	●
7.55	8	41	79	0.21	209	●	210	●
7.6	8	41	79	0.21	076	●	276	●
7.65	8	41	79	0.21	211	●	212	●
7.7	8	41	79	0.21	077	●	277	●
7.8	8	41	79	0.21	078	●	278	●
7.9	8	41	79	0.21	079	●	279	●
8	8	41	79	0.21	080	●	280	●
8.1	10	47	89	0.21	081	●	281	●
8.2	10	47	89	0.21	082	●	282	●
8.3	10	47	89	0.21	083	●	283	●
8.4	10	47	89	0.21	084	●	284	●
8.5	10	47	89	0.21	085	●	285	●
8.6	10	47	89	0.21	086	●	286	●
8.7	10	47	89	0.21	087	●	287	●
8.8	10	47	89	0.21	088	●	288	●
8.9	10	47	89	0.21	089	●	289	●
9	10	47	89	0.21	090	●	290	●
9.1	10	47	89	0.21	091	●	291	●
9.2	10	47	89	0.21	092	●	292	●
9.3	10	47	89	0.21	093	●	293	●
9.4	10	47	89	0.21	094	●	294	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11102... Ident. No.		11102... Ident. No.	
9.5	10	47	89	0.21	095	●	295	●
9.6	10	47	89	0.21	096	●	296	●
9.7	10	47	89	0.21	097	●	297	●
9.8	10	47	89	0.21	098	●	298	●
9.9	10	47	89	0.21	099	●	299	●
10	10	47	89	0.28	100	●	300	●
10.1	12	55	102	0.28	101	●	301	●
10.2	12	55	102	0.28	102	●	302	●
10.3	12	55	102	0.28	103	●	303	●
10.4	12	55	102	0.28	104	●	304	●
10.5	12	55	102	0.28	105	●	305	●
10.6	12	55	102	0.28	106	●	306	●
10.7	12	55	102	0.28	107	●	307	●
10.8	12	55	102	0.28	108	●	308	●
10.9	12	55	102	0.28	109	●	309	●
11	12	55	102	0.28	110	●	310	●
11.1	12	55	102	0.28	111	●	311	●
11.2	12	55	102	0.28	112	●	312	●
11.3	12	55	102	0.28	113	●	313	●
11.4	12	55	102	0.28	114	●	314	●
11.5	12	55	102	0.28	115	●	315	●
11.6	12	55	102	0.28	116	●	316	●
11.7	12	55	102	0.28	117	●	317	●
11.8	12	55	102	0.28	118	●	318	●
11.9	12	55	102	0.28	119	●	319	●
12	12	55	102	0.33	120	●	320	●
12.2	14	60	107	0.33	122	●	322	●
12.3	14	60	107	0.33	123	●	323	●
12.5	14	60	107	0.33	125	●	325	●
12.7	14	60	107	0.33	127	●	327	●
12.8	14	60	107	0.33	128	●	328	●
12.9	14	60	107	0.33	129	●	329	●
13	14	60	107	0.33	130	●	330	●
13.5	14	60	107	0.33	135	●	335	●
13.8	14	60	107	0.33	138	●	338	●
14	14	60	107	0.33	140	●	340	●
14.2	16	65	115	0.33	142	●	342	●
14.4	16	65	115	0.33	144	●	344	●
14.5	16	65	115	0.33	145	●	345	●
14.8	16	65	115	0.33	148	●	348	●
15	16	65	115	0.33	150	●	350	●
15.1	16	65	115	0.33	151	●	351	●
15.2	16	65	115	0.33	152	●	352	●
15.5	16	65	115	0.33	155	●	355	●
15.8	16	65	115	0.33	158	●	358	●
16	16	65	115	0.33	160	●	360	●
16.5	18	73	123	0.33	165	●	365	●
17	18	73	123	0.36	170	●	370	●
17.5	18	73	123	0.36	175	●	375	●
18	18	73	123	0.36	180	●	380	●
18.5	20	79	131	0.36	185	●	385	●
18.9	20	79	131	0.36	189	●	389	●
19	20	79	131	0.39	190	●	390	●
19.3	20	79	131	0.39	193	●	393	●
19.5	20	79	131	0.39	195	●	395	●
20	20	79	131	0.4	200	●	400	●

Prod. Gr. 1AE

ATORN high-performance drill, solid carbide TiAlN plus HPC 3xD without internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiAlN plus | 3xD | HPC UNI | 140° | HA | HB

Ident. No. 010–203, 207, 209, 211

Ident. No. 204–206, 208, 210, 212–400

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Application:
for HPC boring up to a strength of 1300 N/mm²

Execution:
- solid carbide TiAlNplus high-performance drill
- 2 drill heels
- Cone polished section
- 30° spiral angle
- Straight main cutting edge

Advantage:
- economic drilling in a wide variety of materials with high cutting values
- newly developed geometry in conjunction with a multi-layer coating individually tailored to drilling ensures significantly longer service lives
- Cutting edge finishing reduces micro-fractures and increases the service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	135	110	90	35	30	210	260	230	180	160	130	60		110	40	35	30		

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					External		External	
Tolerance of cutting edge Ø					h7		h7	
mm	mm h6	mm	mm	f steel 1000 ● (mm/r)	11104... Ident. No.		11104... Ident. No.	
1	4	7	45	0.025	010	●	-	-
1.1	4	7	45	0.025	011	●	-	-
1.2	4	7	45	0.025	012	●	-	-
1.3	4	7	45	0.025	013	●	-	-
1.4	4	7	45	0.025	014	●	-	-
1.5	4	14	55	0.033	015	●	-	-
1.6	4	14	55	0.033	016	●	-	-
1.7	4	14	55	0.033	017	●	-	-
1.8	4	14	55	0.033	018	●	-	-
1.9	4	14	55	0.033	019	●	-	-
2	4	20	55	0.045	020	●	-	-
2.1	4	20	55	0.045	021	●	-	-
2.2	4	20	55	0.045	022	●	-	-
2.3	4	20	55	0.045	023	●	-	-
2.4	4	20	55	0.045	024	●	-	-
2.5	4	20	55	0.045	025	●	-	-
2.6	4	20	55	0.045	026	●	-	-
2.7	4	20	55	0.045	027	●	-	-
2.8	4	20	55	0.045	028	●	-	-
2.9	4	20	55	0.045	029	●	-	-
3	6	20	62	0.1	030	●	230	●
3.1	6	20	62	0.1	031	●	231	●
3.2	6	20	62	0.1	032	●	232	●
3.25	6	20	62	0.1	201	●	204	●
3.3	6	20	62	0.1	033	●	233	●
3.4	6	20	62	0.1	034	●	234	●
3.5	6	20	62	0.1	035	●	235	●
3.6	6	20	62	0.1	036	●	236	●
3.7	6	20	62	0.1	037	●	237	●
3.8	6	24	66	0.1	038	●	238	●
3.9	6	24	66	0.1	039	●	239	●
4	6	24	66	0.1	040	●	240	●
4.1	6	24	66	0.1	041	●	241	●
4.2	6	24	66	0.1	042	●	242	●
4.3	6	24	66	0.1	043	●	243	●
4.4	6	24	66	0.1	044	●	244	●
4.5	6	24	66	0.1	045	●	245	●
4.6	6	24	66	0.1	046	●	246	●
4.65	6	24	66	0.1	202	●	205	●
4.7	6	24	66	0.1	047	●	247	●
4.8	6	28	66	0.1	048	●	248	●
4.9	6	28	66	0.1	049	●	249	●
5	6	28	66	0.1	050	●	250	●
5.1	6	28	66	0.1	051	●	251	●
5.2	6	28	66	0.1	052	●	252	●
5.3	6	28	66	0.1	053	●	253	●
5.4	6	28	66	0.1	054	●	254	●
5.5	6	28	66	0.1	055	●	255	●
5.55	6	28	66	0.1	203	●	206	●
5.6	6	28	66	0.1	056	●	256	●
5.65	6	28	66	0.1	207	●	208	●
5.7	6	28	66	0.1	057	●	257	●
5.8	6	28	66	0.1	058	●	258	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					External		External	
Tolerance of cutting edge Ø					h7		h7	
mm	mm h6	mm	mm	f steel 1000 ● (mm/r)	11104... Ident. No.		11104... Ident. No.	
5.9	6	28	66	0.1	059	●	259	●
6	6	28	66	0.15	060	●	260	●
6.1	8	34	79	0.15	061	●	261	●
6.2	8	34	79	0.15	062	●	262	●
6.3	8	34	79	0.15	063	●	263	●
6.4	8	34	79	0.15	064	●	264	●
6.5	8	34	79	0.15	065	●	265	●
6.6	8	34	79	0.15	066	●	266	●
6.7	8	34	79	0.15	067	●	267	●
6.8	8	34	79	0.15	068	●	268	●
6.9	8	34	79	0.15	069	●	269	●
7	8	34	79	0.15	070	●	270	●
7.1	8	41	79	0.15	071	●	271	●
7.2	8	41	79	0.15	072	●	272	●
7.3	8	41	79	0.15	073	●	273	●
7.4	8	41	79	0.15	074	●	274	●
7.5	8	41	79	0.15	075	●	275	●
7.55	8	41	79	0.15	209	●	210	●
7.6	8	41	79	0.15	076	●	276	●
7.65	8	41	79	0.15	211	●	212	●
7.7	8	41	79	0.15	077	●	277	●
7.8	8	41	79	0.15	078	●	278	●
7.9	8	41	79	0.15	079	●	279	●
8	8	41	79	0.15	080	●	280	●
8.1	10	47	89	0.15	081	●	281	●
8.2	10	47	89	0.15	082	●	282	●
8.3	10	47	89	0.15	083	●	283	●
8.4	10	47	89	0.15	084	●	284	●
8.5	10	47	89	0.15	085	●	285	●
8.6	10	47	89	0.15	086	●	286	●
8.7	10	47	89	0.15	087	●	287	●
8.8	10	47	89	0.15	088	●	288	●
8.9	10	47	89	0.15	089	●	289	●
9	10	47	89	0.15	090	●	290	●
9.1	10	47	89	0.15	091	●	291	●
9.2	10	47	89	0.15	092	●	292	●
9.3	10	47	89	0.15	093	●	293	●
9.4	10	47	89	0.15	094	●	294	●
9.5	10	47	89	0.15	095	●	295	●
9.6	10	47	89	0.15	096	●	296	●
9.7	10	47	89	0.15	097	●	297	●
9.8	10	47	89	0.15	098	●	298	●
9.9	10	47	89	0.15	099	●	299	●
10	10	47	89	0.15	100	●	300	●
10.1	12	55	102	0.15	101	●	301	●
10.2	12	55	102	0.15	102	●	302	●
10.3	12	55	102	0.15	103	●	303	●
10.4	12	55	102	0.15	104	●	304	●
10.5	12	55	102	0.15	105	●	305	●
10.6	12	55	102	0.15	106	●	306	●
10.7	12	55	102	0.15	107	●	307	●
10.8	12	55	102	0.15	108	●	308	●
10.9	12	55	102	0.15	109	●	309	●

				Tool holding device	HA parallel shank		HB parallel shank	
				Surface	TiAlN plus		TiAlN plus	
				Coolant supply	External		External	
				Tolerance of cutting edge Ø	h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11104... Ident. No.		11104... Ident. No.	
11	12	55	102	0.15	110	●	310	●
11.1	12	55	102	0.15	111	●	311	●
11.2	12	55	102	0.15	112	●	312	●
11.3	12	55	102	0.15	113	●	313	●
11.4	12	55	102	0.15	114	●	314	●
11.5	12	55	102	0.15	115	●	315	●
11.6	12	55	102	0.15	116	●	316	●
11.7	12	55	102	0.15	117	●	317	●
11.8	12	55	102	0.15	118	●	318	●
11.9	12	55	102	0.15	119	●	319	●
12	12	55	102	0.15	120	●	320	●
12.2	14	60	107	0.2	122	●	322	●
12.5	14	60	107	0.2	125	●	325	●
12.8	14	60	107	0.2	128	●	328	●
13	14	60	107	0.2	130	●	330	●
13.1	14	60	107	0.2	131	●	331	●
13.5	14	60	107	0.2	135	●	335	●
13.8	14	60	107	0.2	138	●	338	●
14	14	60	107	0.2	140	●	340	●

				Tool holding device	HA parallel shank		HB parallel shank	
				Surface	TiAlN plus		TiAlN plus	
				Coolant supply	External		External	
				Tolerance of cutting edge Ø	h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11104... Ident. No.		11104... Ident. No.	
14.2	16	65	115	0.2	142	●	342	●
14.4	16	65	115	0.2	144	●	344	●
14.5	16	65	115	0.2	145	●	345	●
14.8	16	65	115	0.2	148	●	348	●
15	16	65	115	0.2	150	●	350	●
15.1	16	65	115	0.2	151	●	351	●
15.2	16	65	115	0.2	152	○	352	●
15.5	16	65	115	0.2	155	●	355	●
15.8	16	65	115	0.2	158	●	358	●
16	16	65	115	0.28	160	●	360	●
16.5	18	73	123	0.28	165	●	365	●
17	18	73	123	0.28	170	●	370	●
17.5	18	73	123	0.28	175	●	375	●
18	18	73	123	0.28	180	●	380	●
18.5	20	79	131	0.28	185	●	385	●
18.9	20	79	131	0.28	189	●	389	●
19	20	79	131	0.28	190	●	390	●
19.5	20	79	131	0.28	195	●	395	●
20	20	79	131	0.3	200	●	400	●

Prod. Gr. 1AE

ATORN high-performance drill, solid carbide TiAlN plus HPC 5xD with internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiAlN plus | 5xD | HPC UNI | 140° | IK | HA | HB

Application:
for HPC boring up to a strength of 1300 N/mm²

Execution:
- solid carbide TiAlNplus high-performance drill
- 2 drill heels
- Cone polished section
- 30° spiral angle
- Straight main cutting edge

Advantage:
- Economic drilling in a wide variety of materials with high cutting values
- Newly developed geometry in conjunction with a multi-layer coating individually tailored to drilling ensures significantly longer service lives
- Cutting edge finishing reduces micro-fractures and increases the service life

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	135	110	90	35	30	210	260	230	180	160	130	60		110	40	35	30		

				Tool holding device	HA parallel shank		HB parallel shank	
				Surface	TiAlN plus		TiAlN plus	
				Coolant supply	Internal		Internal	
				Tolerance of cutting edge Ø	h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11105... Ident. No.		11105... Ident. No.	
1	4	8	55	0.025	010	●	-	-
1.1	4	12	55	0.025	011	●	-	-
1.2	4	12	55	0.025	012	●	-	-
1.3	4	12	55	0.025	013	●	-	-
1.4	4	12	55	0.025	014	●	-	-
1.5	4	12	55	0.033	015	●	-	-
1.6	4	16	55	0.033	016	●	-	-
1.7	4	16	55	0.033	017	●	-	-
1.8	4	16	55	0.033	018	●	-	-
1.9	4	16	55	0.033	019	●	-	-
2	4	21	57	0.045	020	●	-	-
2.1	4	21	57	0.045	021	●	-	-
2.2	4	21	57	0.045	022	●	-	-
2.3	4	21	57	0.045	023	●	-	-
2.4	4	21	57	0.045	024	●	-	-
2.5	4	21	57	0.045	025	●	-	-
2.6	4	21	57	0.045	026	●	-	-
2.7	4	21	57	0.045	027	●	-	-
2.8	4	21	57	0.045	028	●	-	-
2.9	4	21	57	0.045	029	●	-	-
3	6	28	66	0.16	030	●	230	●
3.1	6	28	66	0.16	031	●	231	●
3.2	6	28	66	0.16	032	●	232	●
3.25	6	28	66	0.16	201	●	204	●

				Tool holding device	HA parallel shank		HB parallel shank	
				Surface	TiAlN plus		TiAlN plus	
				Coolant supply	Internal		Internal	
				Tolerance of cutting edge Ø	h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11105... Ident. No.		11105... Ident. No.	
3.3	6	28	66	0.16	033	●	233	●
3.4	6	28	66	0.16	034	●	234	●
3.5	6	28	66	0.16	035	●	235	●
3.6	6	28	66	0.16	036	●	236	●
3.7	6	28	66	0.16	037	●	237	●
3.8	6	36	74	0.16	038	●	238	●
3.85	6	36	74	0.16	213	●	214	●
3.9	6	36	74	0.16	039	●	239	●
4	6	36	74	0.16	040	●	240	●
4.1	6	36	74	0.16	041	●	241	●
4.2	6	36	74	0.16	042	●	242	●
4.3	6	36	74	0.16	043	●	243	●
4.4	6	36	74	0.16	044	●	244	●
4.5	6	36	74	0.16	045	●	245	●
4.6	6	36	74	0.16	046	●	246	●
4.65	6	36	74	0.16	202	●	205	●
4.7	6	36	74	0.16	047	●	247	●
4.8	6	44	82	0.16	048	●	248	●
4.9	6	44	82	0.16	049	●	249	●
5	6	44	82	0.16	050	●	250	●
5.1	6	44	82	0.16	051	●	251	●
5.2	6	44	82	0.16	052	●	252	●
5.3	6	44	82	0.16	053	●	253	●
5.4	6	44	82	0.16	054	●	254	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11105... Ident. No.		11105... Ident. No.	
5.5	6	44	82	0.16	055	●	255	●
5.55	6	44	82	0.16	203	●	206	●
5.6	6	44	82	0.16	056	●	256	●
5.65	6	44	82	0.16	207	●	208	●
5.7	6	44	82	0.16	057	●	257	●
5.8	6	44	82	0.16	058	●	258	●
5.9	6	44	82	0.21	059	●	259	●
6	6	44	82	0.21	060	●	260	●
6.1	8	53	91	0.21	061	●	261	●
6.2	8	53	91	0.21	062	●	262	●
6.3	8	53	91	0.21	063	●	263	●
6.4	8	53	91	0.21	064	●	264	●
6.5	8	53	91	0.21	065	●	265	●
6.6	8	53	91	0.21	066	●	266	●
6.7	8	53	91	0.21	067	●	267	●
6.8	8	53	91	0.21	068	●	268	●
6.9	8	53	91	0.21	069	●	269	●
7	8	53	91	0.21	070	●	270	●
7.1	8	53	91	0.21	071	●	271	●
7.2	8	53	91	0.21	072	●	272	●
7.3	8	53	91	0.21	073	●	273	●
7.4	8	53	91	0.21	074	●	274	●
7.5	8	53	91	0.21	075	●	275	●
7.55	8	53	91	0.21	209	●	210	●
7.6	8	53	91	0.21	076	●	276	●
7.65	8	53	91	0.21	211	●	212	●
7.7	8	53	91	0.21	077	●	277	●
7.8	8	53	91	0.21	078	●	278	●
7.9	8	53	91	0.21	079	●	279	●
8	8	53	91	0.21	080	●	280	●
8.1	10	61	103	0.21	081	●	281	●
8.2	10	61	103	0.21	082	●	282	●
8.3	10	61	103	0.21	083	●	283	●
8.4	10	61	103	0.21	084	●	284	●
8.5	10	61	103	0.21	085	●	285	●
8.6	10	61	103	0.21	086	●	286	●
8.7	10	61	103	0.21	087	●	287	●
8.8	10	61	103	0.21	088	●	288	●
8.9	10	61	103	0.21	089	●	289	●
9	10	61	103	0.21	090	●	290	●
9.1	10	61	103	0.21	091	●	291	●
9.2	10	61	103	0.21	092	●	292	●
9.3	10	61	103	0.21	093	●	293	●
9.4	10	61	103	0.21	094	●	294	●
9.5	10	61	103	0.21	095	●	295	●
9.55	10	61	103	0.21	215	●	216	●
9.6	10	61	103	0.21	096	●	296	●
9.7	10	61	103	0.21	097	●	297	●
9.8	10	61	103	0.21	098	●	298	●
9.9	10	61	103	0.21	099	●	299	●
10	10	61	103	0.28	100	●	300	●
10.1	12	71	118	0.28	101	●	301	●
10.2	12	71	118	0.28	102	●	302	●
10.3	12	71	118	0.28	103	●	303	●
10.4	12	71	118	0.28	104	●	304	●
10.5	12	71	118	0.28	105	●	305	●
10.6	12	71	118	0.28	106	●	306	●
10.7	12	71	118	0.28	107	●	307	●
10.8	12	71	118	0.28	108	●	308	●
10.9	12	71	118	0.28	109	●	309	●
11	12	71	118	0.28	110	●	310	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN plus		TiAlN plus	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					h7		h7	
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11105... Ident. No.		11105... Ident. No.	
11.1	12	71	118	0.28	111	●	311	●
11.2	12	71	118	0.28	112	●	312	●
11.3	12	71	118	0.28	113	●	313	●
11.4	12	71	118	0.28	114	●	314	●
11.5	12	71	118	0.28	115	●	315	●
11.6	12	71	118	0.28	116	●	316	●
11.7	12	71	118	0.28	117	●	317	●
11.8	12	71	118	0.28	118	●	318	●
11.9	12	71	118	0.28	119	●	319	●
12	12	71	118	0.33	120	●	320	●
12.1	14	77	124	0.33	121	●	321	●
12.2	14	77	124	0.33	122	●	322	●
12.4	14	77	124	0.33	124	●	324	●
12.5	14	77	124	0.33	125	●	325	●
12.6	14	77	124	0.33	126	●	326	●
12.8	14	77	124	0.33	128	●	328	●
13	14	77	124	0.33	130	●	330	●
13.1	14	77	124	0.33	131	●	331	●
13.2	14	77	124	0.33	132	●	332	●
13.3	14	77	124	0.33	133	●	333	●
13.5	14	77	124	0.33	135	●	335	●
13.8	14	77	124	0.33	138	●	338	●
13.9	14	77	124	0.33	139	●	339	●
14	14	77	124	0.33	140	●	340	●
14.2	16	83	133	0.33	142	●	342	●
14.3	16	83	133	0.33	143	●	343	●
14.4	16	83	133	0.33	144	●	344	●
14.5	16	83	133	0.33	145	●	345	●
14.8	16	83	133	0.33	148	●	348	●
14.9	16	83	133	0.33	149	●	349	●
15	16	83	133	0.33	150	●	350	●
15.1	16	83	133	0.33	151	●	351	●
15.2	16	83	133	0.33	152	●	352	●
15.25	16	83	133	0.33	217	●	218	●
15.3	16	83	133	0.33	153	●	353	●
15.5	16	83	133	0.33	155	●	355	●
15.8	16	83	133	0.33	158	●	358	●
15.9	16	83	133	0.33	159	●	359	●
16	16	83	133	0.33	160	●	360	●
16.2	18	93	143	0.33	162	●	362	●
16.3	18	93	143	0.33	163	●	363	●
16.5	18	93	143	0.33	165	●	365	●
16.8	18	93	143	0.33	168	●	368	●
16.9	18	93	143	0.33	169	●	369	●
17	18	93	143	0.36	170	●	370	●
17.3	18	93	143	0.36	173	●	373	●
17.5	18	93	143	0.36	175	●	375	●
17.8	18	93	143	0.36	178	●	378	●
17.9	18	93	143	0.36	179	●	379	●
18	18	93	143	0.36	180	●	380	●
18.5	20	101	153	0.36	185	●	385	●
18.8	20	101	153	0.36	188	●	388	●
18.9	20	101	153	0.36	189	●	389	●
19	20	101	153	0.39	190	●	390	●
19.2	20	101	153	0.39	192	●	392	○
19.3	20	101	153	0.39	193	●	393	●
19.5	20	101	153	0.39	195	●	395	●
19.7	20	101	153	0.39	197	●	397	●
19.8	20	101	153	0.39	198	●	398	●
19.9	20	101	153	0.39	199	●	399	●
20	20	101	153	0.4	200	●	400	●

Prod. Gr. 1AE

ATORN high-performance drill, solid carbide TiAlN plus HPC 8xD with internal cooling

for universal use up to 1300 N/mm²

VHM | TiAlN plus | 8xD | HPC UNI | 135° | IK | HA

Application:
for HPC boring up to a strength of 1300 N/mm²

Execution:
- solid carbide TiAlNplus high-performance drill
- 4 drill heels
- Four grinding faces
- 30° spiral angle
- Straight main cutting edge

Advantage:
- economic drilling in a wide variety of materials with high cutting values
- newly developed geometry in conjunction with a multi-layer coating individually tailored to drilling ensures significantly longer service lives
- Cutting edge finishing reduces micro-fractures and increases the service life
- very high alignment accuracy thanks to 4 drill heels
- high process reliability even at extreme depths

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	135	110	90	35	30	210	260	230	180	160	130	60		110	40	35	30		

Tool holding device					HA parallel shank	
Surface					TiAlN plus	
Coolant supply					Internal	
Tolerance of cutting edge Ø					h7	
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11108... Ident. No.	
3	6	34	72	0.11	030	●
3.1	6	34	72	0.11	031	●
3.2	6	34	72	0.11	032	●
3.3	6	34	72	0.11	033	●
3.4	6	34	72	0.11	034	●
3.5	6	34	72	0.11	035	●
3.6	6	34	72	0.11	036	●
3.7	6	34	72	0.11	037	●
3.8	6	43	81	0.11	038	●
3.9	6	43	81	0.11	039	●
4	6	43	81	0.11	040	●
4.1	6	43	81	0.11	041	●
4.2	6	43	81	0.11	042	●
4.3	6	43	81	0.11	043	●
4.4	6	43	81	0.11	044	●
4.5	6	43	81	0.11	045	●
4.6	6	43	81	0.11	046	●
4.7	6	43	81	0.11	047	●
4.8	6	57	95	0.11	048	●
4.9	6	57	95	0.11	049	●
5	6	57	95	0.11	050	●
5.1	6	57	95	0.11	051	●
5.2	6	57	95	0.11	052	●
5.3	6	57	95	0.11	053	●
5.4	6	57	95	0.11	054	●
5.5	6	57	95	0.11	055	●
5.6	6	57	95	0.11	056	●
5.7	6	57	95	0.11	057	●
5.8	6	57	95	0.11	058	●
5.9	6	57	95	0.11	059	●
6	6	57	95	0.16	060	●
6.1	8	76	114	0.16	061	●
6.2	8	76	114	0.16	062	●
6.3	8	76	114	0.16	063	●
6.4	8	76	114	0.16	064	●
6.5	8	76	114	0.16	065	●
6.6	8	76	114	0.16	066	●
6.7	8	76	114	0.16	067	●
6.8	8	76	114	0.16	068	●
6.9	8	76	114	0.16	069	●
7	8	76	114	0.16	070	●
7.1	8	76	114	0.16	071	●
7.2	8	76	114	0.16	072	●
7.3	8	76	114	0.16	073	●
7.4	8	76	114	0.16	074	●
7.5	8	76	114	0.16	075	●
7.6	8	76	114	0.16	076	●
7.7	8	76	114	0.16	077	●

Tool holding device					HA parallel shank	
Surface					TiAlN plus	
Coolant supply					Internal	
Tolerance of cutting edge Ø					h7	
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11108... Ident. No.	
7.8	8	76	114	0.16	078	●
7.9	8	76	114	0.16	079	●
8	8	76	114	0.16	080	●
8.1	10	95	142	0.16	081	●
8.2	10	95	142	0.16	082	●
8.3	10	95	142	0.16	083	●
8.4	10	95	142	0.16	084	●
8.5	10	95	142	0.16	085	●
8.6	10	95	142	0.16	086	●
8.7	10	95	142	0.16	087	●
8.8	10	95	142	0.16	088	●
8.9	10	95	142	0.16	089	●
9	10	95	142	0.21	090	●
9.1	10	95	142	0.21	091	●
9.2	10	95	142	0.21	092	●
9.3	10	95	142	0.21	093	●
9.4	10	95	142	0.21	094	●
9.5	10	95	142	0.21	095	●
9.6	10	95	142	0.21	096	●
9.7	10	95	142	0.21	097	●
9.8	10	95	142	0.21	098	●
9.9	10	95	142	0.21	099	●
10	10	95	142	0.21	100	●
10.2	12	114	162	0.21	102	●
10.5	12	114	162	0.21	105	●
10.8	12	114	162	0.21	108	●
11	12	114	162	0.21	110	●
11.5	12	114	162	0.21	115	●
11.8	12	114	162	0.21	118	●
12	12	114	162	0.27	120	●
12.2	14	131	178	0.27	122	●
12.5	14	131	178	0.27	125	●
13	14	131	178	0.27	130	●
13.5	14	131	178	0.27	135	●
14	14	131	178	0.27	140	●
14.5	16	152	203	0.27	145	●
15	16	152	203	0.27	150	●
15.5	16	152	203	0.27	155	●
16	16	152	203	0.31	160	●
16.5	18	171	222	0.31	165	●
17	18	171	222	0.31	170	●
17.5	18	171	222	0.31	175	●
18	18	171	222	0.31	180	●
18.5	20	190	243	0.31	185	●
19	20	190	243	0.33	190	●
19.5	20	190	243	0.33	195	●
20	20	190	243	0.33	200	●

Prod. Gr. 1AE

ATORN high-performance drill, solid carbide TiAlN plus HPC 12xD with internal cooling

for universal use up to 1300 N/mm²

VHM | TiAlN plus | 12xD | HPC UNI | 135° | IK | HA

Application:
for HPC boring up to a strength of 1300 N/mm²

Execution:
- solid carbide TiAlNplus high-performance drill
- 4 drill heels
- Four grinding faces
- 30° spiral angle
- Straight main cutting edge

Advantage:
- economic drilling in a wide variety of materials with high cutting values
- newly developed geometry in conjunction with a multi-layer coating individually tailored to drilling ensures significantly longer service lives
- Cutting edge finishing reduces micro-fractures and increases the service life
- very high alignment accuracy thanks to 4 drill heels
- high process reliability even at extreme depths

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	135	**110**	**90**	**35**	30	**210**	260	**230**	180	**160**	130	60		**110**	40	35	30		

Tool holding device	HA parallel shank
Surface	TiAlN plus
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11110... Ident. No.	
3	6	54	92	0.1	030	●
3.1	6	54	92	0.1	031	●
3.2	6	54	92	0.1	032	●
3.3	6	54	92	0.1	033	●
3.4	6	54	92	0.1	034	●
3.5	6	54	92	0.1	035	●
3.6	6	54	92	0.1	036	●
3.7	6	54	92	0.1	037	●
3.8	6	64	102	0.1	038	●
3.9	6	64	102	0.1	039	●
4	6	64	102	0.1	040	●
4.1	6	64	102	0.1	041	●
4.2	6	64	102	0.1	042	●
4.3	6	64	102	0.1	043	●
4.4	6	64	102	0.1	044	●
4.5	6	64	102	0.1	045	●
4.6	6	64	102	0.1	046	●
4.7	6	64	102	0.1	047	●
4.8	6	78	116	0.1	048	●
4.9	6	78	116	0.1	049	●
5	6	78	116	0.1	050	●
5.1	6	78	116	0.1	051	●
5.2	6	78	116	0.1	052	●
5.3	6	78	116	0.1	053	●
5.4	6	78	116	0.1	054	●
5.5	6	78	116	0.1	055	●
5.6	6	78	116	0.1	056	●
5.7	6	78	116	0.1	057	●
5.8	6	78	116	0.1	058	●
5.9	6	78	116	0.1	059	●
6	6	78	116	0.15	060	●
6.1	8	108	146	0.15	061	●
6.2	8	108	146	0.15	062	●
6.3	8	108	146	0.15	063	●
6.4	8	108	146	0.15	064	●
6.5	8	108	146	0.15	065	●
6.6	8	108	146	0.15	066	●
6.7	8	108	146	0.15	067	●
6.8	8	108	146	0.15	068	●
6.9	8	108	146	0.15	069	●
7	8	108	146	0.15	070	●
7.1	8	108	146	0.15	071	●
7.2	8	108	146	0.15	072	●
7.3	8	108	146	0.15	073	●
7.4	8	108	146	0.15	074	●
7.5	8	108	146	0.15	075	●
7.6	8	108	146	0.15	076	●
7.7	8	108	146	0.15	077	●
7.8	8	108	146	0.15	078	●
7.9	8	108	146	0.15	079	●

Tool holding device	HA parallel shank
Surface	TiAlN plus
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11110... Ident. No.	
8	8	108	146	0.15	080	●
8.1	10	120	162	0.15	081	●
8.2	10	120	162	0.15	082	●
8.3	10	120	162	0.15	083	●
8.4	10	120	162	0.15	084	●
8.5	10	120	162	0.15	085	●
8.6	10	120	162	0.15	086	●
8.7	10	120	162	0.15	087	●
8.8	10	120	162	0.15	088	●
8.9	10	120	162	0.15	089	●
9	10	120	162	0.2	090	●
9.1	10	120	162	0.2	091	●
9.2	10	120	162	0.2	092	●
9.3	10	120	162	0.2	093	●
9.4	10	120	162	0.2	094	●
9.5	10	120	162	0.2	095	●
9.6	10	120	162	0.2	096	●
9.7	10	120	162	0.2	097	●
9.8	10	120	162	0.2	098	●
9.9	10	120	162	0.2	099	●
10	10	120	162	0.2	100	●
10.2	12	156	204	0.2	102	●
10.5	12	156	204	0.2	105	●
10.8	12	156	204	0.2	108	●
11	12	156	204	0.2	110	●
11.5	12	156	204	0.2	115	●
11.8	12	156	204	0.2	118	●
12	12	156	204	0.26	120	●
12.5	14	182	230	0.26	125	●
12.7	14	182	230	0.26	127	●
12.8	14	182	230	0.26	128	●
13	14	182	230	0.26	130	●
13.5	14	182	230	0.26	135	●
13.8	14	182	230	0.26	138	●
14	14	182	230	0.26	140	●
14.5	16	208	260	0.26	145	●
14.8	16	208	260	0.26	148	●
15	16	208	260	0.26	150	●
15.5	16	208	260	0.26	155	●
15.8	16	208	260	0.3	158	●
16	16	208	260	0.3	160	●
16.5	18	234	285	0.3	165	●
17	18	234	285	0.3	170	●
17.5	18	234	285	0.3	175	●
18	18	234	285	0.3	180	●
18.5	20	258	310	0.3	185	●
19	20	258	310	0.32	190	●
19.5	20	258	310	0.32	195	●
20	20	258	310	0.32	200	●

Prod. Gr. 1AE

High-performance drill bit solid carbide TiNAIOX drill bit
For universal use up to 1,300 N/mm²

Application:
For HPC bore machining up to 1,300 N/mm².

Advantage:
- Latest coating technology: unique, extremely hard, low-friction, temperature-resistant and extremely thin TiNAIOX coating provides added service life and process stability.
- Cutting edge preparation minimises micro-breakouts on the cutting edge

TiNAIOX HPC UNI

ORION® high-performance drill bit, solid carbide TiNAIOX HPC 3xD with internal cooling (DIN 6537)

For universal use up to 1300 N/mm²

VHM | TiNAIOX | 3xD | HPC UNI | 140° | IK | HB

Application:
For HPC bore machining up to 1,300 N/mm².

Execution:
- Solid carbide TiNAIOX high-performance drill
- 2 drill heels
- Four grinding faces
- 30° spiral angle
- Straight main cutting edge

Advantage:
- universal application ensures maximum flexibility
- extremely hard, low-friction, temperature-resistant and form-fitting TiNAIOX coating ensures greater service life
- Cutting edge preparation minimises micro-fractures on the cutter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	135	110	90	35	30	230	280	230	180	160	130	60		110	40	35	30		

Tool holding device	HB parallel shank
Surface	TiNALOX
Coolant supply	Internal
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11184... Ident. No.	
3	6	20	62	0.09	030	●
3.1	6	20	62	0.09	031	●
3.2	6	20	62	0.09	032	●
3.25	6	20	62	0.09	325	●
3.3	6	20	62	0.09	033	●
3.4	6	20	62	0.09	034	●
3.5	6	20	62	0.09	035	●
3.6	6	20	62	0.09	036	●
3.7	6	20	62	0.09	037	●
3.8	6	24	66	0.09	038	●
3.9	6	24	66	0.09	039	●
4	6	24	66	0.09	040	●
4.1	6	24	66	0.09	041	●
4.2	6	24	66	0.09	042	●
4.3	6	24	66	0.09	043	●
4.4	6	24	66	0.09	044	●
4.5	6	24	66	0.09	045	●
4.6	6	24	66	0.09	046	●
4.65	6	24	66	0.09	465	●
4.7	6	24	66	0.09	047	●
4.8	6	28	66	0.09	048	●
4.9	6	28	66	0.09	049	●
5	6	28	66	0.09	050	●
5.1	6	28	66	0.09	051	●
5.2	6	28	66	0.09	052	●
5.3	6	28	66	0.09	053	●
5.4	6	28	66	0.09	054	●
5.5	6	28	66	0.1	055	●
5.55	6	28	66	0.1	555	●
5.6	6	28	66	0.1	056	●
5.7	6	28	66	0.1	057	●
5.8	6	28	66	0.1	058	●
5.9	6	28	66	0.1	059	●
6	6	28	66	0.1	060	●
6.1	8	34	79	0.1	061	●
6.2	8	34	79	0.1	062	●

Tool holding device	HB parallel shank
Surface	TiNALOX
Coolant supply	Internal
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11184... Ident. No.	
6.3	8	34	79	0.1	063	●
6.4	8	34	79	0.1	064	●
6.5	8	34	79	0.11	065	●
6.6	8	34	79	0.11	066	●
6.7	8	34	79	0.11	067	●
6.8	8	34	79	0.11	068	●
6.9	8	34	79	0.11	069	●
7	8	34	79	0.11	070	●
7.1	8	41	79	0.11	071	●
7.2	8	41	79	0.11	072	●
7.3	8	41	79	0.11	073	●
7.4	8	41	79	0.11	074	●
7.5	8	41	79	0.12	075	●
7.6	8	41	79	0.12	076	●
7.7	8	41	79	0.12	077	●
7.8	8	41	79	0.12	078	●
7.9	8	41	79	0.12	079	●
8	8	41	79	0.12	080	●
8.1	10	47	89	0.12	081	●
8.2	10	47	89	0.12	082	●
8.3	10	47	89	0.12	083	●
8.4	10	47	89	0.13	084	●
8.5	10	47	89	0.13	085	●
8.6	10	47	89	0.13	086	●
8.7	10	47	89	0.13	087	●
8.8	10	47	89	0.13	088	●
8.9	10	47	89	0.13	089	●
9	10	47	89	0.13	090	●
9.1	10	47	89	0.13	091	●
9.2	10	47	89	0.14	092	●
9.3	10	47	89	0.14	093	●
9.4	10	47	89	0.14	094	●
9.5	10	47	89	0.14	095	●
9.6	10	47	89	0.14	096	●
9.7	10	47	89	0.14	097	●
9.8	10	47	89	0.14	098	●

Tool holding device					HB parallel shank	
Surface					TiNALOX	
Coolant supply					Internal	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11184... Ident. No.	
9.9	10	47	89	0.14	099	●
10	10	47	89	0.15	100	●
10.2	12	55	102	0.15	102	●
10.5	12	55	102	0.15	105	●
10.8	12	55	102	0.16	108	●
11	12	55	102	0.16	110	●
11.2	12	55	102	0.16	112	●
11.5	12	55	102	0.16	115	●
11.8	12	55	102	0.17	118	●
12	12	55	102	0.17	120	●
12.2	14	60	107	0.17	122	●
12.5	14	60	107	0.17	125	●
12.8	14	60	107	0.18	128	●
13	14	60	107	0.18	130	●
13.1	14	60	107	0.18	131	●
13.5	14	60	107	0.18	135	●
13.8	14	60	107	0.18	138	●
14	14	60	107	0.19	140	●

Tool holding device					HB parallel shank	
Surface					TiNALOX	
Coolant supply					Internal	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11184... Ident. No.	
14.2	16	65	115	0.19	142	●
14.5	16	65	115	0.19	145	●
14.8	16	65	115	0.19	148	●
15	16	65	115	0.19	150	●
15.1	16	65	115	0.19	151	●
15.2	16	65	115	0.19	152	●
15.5	16	65	115	0.2	155	●
15.8	16	65	115	0.2	158	●
16	16	65	115	0.2	160	●
16.5	18	73	123	0.22	165	●
17	18	73	123	0.24	170	●
17.5	18	73	123	0.26	175	●
18	18	73	123	0.28	180	●
18.5	20	79	131	0.29	185	●
19	20	79	131	0.31	190	●
19.5	20	79	131	0.33	195	●
20	20	79	131	0.35	200	●

Prod. Gr. 1AS

ORION® High-performance drill, solid carbide TiNAlOX HPC 3xD without internal cooling (DIN 6537)

For universal use up to 1300 N/mm²

VHM | TiNAlOX | 3xD | HPC UNI | 140° | HB

Application:
For HPC bore machining up to 1,300 N/mm².

Execution:
- High-performance drill, solid carbide TiNAlOX without internal cooling
- 2 drill heels
- Four grinding faces
- 30° spiral angle
- Straight main cutting edge

Advantage:
- universal application ensures maximum flexibility
- extremely hard, low-friction, temperature-resistant and form-fitting TiNAlOX coating ensures greater service life
- Cutting edge preparation minimises micro-fractures on the cutter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	135	110	90	35	30	230	280	230	180	160	130	60		110	40	35	30		

Tool holding device					HB parallel shank	
Surface					TiNALOX	
Coolant supply					External	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11183... Ident. No.	
3	6	20	62	0.09	030	●
3.1	6	20	62	0.09	031	●
3.2	6	20	62	0.09	032	●
3.25	6	20	62	0.09	325	●
3.3	6	20	62	0.09	033	●
3.4	6	20	62	0.09	034	●
3.5	6	20	62	0.09	035	●
3.6	6	20	62	0.09	036	●
3.7	6	20	62	0.09	037	●
3.8	6	24	66	0.09	038	●
3.9	6	24	66	0.09	039	●
4	6	24	66	0.09	040	●
4.1	6	24	66	0.09	041	●
4.2	6	24	66	0.09	042	●
4.3	6	24	66	0.09	043	●
4.4	6	24	66	0.09	044	●
4.5	6	24	66	0.09	045	●
4.6	6	24	66	0.09	046	●
4.65	6	24	66	0.09	465	●
4.7	6	24	66	0.09	047	●
4.8	6	28	66	0.09	048	●
4.9	6	28	66	0.09	049	●
5	6	28	66	0.09	050	●
5.1	6	28	66	0.09	051	●
5.2	6	28	66	0.09	052	●

Tool holding device					HB parallel shank	
Surface					TiNALOX	
Coolant supply					External	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11183... Ident. No.	
5.3	6	28	66	0.09	053	●
5.4	6	28	66	0.09	054	●
5.5	6	28	66	0.1	055	●
5.55	6	28	66	0.1	555	●
5.6	6	28	66	0.1	056	●
5.7	6	28	66	0.1	057	●
5.8	6	28	66	0.1	058	●
5.9	6	28	66	0.1	059	●
6	6	28	66	0.1	060	●
6.1	8	34	79	0.1	061	●
6.2	8	34	79	0.1	062	●
6.3	8	34	79	0.1	063	●
6.4	8	34	79	0.1	064	●
6.5	8	34	79	0.11	065	●
6.6	8	34	79	0.11	066	●
6.7	8	34	79	0.11	067	●
6.8	8	34	79	0.11	068	●
6.9	8	34	79	0.11	069	●
7	8	34	79	0.11	070	●
7.1	8	41	79	0.11	071	●
7.2	8	41	79	0.11	072	●
7.3	8	41	79	0.11	073	●
7.4	8	41	79	0.11	074	●
7.5	8	41	79	0.12	075	●
7.6	8	41	79	0.12	076	●

Tool holding device	HB parallel shank					
Surface	TiNALOX					
Coolant supply	External					
Tolerance of cutting edge Ø	m7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11183... Ident. No.	
7.7	8	41	79	0.12	077	●
7.8	8	41	79	0.12	078	●
7.9	8	41	79	0.12	079	●
8	8	41	79	0.12	080	●
8.1	10	47	89	0.12	081	●
8.2	10	47	89	0.12	082	●
8.3	10	47	89	0.12	083	●
8.4	10	47	89	0.13	084	●
8.5	10	47	89	0.13	085	●
8.6	10	47	89	0.13	086	●
8.7	10	47	89	0.13	087	●
8.8	10	47	89	0.13	088	●
8.9	10	47	89	0.13	089	●
9	10	47	89	0.13	090	●
9.1	10	47	89	0.13	091	●
9.2	10	47	89	0.14	092	●
9.3	10	47	89	0.14	093	●
9.4	10	47	89	0.14	094	●
9.5	10	47	89	0.14	095	●
9.6	10	47	89	0.14	096	●
9.7	10	47	89	0.14	097	●
9.8	10	47	89	0.14	098	●
9.9	10	47	89	0.14	099	●
10	10	47	89	0.15	100	●
10.2	12	55	102	0.15	102	●
10.5	12	55	102	0.15	105	●
10.8	12	55	102	0.16	108	●
11	12	55	102	0.16	110	●
11.2	12	55	102	0.16	112	●

Tool holding device	HB parallel shank					
Surface	TiNALOX					
Coolant supply	External					
Tolerance of cutting edge Ø	m7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11183... Ident. No.	
11.5	12	55	102	0.16	115	●
11.8	12	55	102	0.17	118	●
12	12	55	102	0.17	120	●
12.2	14	60	107	0.17	122	●
12.5	14	60	107	0.17	125	●
12.8	14	60	107	0.18	128	●
13	14	60	107	0.18	130	●
13.1	14	60	107	0.18	131	●
13.5	14	60	107	0.18	135	●
13.8	14	60	107	0.18	138	●
14	14	60	107	0.19	140	●
14.2	16	65	115	0.19	142	●
14.5	16	65	115	0.19	145	●
14.8	16	65	115	0.19	148	●
15	16	65	115	0.19	150	●
15.1	16	65	115	0.19	151	●
15.2	16	65	115	0.19	152	●
15.5	16	65	115	0.2	155	●
15.8	16	65	115	0.2	158	●
16	16	65	115	0.2	160	●
16.5	18	73	123	0.22	165	●
17	18	73	123	0.24	170	●
17.5	18	73	123	0.26	175	●
18	18	73	123	0.28	180	●
18.5	20	79	131	0.29	185	●
19	20	79	131	0.31	190	●
19.5	20	79	131	0.33	195	●
20	20	79	131	0.35	200	●

Prod. Gr. 1AS

ORION® high-performance drill bit, solid carbide TiNAlOX HPC 5xD with internal cooling (DIN 6537)

For universal use up to 1300 N/mm²

VHM | TiNAlOX | 5xD | HPC UNI | 140° | IK | HB

Application:
For HPC bore machining up to 1,300 N/mm².

Execution:
- Solid carbide TiNAlOX high-performance drill
- 2 drill heels
- Four grinding faces
- 30° spiral angle
- Straight main cutting edge

Advantage:
- universal application ensures maximum flexibility
- extremely hard, low-friction, temperature-resistant and form-fitting TiNAlOX coating ensures greater service life
- Cutting edge preparation minimises micro-fractures on the cutter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	135	110	90	35	30	230	280	230	180	160	130	60		110	40	35	30		

Tool holding device	HB parallel shank					
Surface	TiNALOX					
Coolant supply	Internal					
Tolerance of cutting edge Ø	m7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11188... Ident. No.	
3	6	28	66	0.09	030	●
3.1	6	28	66	0.09	031	●
3.2	6	28	66	0.09	032	●
3.25	6	28	66	0.09	325	●
3.3	6	28	66	0.09	033	●
3.4	6	28	66	0.09	034	●
3.5	6	28	66	0.09	035	●
3.6	6	28	66	0.09	036	●
3.7	6	28	66	0.09	037	●
3.8	6	36	74	0.09	038	●
3.9	6	36	74	0.09	039	●
4	6	36	74	0.09	040	●
4.1	6	36	74	0.09	041	●
4.2	6	36	74	0.09	042	●

Tool holding device	HB parallel shank					
Surface	TiNALOX					
Coolant supply	Internal					
Tolerance of cutting edge Ø	m7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11188... Ident. No.	
4.3	6	36	74	0.09	043	●
4.4	6	36	74	0.09	044	●
4.5	6	36	74	0.09	045	●
4.6	6	36	74	0.09	046	●
4.65	6	36	74	0.09	465	●
4.7	6	36	74	0.09	047	●
4.8	6	44	82	0.09	048	●
4.9	6	44	82	0.09	049	●
5	6	44	82	0.09	050	●
5.1	6	44	82	0.09	051	●
5.2	6	44	82	0.09	052	●
5.3	6	44	82	0.09	053	●
5.4	6	44	82	0.09	054	●
5.5	6	44	82	0.1	055	●

Tool holding device					HB parallel shank	
Surface					TiNALOX	
Coolant supply					Internal	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11188... Ident. No.	
5.55	6	44	82	0.1	555	●
5.6	6	44	82	0.1	056	●
5.7	6	44	82	0.1	057	●
5.8	6	44	82	0.1	058	●
5.9	6	44	82	0.1	059	●
6	6	44	82	0.1	060	●
6.1	8	53	91	0.1	061	●
6.2	8	53	91	0.1	062	●
6.3	8	53	91	0.1	063	●
6.4	8	53	91	0.1	064	●
6.5	8	53	91	0.11	065	●
6.6	8	53	91	0.11	066	●
6.7	8	53	91	0.11	067	●
6.8	8	53	91	0.11	068	●
6.9	8	53	91	0.11	069	●
7	8	53	91	0.11	070	●
7.1	8	53	91	0.11	071	●
7.2	8	53	91	0.11	072	●
7.3	8	53	91	0.11	073	●
7.4	8	53	91	0.11	074	●
7.5	8	53	91	0.12	075	●
7.6	8	53	91	0.12	076	●
7.7	8	53	91	0.12	077	●
7.8	8	53	91	0.12	078	●
7.9	8	53	91	0.12	079	●
8	8	53	91	0.12	080	●
8.1	10	61	103	0.12	081	●
8.2	10	61	103	0.12	082	●
8.3	10	61	103	0.12	083	●
8.4	10	61	103	0.13	084	●
8.5	10	61	103	0.13	085	●
8.6	10	61	103	0.13	086	●
8.7	10	61	103	0.13	087	●
8.8	10	61	103	0.13	088	●
8.9	10	61	103	0.13	089	●
9	10	61	103	0.13	090	●
9.1	10	61	103	0.13	091	●
9.2	10	61	103	0.14	092	●
9.3	10	61	103	0.14	093	●
9.4	10	61	103	0.14	094	●

Tool holding device					HB parallel shank	
Surface					TiNALOX	
Coolant supply					Internal	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11188... Ident. No.	
9.5	10	61	103	0.14	095	●
9.6	10	61	103	0.14	096	●
9.7	10	61	103	0.14	097	●
9.8	10	61	103	0.14	098	●
9.9	10	61	103	0.14	099	●
10	10	61	103	0.15	100	●
10.2	12	71	118	0.15	102	●
10.5	12	71	118	0.15	105	●
10.8	12	71	118	0.16	108	●
11	12	71	118	0.16	110	●
11.2	12	71	118	0.16	112	●
11.5	12	71	118	0.16	115	●
11.8	12	71	118	0.17	118	●
12	12	71	118	0.17	120	●
12.2	14	77	124	0.17	122	●
12.5	14	77	124	0.17	125	●
12.8	14	77	124	0.18	128	●
13	14	77	124	0.18	130	●
13.1	14	77	124	0.18	131	●
13.5	14	77	124	0.18	135	●
13.8	14	77	124	0.18	138	●
14	14	77	124	0.19	140	●
14.2	16	83	133	0.19	142	●
14.5	16	83	133	0.19	145	●
14.8	16	83	133	0.19	148	●
15	16	83	133	0.19	150	●
15.1	16	83	133	0.19	151	●
15.2	16	83	133	0.19	152	●
15.5	16	83	133	0.2	155	●
15.8	16	83	133	0.2	158	●
16	16	83	133	0.2	160	●
16.5	18	93	143	0.22	165	●
17	18	93	143	0.24	170	●
17.5	18	93	143	0.26	175	●
18	18	93	143	0.28	180	●
18.5	20	101	153	0.29	185	●
19	20	101	153	0.31	190	●
19.5	20	101	153	0.33	195	●
20	20	101	153	0.35	200	●

Prod. Gr. 1AS

TiAlN solid carbide high-performance drill bit range

Application:
For HPC bore machining up to a strength of 1,300 N/mm².

Advantage:
- Universal high-performance tool with excellent value for money
- Wide range from 3xD to 12xD
- 3xD + 5xD with and without internal coolant supply

TiAlN | HPC UNI

ORION® high-performance drill bit, solid carbide TiAlN HPC 3xD with internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiAlN | 3xD | HPC UNI | 140° | IK | HB

Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:
- Solid carbide TiAlN high-performance drill
- 2 drill heels
- Cone polished section

- 30° spiral angle
- Straight main cutting edge

Advantage:
- universal high-performance tool with excellent price/performance ratio
- 3xD + 5xD with and without IC

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	90	80	40	35	190	230	190	150	110	90	50		100	35	30	30		

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11174... Ident. No.	
3	6	20	62	0.13	230	●
3.1	6	20	62	0.13	231	●
3.2	6	20	62	0.13	232	●
3.25	6	20	62	0.13	401	●
3.3	6	20	62	0.13	233	●
3.4	6	20	62	0.13	234	●
3.5	6	20	62	0.13	235	●
3.6	6	20	62	0.13	236	●
3.7	6	20	62	0.13	237	●
3.8	6	24	66	0.13	238	●
3.9	6	24	66	0.13	239	●
4	6	24	66	0.13	240	●
4.1	6	24	66	0.13	241	●
4.2	6	24	66	0.13	242	●
4.3	6	24	66	0.13	243	●
4.4	6	24	66	0.13	244	●
4.5	6	24	66	0.13	245	●
4.6	6	24	66	0.13	246	●
4.65	6	24	66	0.13	402	●
4.7	6	24	66	0.13	247	●
4.8	6	28	66	0.13	248	●
4.9	6	28	66	0.13	249	●
5	6	28	66	0.13	250	●
5.1	6	28	66	0.13	251	●
5.2	6	28	66	0.13	252	●
5.3	6	28	66	0.13	253	●
5.4	6	28	66	0.13	254	●
5.5	6	28	66	0.14	255	●
5.55	6	28	66	0.14	403	●
5.6	6	28	66	0.14	256	●
5.7	6	28	66	0.14	257	●
5.8	6	28	66	0.14	258	●
5.9	6	28	66	0.14	259	●
6	6	28	66	0.14	260	●
6.1	8	34	79	0.14	261	●
6.2	8	34	79	0.14	262	●
6.3	8	34	79	0.14	263	●

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11174... Ident. No.	
6.4	8	34	79	0.14	264	●
6.5	8	34	79	0.15	265	●
6.6	8	34	79	0.15	266	●
6.7	8	34	79	0.15	267	●
6.8	8	34	79	0.15	268	●
6.9	8	34	79	0.15	269	●
7	8	34	79	0.15	270	●
7.1	8	41	79	0.15	271	●
7.2	8	41	79	0.15	272	●
7.3	8	41	79	0.15	273	●
7.4	8	41	79	0.15	274	●
7.5	8	41	79	0.17	275	●
7.6	8	41	79	0.17	276	●
7.7	8	41	79	0.17	277	●
7.8	8	41	79	0.17	278	●
7.9	8	41	79	0.17	279	●
8	8	41	79	0.17	280	●
8.1	10	47	89	0.17	281	●
8.2	10	47	89	0.17	282	●
8.3	10	47	89	0.17	283	●
8.4	10	47	89	0.18	284	●
8.5	10	47	89	0.18	285	●
8.6	10	47	89	0.18	286	●
8.7	10	47	89	0.18	287	●
8.8	10	47	89	0.18	288	●
8.9	10	47	89	0.18	289	●
9	10	47	89	0.18	290	●
9.1	10	47	89	0.18	291	●
9.2	10	47	89	0.2	292	●
9.3	10	47	89	0.2	293	●
9.4	10	47	89	0.2	294	●
9.5	10	47	89	0.2	295	●
9.6	10	47	89	0.2	296	●
9.7	10	47	89	0.2	297	●
9.8	10	47	89	0.2	298	●
9.9	10	47	89	0.2	299	●
10	10	47	89	0.21	300	●

Tool holding device	HB parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	m7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11174... Ident. No.	
10.3	12	55	102	0.21	303	●
10.5	12	55	102	0.21	305	●
10.8	12	55	102	0.21	308	●
11	12	55	102	0.21	310	●
11.2	12	55	102	0.21	312	●
11.5	12	55	102	0.21	315	●
11.8	12	55	102	0.21	318	●
12	12	55	102	0.22	320	●
12.5	14	60	107	0.22	425	●
12.8	14	60	107	0.22	328	●
13	14	60	107	0.22	330	●
13.5	14	60	107	0.22	335	●
13.8	14	60	107	0.24	338	●
14	14	60	107	0.24	340	●
14.2	16	65	115	0.24	342	●

Tool holding device	HB parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	m7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11174... Ident. No.	
14.5	16	65	115	0.24	345	●
14.8	16	65	115	0.24	348	●
15	16	65	115	0.24	350	●
15.5	16	65	115	0.26	355	●
15.8	16	65	115	0.26	358	●
16	16	65	115	0.26	360	●
16.5	18	73	123	0.32	365	●
17	18	73	123	0.32	370	●
17.5	18	73	123	0.32	375	●
18	18	73	123	0.32	380	●
18.5	20	79	131	0.35	385	●
19	20	79	131	0.35	390	●
19.5	20	79	131	0.35	395	○
20	20	79	131	0.35	400	●

Prod. Gr. 140

ORION® High-performance drill, solid carbide TiAlN HPC 3xD without internal cooling (DIN 6537)

For universal use up to 1300 N/mm²

VHM | TiAlN | 3xD | HPC UNI | 140° | HB

Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:
- Solid carbide TiAlN high-performance drill
- 2 drill heels
- Cone polished section
- 30° spiral angle
- Straight main cutting edge

Advantage:
- universal high-performance tool with excellent price/performance ratio
- 3xD + 5xD with and without IC

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	90	80	40	35	190	230	190	150	110	90	50		100	35	30	30		

Tool holding device	HB parallel shank					
Surface	TiAlN					
Coolant supply	External					
Tolerance of cutting edge Ø	m7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11173... Ident. No.	
3	6	20	62	0.13	230	●
3.1	6	20	62	0.13	231	●
3.2	6	20	62	0.13	232	●
3.25	6	20	62	0.13	401	●
3.3	6	20	62	0.13	233	●
3.4	6	20	62	0.13	234	●
3.5	6	20	62	0.13	235	●
3.6	6	20	62	0.13	236	●
3.7	6	20	62	0.13	237	●
3.8	6	24	66	0.13	238	●
3.9	6	24	66	0.13	239	●
4	6	24	66	0.13	240	●
4.1	6	24	66	0.13	241	●
4.2	6	24	66	0.13	242	●
4.3	6	24	66	0.13	243	●
4.4	6	24	66	0.13	244	●
4.5	6	24	66	0.13	245	●
4.6	6	24	66	0.13	246	●
4.65	6	24	66	0.13	402	●
4.7	6	24	66	0.13	247	●
4.8	6	28	66	0.13	248	●
4.9	6	28	66	0.13	249	●
5	6	28	66	0.13	250	●
5.1	6	28	66	0.13	251	●
5.2	6	28	66	0.13	252	●
5.3	6	28	66	0.13	253	●
5.4	6	28	66	0.13	254	●
5.5	6	28	66	0.14	255	●
5.55	6	28	66	0.14	403	●
5.6	6	28	66	0.14	256	●

Tool holding device	HB parallel shank					
Surface	TiAlN					
Coolant supply	External					
Tolerance of cutting edge Ø	m7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11173... Ident. No.	
5.7	6	28	66	0.14	257	●
5.8	6	28	66	0.14	258	●
5.9	6	28	66	0.14	259	●
6	6	28	66	0.14	260	●
6.1	8	34	79	0.14	261	●
6.2	8	34	79	0.14	262	●
6.3	8	34	79	0.14	263	●
6.4	8	34	79	0.14	264	●
6.5	8	34	79	0.15	265	●
6.6	8	34	79	0.15	266	●
6.7	8	34	79	0.15	267	●
6.8	8	34	79	0.15	268	●
6.9	8	34	79	0.15	269	●
7	8	34	79	0.15	270	●
7.1	8	41	79	0.15	271	●
7.2	8	41	79	0.15	272	●
7.3	8	41	79	0.15	273	●
7.4	8	41	79	0.15	274	●
7.5	8	41	79	0.17	275	●
7.6	8	41	79	0.17	276	○
7.7	8	41	79	0.17	277	●
7.8	8	41	79	0.17	278	●
7.9	8	41	79	0.17	279	●
8	8	41	79	0.17	280	●
8.1	10	47	89	0.17	281	●
8.2	10	47	89	0.17	282	●
8.3	10	47	89	0.17	283	●
8.4	10	47	89	0.18	284	●
8.5	10	47	89	0.18	285	●
8.6	10	47	89	0.18	286	●

Tool holding device					HB parallel shank	
Surface					TiAlN	
Coolant supply					External	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11173... Ident. No.	
8.7	10	47	89	0.18	287	●
8.8	10	47	89	0.18	288	●
8.9	10	47	89	0.18	289	●
9	10	47	89	0.18	290	●
9.1	10	47	89	0.18	291	●
9.2	10	47	89	0.2	292	●
9.3	10	47	89	0.2	293	●
9.4	10	47	89	0.2	294	●
9.5	10	47	89	0.2	295	●
9.6	10	47	89	0.2	296	●
9.7	10	47	89	0.2	297	●
9.8	10	47	89	0.2	298	●
9.9	10	47	89	0.2	299	●
10	10	47	89	0.21	300	●
10.3	12	55	102	0.21	303	●
10.5	12	55	102	0.21	305	●
10.8	12	55	102	0.21	308	●
11	12	55	102	0.21	310	●
11.2	12	55	102	0.21	312	●
11.5	12	55	102	0.21	315	●
11.8	12	55	102	0.21	318	●
12	12	55	102	0.22	320	●

Tool holding device					HB parallel shank	
Surface					TiAlN	
Coolant supply					External	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11173... Ident. No.	
12.5	14	60	107	0.22	425	●
12.8	14	60	107	0.22	328	●
13	14	60	107	0.22	330	●
13.5	14	60	107	0.22	335	●
13.8	14	60	107	0.24	338	●
14	14	60	107	0.24	340	●
14.2	16	65	115	0.24	342	●
14.5	16	65	115	0.24	345	●
14.8	16	65	115	0.24	348	●
15	16	65	115	0.24	350	●
15.5	16	65	115	0.26	355	●
15.8	16	65	115	0.26	358	●
16	16	65	115	0.26	360	●
16.5	18	73	123	0.32	365	●
17	18	73	123	0.32	370	●
17.5	18	73	123	0.32	375	●
18	18	73	123	0.32	380	●
18.5	20	79	131	0.35	385	●
19	20	79	131	0.35	390	●
19.5	20	79	131	0.35	395	●
20	20	79	131	0.35	400	●

Prod. Gr. 140

ORION® high-performance drill bit, solid carbide TiAlN HPC 5xD with internal cooling (DIN 6537)

For universal use up to 1300 N/mm²

VHM | TiAlN | 5xD | HPC UNI | 140° | IK | HA | HB

Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:
- Solid carbide TiAlN high-performance drill
- 2 drill heels
- Cone polished section
- 30° spiral angle
- Straight main cutting edge

Advantage:
- universal high-performance tool with excellent price/performance ratio
- 3xD + 5xD with and without IC

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	90	80	40	35	190	230	190	150	110	90	50		100	35	30	30		

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN		TiAlN	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11177... Ident. No.		11177... Ident. No.	
1	3	8	55	0.04	210	●	-	-
1.1	3	12	55	0.04	211	●	-	-
1.2	3	12	55	0.04	212	●	-	-
1.3	3	12	55	0.04	213	●	-	-
1.4	3	12	55	0.04	214	●	-	-
1.5	3	12	55	0.04	215	●	-	-
1.6	3	16	55	0.04	216	●	-	-
1.7	3	16	55	0.04	217	●	-	-
1.8	3	16	55	0.04	218	●	-	-
1.9	3	16	55	0.04	219	●	-	-
2	3	21	57	0.08	220	●	-	-
2.1	3	21	57	0.08	221	●	-	-
2.2	3	21	57	0.08	222	●	-	-
2.3	3	21	57	0.08	223	●	-	-
2.4	3	21	57	0.08	224	●	-	-
2.5	3	21	57	0.08	225	●	-	-
2.6	3	21	57	0.08	226	●	-	-
2.7	3	21	57	0.08	227	●	-	-
2.8	3	21	57	0.08	228	●	-	-
2.9	3	21	57	0.08	229	●	-	-
3	6	28	66	0.13	-	-	230	●
3.1	6	28	66	0.13	-	-	231	●
3.2	6	28	66	0.13	-	-	232	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN		TiAlN	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11177... Ident. No.		11177... Ident. No.	
3.25	6	28	66	0.13	-	-	401	●
3.3	6	28	66	0.13	-	-	233	●
3.4	6	28	66	0.13	-	-	234	●
3.5	6	28	66	0.13	-	-	235	●
3.6	6	28	66	0.13	-	-	236	●
3.7	6	28	66	0.13	-	-	237	●
3.8	6	36	74	0.13	-	-	238	●
3.9	6	36	74	0.13	-	-	239	●
4	6	36	74	0.13	-	-	240	●
4.1	6	36	74	0.13	-	-	241	●
4.2	6	36	74	0.13	-	-	242	●
4.3	6	36	74	0.13	-	-	243	●
4.4	6	36	74	0.13	-	-	244	●
4.5	6	36	74	0.13	-	-	245	●
4.6	6	36	74	0.13	-	-	246	●
4.65	6	36	74	0.13	-	-	402	●
4.7	6	36	74	0.13	-	-	247	●
4.8	6	44	82	0.13	-	-	248	●
4.9	6	44	82	0.13	-	-	249	●
5	6	44	82	0.13	-	-	250	●
5.1	6	44	82	0.13	-	-	251	●
5.2	6	44	82	0.13	-	-	252	●
5.3	6	44	82	0.13	-	-	253	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN		TiAlN	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11177... Ident. No.		11177... Ident. No.	
5.4	6	44	82	0.14	-	-	254	●
5.5	6	44	82	0.15	-	-	255	●
5.55	6	44	82	0.15	-	-	403	●
5.6	6	44	82	0.15	-	-	256	●
5.7	6	44	82	0.15	-	-	257	●
5.8	6	44	82	0.15	-	-	258	●
5.9	6	44	82	0.15	-	-	259	●
6	6	44	82	0.15	-	-	260	●
6.1	8	53	91	0.15	-	-	261	●
6.2	8	53	91	0.15	-	-	262	●
6.3	8	53	91	0.15	-	-	263	●
6.4	8	53	91	0.15	-	-	264	●
6.5	8	53	91	0.17	-	-	265	●
6.6	8	53	91	0.17	-	-	266	●
6.7	8	53	91	0.17	-	-	267	●
6.8	8	53	91	0.17	-	-	268	●
6.9	8	53	91	0.17	-	-	269	●
7	8	53	91	0.17	-	-	270	●
7.1	8	53	91	0.17	-	-	271	●
7.2	8	53	91	0.17	-	-	272	●
7.3	8	53	91	0.17	-	-	273	●
7.4	8	53	91	0.17	-	-	274	●
7.5	8	53	91	0.17	-	-	275	●
7.6	8	53	91	0.17	-	-	276	●
7.7	8	53	91	0.17	-	-	277	●
7.8	8	53	91	0.17	-	-	278	●
7.9	8	53	91	0.17	-	-	279	●
8	8	53	91	0.17	-	-	280	●
8.1	10	61	103	0.17	-	-	281	●
8.2	10	61	103	0.17	-	-	282	●
8.3	10	61	103	0.17	-	-	283	●
8.4	10	61	103	0.18	-	-	284	●
8.5	10	61	103	0.18	-	-	285	●
8.6	10	61	103	0.18	-	-	286	●
8.7	10	61	103	0.18	-	-	287	●
8.8	10	61	103	0.18	-	-	288	●
8.9	10	61	103	0.18	-	-	289	●
9	10	61	103	0.18	-	-	290	●
9.1	10	61	103	0.18	-	-	291	●
9.2	10	61	103	0.2	-	-	292	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					TiAlN		TiAlN	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11177... Ident. No.		11177... Ident. No.	
9.3	10	61	103	0.2	-	-	293	●
9.4	10	61	103	0.2	-	-	294	●
9.5	10	61	103	0.2	-	-	295	●
9.6	10	61	103	0.2	-	-	296	●
9.7	10	61	103	0.2	-	-	297	●
9.8	10	61	103	0.2	-	-	298	●
9.9	10	61	103	0.2	-	-	299	●
10	10	61	103	0.21	-	-	300	●
10.1	12	71	118	0.21	-	-	303	●
10.2	12	71	118	0.21	-	-	305	●
10.8	12	71	118	0.24	-	-	308	●
11	12	71	118	0.24	-	-	310	●
11.2	12	71	118	0.3	-	-	312	●
11.5	12	71	118	0.32	-	-	315	●
11.8	12	71	118	0.32	-	-	318	●
12	12	71	118	0.32	-	-	320	●
12.2	14	77	124	0.35	-	-	322	●
12.5	14	77	124	0.35	-	-	325	●
12.8	14	77	124	0.35	-	-	328	●
13	14	77	124	0.35	-	-	330	●
13.5	14	77	124	0.35	-	-	335	●
13.8	14	77	124	0.35	-	-	338	●
14	14	77	124	0.35	-	-	340	●
14.2	16	83	133	0.35	-	-	342	●
14.5	16	83	133	0.35	-	-	345	●
14.8	16	83	133	0.35	-	-	348	●
15	16	83	133	0.35	-	-	350	●
15.1	16	83	133	0.35	-	-	351	●
15.5	16	83	133	0.35	-	-	355	●
15.8	16	83	133	0.35	-	-	358	●
16	16	83	133	0.4	-	-	360	●
16.5	18	93	143	0.4	-	-	365	●
17	18	93	143	0.4	-	-	370	●
17.5	18	93	143	0.4	-	-	375	●
18	18	93	143	0.4	-	-	380	●
18.5	20	101	153	0.45	-	-	385	●
19	20	101	153	0.45	-	-	390	●
19.5	20	101	153	0.45	-	-	395	●
20	20	101	153	0.45	-	-	400	●

Prod. Gr. 140

ORION® High-performance drill, solid carbide TiAlN HPC 5xD without internal cooling (DIN 6537)

For universal use up to 1300 N/mm²

VHM | TiAlN | 5xD | HPC UNI | 140° | HB

Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:
- High-performance drill, solid carbide TiAlN without internal cooling
- 2 drill heels
- Cone polished section
- 30° spiral angle
- Straight main cutting edge

Advantage:
- universal high-performance tool with excellent price/performance ratio
- 3xD + 5xD with and without IC

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	90	80	40	35	190	230	190	150	110	90	50		100	35	30	30		

Tool holding device				HB parallel shank	
Surface				TiAlN	
Coolant supply				External	
Tolerance of cutting edge Ø				m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11176... Ident. No.
3	6	28	66	0.13	230 ●
3.1	6	28	66	0.13	231 ●
3.2	6	28	66	0.13	232 ●
3.25	6	28	66	0.13	401 ●

Tool holding device				HB parallel shank	
Surface				TiAlN	
Coolant supply				External	
Tolerance of cutting edge Ø				m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11176... Ident. No.
3.3	6	28	66	0.13	233 ●
3.4	6	28	66	0.13	234 ●
3.5	6	28	66	0.13	235 ●
3.6	6	28	66	0.13	236 ●

Tool holding device					HB parallel shank	
Surface					TiAlN	
Coolant supply					External	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11176... Ident. No.	
3.7	6	28	66	0.13	237	●
3.8	6	36	74	0.13	238	●
3.9	6	36	74	0.13	239	●
4	6	36	74	0.13	240	●
4.1	6	36	74	0.13	241	●
4.2	6	36	74	0.13	242	●
4.3	6	36	74	0.13	243	●
4.4	6	36	74	0.13	244	●
4.5	6	36	74	0.13	245	●
4.6	6	36	74	0.13	246	●
4.65	6	36	74	0.13	402	●
4.7	6	36	74	0.13	247	●
4.8	6	44	82	0.13	248	●
4.9	6	44	82	0.13	249	●
5	6	44	82	0.13	250	●
5.1	6	44	82	0.13	251	●
5.2	6	44	82	0.13	252	●
5.3	6	44	82	0.13	253	●
5.4	6	44	82	0.14	254	●
5.5	6	44	82	0.15	255	●
5.55	6	44	82	0.15	403	●
5.6	6	44	82	0.15	256	●
5.7	6	44	82	0.15	257	●
5.8	6	44	82	0.15	258	●
5.9	6	44	82	0.15	259	●
6	6	44	82	0.15	260	●
6.1	8	53	91	0.15	261	●
6.2	8	53	91	0.15	262	●
6.3	8	53	91	0.15	263	●
6.4	8	53	91	0.15	264	●
6.5	8	53	91	0.17	265	●
6.6	8	53	91	0.17	266	●
6.7	8	53	91	0.17	267	●
6.8	8	53	91	0.17	268	●
6.9	8	53	91	0.17	269	●
7	8	53	91	0.17	270	●
7.1	8	53	91	0.17	271	●
7.2	8	53	91	0.17	272	●
7.3	8	53	91	0.17	273	●
7.4	8	53	91	0.17	274	●
7.5	8	53	91	0.17	275	●
7.6	8	53	91	0.17	276	●
7.7	8	53	91	0.17	277	●
7.8	8	53	91	0.17	278	●
7.9	8	53	91	0.17	279	●
8	8	53	91	0.17	280	●
8.1	10	61	103	0.17	281	●
8.2	10	61	103	0.17	282	●
8.3	10	61	103	0.17	283	●
8.4	10	61	103	0.18	284	●
8.5	10	61	103	0.18	285	●
8.6	10	61	103	0.18	286	●
8.7	10	61	103	0.18	287	●
8.8	10	61	103	0.18	288	●
8.9	10	61	103	0.18	289	●

Tool holding device					HB parallel shank	
Surface					TiAlN	
Coolant supply					External	
Tolerance of cutting edge Ø					m7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11176... Ident. No.	
9	10	61	103	0.18	290	●
9.1	10	61	103	0.18	291	●
9.2	10	61	103	0.2	292	●
9.3	10	61	103	0.2	293	●
9.4	10	61	103	0.2	294	●
9.5	10	61	103	0.2	295	●
9.6	10	61	103	0.2	296	●
9.7	10	61	103	0.2	297	●
9.8	10	61	103	0.2	298	●
9.9	10	61	103	0.2	299	●
10	10	61	103	0.21	300	●
10.1	12	71	118	0.21	301	●
10.2	12	71	118	0.21	302	●
10.3	12	71	118	0.22	303	●
10.4	12	71	118	0.22	304	●
10.5	12	71	118	0.22	305	●
10.6	12	71	118	0.22	306	●
10.7	12	71	118	0.24	307	●
10.8	12	71	118	0.24	308	●
10.9	12	71	118	0.24	309	●
11	12	71	118	0.24	310	●
11.1	12	71	118	0.3	311	●
11.2	12	71	118	0.3	312	●
11.3	12	71	118	0.3	313	●
11.4	12	71	118	0.3	314	●
11.5	12	71	118	0.32	315	●
11.6	12	71	118	0.32	316	●
11.7	12	71	118	0.32	317	●
11.8	12	71	118	0.32	318	●
11.9	12	71	118	0.32	319	●
12	12	71	118	0.32	320	●
12.2	14	77	124	0.35	322	●
12.3	14	77	124	0.35	323	●
12.5	14	77	124	0.35	325	●
12.8	14	77	124	0.35	328	●
13	14	77	124	0.35	330	●
13.5	14	77	124	0.35	335	●
13.8	14	77	124	0.35	338	●
14	14	77	124	0.35	340	●
14.2	16	83	133	0.35	342	●
14.5	16	83	133	0.35	345	●
14.8	16	83	133	0.35	348	●
15	16	83	133	0.35	350	●
15.5	16	83	133	0.35	355	●
15.8	16	83	133	0.35	358	●
16	16	83	133	0.4	360	●
16.5	18	93	143	0.4	365	●
17	18	93	143	0.4	370	●
17.5	18	93	143	0.4	375	●
18	18	93	143	0.4	380	●
18.5	20	101	153	0.45	385	●
19	20	101	153	0.45	390	●
19.5	20	101	153	0.45	395	●
20	20	101	153	0.45	400	●

Prod. Gr. 140

ORION® high-performance drit bit, solid carbide TiAlN HPC 8xD with internal cooling

For universal use up to 1300 N/mm²

VHM | TiAlN | 8xD | HPC UNI | 140° | IK | HB

Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:
- Solid carbide TiAlN high-performance drill
- 4 drill heels
- Cone polished section
- 30° spiral angle
- Straight main cutting edge

Advantage:
- universal high-performance tool with excellent price/performance ratio
- very high alignment accuracy thanks to 4 drill heels
- high process reliability even at extreme depths

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	**90**	**80**	40	35	**190**	230	**190**	150	**110**	90	50		**100**	35	30	30		

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11178... Ident. No.	
3	6	34	72	0.1	230	●
3.1	6	34	72	0.1	231	●
3.2	6	34	72	0.1	232	●
3.3	6	34	72	0.1	233	●
3.4	6	34	72	0.1	234	●
3.5	6	34	72	0.1	235	●
3.6	6	34	72	0.1	236	●
3.7	6	34	72	0.1	237	●
3.8	6	43	81	0.1	238	●
3.9	6	43	81	0.1	239	●
4	6	43	81	0.1	240	●
4.1	6	43	81	0.1	241	●
4.2	6	43	81	0.1	242	●
4.3	6	43	81	0.1	243	●
4.4	6	43	81	0.1	244	●
4.5	6	43	81	0.1	245	●
4.6	6	43	81	0.1	246	●
4.7	6	57	95	0.1	247	●
4.8	6	57	95	0.1	248	●
4.9	6	57	95	0.1	249	●
5	6	57	95	0.1	250	●
5.1	6	57	95	0.1	251	●
5.2	6	57	95	0.1	252	●
5.3	6	57	95	0.1	253	●
5.4	6	57	95	0.1	254	●
5.5	6	57	95	0.13	255	●
5.6	6	57	95	0.13	256	●
5.7	6	57	95	0.13	257	●
5.8	6	57	95	0.13	258	●
5.9	6	57	95	0.13	259	○
6	6	57	95	0.13	260	●
6.1	8	76	114	0.13	261	●
6.2	8	76	114	0.13	262	●
6.3	8	76	114	0.13	263	●
6.4	8	76	114	0.13	264	●
6.5	8	76	114	0.15	265	●
6.6	8	76	114	0.15	266	●
6.7	8	76	114	0.15	267	●
6.8	8	76	114	0.15	268	●
6.9	8	76	114	0.15	269	●
7	8	76	114	0.15	270	●
7.1	8	76	114	0.15	271	●
7.2	8	76	114	0.15	272	●

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11178... Ident. No.	
7.3	8	76	114	0.15	273	●
7.4	8	76	114	0.15	274	●
7.5	8	76	114	0.17	275	●
7.6	8	76	114	0.17	276	●
7.7	8	76	114	0.17	277	●
7.8	8	76	114	0.17	278	●
7.9	8	76	114	0.17	279	●
8	8	76	114	0.17	280	●
8.1	10	95	142	0.17	281	●
8.2	10	95	142	0.17	282	●
8.3	10	95	142	0.17	283	●
8.4	10	95	142	0.18	284	●
8.5	10	95	142	0.18	285	●
8.6	10	95	142	0.18	286	●
8.7	10	95	142	0.18	287	●
8.8	10	95	142	0.18	288	●
8.9	10	95	142	0.18	289	●
9	10	95	142	0.18	290	●
9.1	10	95	142	0.18	291	●
9.2	10	95	142	0.2	292	●
9.3	10	95	142	0.2	293	●
9.4	10	95	142	0.2	294	●
9.5	10	95	142	0.2	295	●
9.6	10	95	142	0.2	296	●
9.7	10	95	142	0.2	297	●
9.8	10	95	142	0.2	298	●
9.9	10	95	142	0.2	299	●
10	10	95	142	0.21	300	●
10.5	12	114	162	0.21	305	●
10.8	12	114	162	0.21	308	●
11	12	114	162	0.21	310	●
11.5	12	114	162	0.21	315	●
11.8	12	114	162	0.22	318	●
12	12	114	162	0.22	320	●
12.5	14	133	178	0.22	325	●
13	14	133	178	0.22	330	●
13.5	14	133	178	0.22	335	●
14	14	133	178	0.24	340	●
14.5	16	152	203	0.24	345	●
15	16	152	203	0.24	350	●
15.5	16	152	203	0.3	355	●
16	16	152	203	0.3	360	●

Prod. Gr. 140

ORION® high-performance drill bit, solid carbide TiAlN HPC 12xD with internal cooling

For universal use up to 1300 N/mm²

Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:
- Solid carbide TiAlN high-performance drill
- 4 drill heels
- Cone polished section
- 30° spiral angle
- Straight main cutting edge

Advantage:
- universal high-performance tool with excellent price/performance ratio
- very high alignment accuracy thanks to 4 drill heels
- high process reliability even at extreme depths

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	90	80	40	35	190	230	190	150	110	90	50		100	35	30	30		

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11179... Ident. No.	
3	6	54	92	0.1	230	●
3.3	6	54	92	0.1	233	●
3.5	6	54	92	0.1	235	●
3.8	6	64	102	0.1	238	●
4	6	64	102	0.1	240	●
4.2	6	64	102	0.1	242	●
4.5	6	64	102	0.1	245	●
4.8	6	78	116	0.1	248	●
5	6	78	116	0.1	250	●
5.5	6	78	116	0.1	255	●
5.8	6	78	116	0.1	258	●
6	6	78	116	0.1	260	●
6.5	8	108	146	0.13	265	●
6.8	8	108	146	0.13	268	●
7	8	108	146	0.13	270	●
7.5	8	108	146	0.15	275	●
7.8	8	108	146	0.15	278	●
8	8	108	146	0.15	280	●
8.5	10	120	162	0.15	285	●
8.8	10	120	162	0.15	288	●

Tool holding device	HB parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

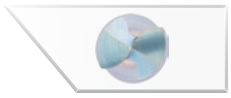
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11179... Ident. No.	
9	10	120	162	0.2	290	●
9.5	10	120	162	0.2	295	●
9.8	10	120	162	0.2	298	●
10	10	120	162	0.2	300	●
10.2	12	156	204	0.2	302	●
10.5	12	156	204	0.2	305	●
10.8	12	156	204	0.2	308	●
11	12	156	204	0.24	310	●
11.5	12	156	204	0.24	315	●
11.8	12	156	204	0.26	318	●
12	12	156	204	0.26	320	●
12.5	14	182	230	0.26	325	●
12.8	14	182	230	0.26	328	●
13	14	182	230	0.26	330	●
13.5	14	182	230	0.26	335	●
14	14	182	230	0.26	340	●
14.5	16	208	260	0.26	345	○
15	16	208	260	0.26	350	●
15.5	16	208	260	0.26	355	●
16	16	208	260	0.26	360	●

Prod. Gr. 140

High-performance drill bit solid carbide TiAlSiN hard range

Application:
For HPC borehole machining up to 65 HRC

Advantage:
- High centring accuracy
- Special coating for drilling hardened steels up to 65 HRC
- Extremely hard, low-friction and temperature-resistant TiASiN coating for longer service life
- Reinforced core with special tip and cutting chisel edge



TiAlSiN

HPC HART

ATORN high-performance drill bit, solid carbide TiAlSiN HPC 3xD without internal cooling (DIN 6537)

for hard machining up to 65 HRC

VHM | TiAlSiN | 3xD | HPC HART | 140° | HA

Application:
for HPC boring up to 65 HRC

Execution:
- 2 drill heels
- 30° spiral angle
- Convex main cutting edge

Advantage:
- high centring accuracy
- special coating for drilling hardened steels up to 65 HRC
- extremely hard, low-friction and temperature-resistant TiAlN coating for longer service life
- Reinforced core with special tip and cutting chisel edge
- No internal coolant feed for higher stability

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	65	40											70				28	14

Tool holding device					HA parallel shank	
Surface					TiAlSiN	
Coolant supply					External	
Tolerance of cutting edge Ø					h7	
mm	mm	mm	mm	f hard 65 HRC ● (mm/r)	11154... Ident. No.	
1	4	7	45	0.04	010	●
1.3	4	7	45	0.04	013	●
1.5	4	14	55	0.04	015	●
1.6	4	14	55	0.04	016	●
1.7	4	14	55	0.04	017	●
1.8	4	14	55	0.04	018	●
1.9	4	14	55	0.04	019	●
2	4	20	55	0.04	020	●
2.1	4	20	55	0.04	021	●
2.2	4	20	55	0.04	022	●
2.3	4	20	55	0.04	023	●
2.5	4	20	55	0.04	025	●
2.6	4	20	55	0.04	026	●
2.7	4	20	55	0.04	027	●
2.8	4	20	55	0.04	028	●
2.9	4	20	55	0.04	029	●
3	6	20	62	0.04	030	●
3.1	6	20	62	0.06	031	●
3.2	6	20	62	0.06	032	●
3.3	6	20	62	0.06	033	●
3.4	6	20	62	0.06	034	●
3.5	6	20	62	0.06	035	●
3.7	6	20	62	0.06	037	●
3.8	6	24	66	0.06	038	●
3.9	6	24	66	0.06	039	●
4	6	24	66	0.06	040	●
4.1	6	24	66	0.06	041	●
4.2	6	24	66	0.06	042	●
4.3	6	24	66	0.06	043	●
4.4	6	24	66	0.06	044	●
4.5	6	24	66	0.06	045	●
4.7	6	24	66	0.06	047	●
4.8	6	28	66	0.06	048	●
4.9	6	28	66	0.06	049	●

Tool holding device					HA parallel shank	
Surface					TiAlSiN	
Coolant supply					External	
Tolerance of cutting edge Ø					h7	
mm	mm	mm	mm	f hard 65 HRC ● (mm/r)	11154... Ident. No.	
5	6	28	66	0.06	050	●
5.1	6	28	66	0.07	051	●
5.2	6	28	66	0.07	052	●
5.3	6	28	66	0.07	053	●
5.4	6	28	66	0.07	054	●
5.5	6	28	66	0.07	055	●
5.6	6	28	66	0.07	056	●
5.7	6	28	66	0.07	057	●
5.8	6	28	66	0.07	058	●
5.9	6	28	66	0.07	059	●
6	6	28	66	0.07	060	●
6.1	8	34	79	0.07	061	●
6.2	8	34	79	0.07	062	●
6.5	8	34	79	0.07	065	●
6.6	8	34	79	0.07	066	●
6.7	8	34	79	0.07	067	●
6.8	8	34	79	0.07	068	●
6.9	8	34	79	0.07	069	●
7	8	34	79	0.07	070	●
7.1	8	41	79	0.07	071	●
7.2	8	41	79	0.07	072	●
7.3	8	41	79	0.07	073	○
7.5	8	41	79	0.07	075	●
7.6	8	41	79	0.07	076	●
7.7	8	41	79	0.07	077	●
7.8	8	41	79	0.07	078	●
7.9	8	41	79	0.07	079	●
8	8	41	79	0.07	080	●
8.1	10	47	89	0.08	081	●
8.3	10	47	89	0.08	083	●
8.5	10	47	89	0.08	085	●
8.6	10	47	89	0.08	086	●
8.7	10	47	89	0.08	087	●
8.8	10	47	89	0.08	088	●

Tool holding device					HA parallel shank	
Surface					TiAlSiN	
Coolant supply					External	
Tolerance of cutting edge Ø					h7	
mm	h6 mm	mm	mm	f hard 65 HRC ● (mm/r)	11154... Ident. No.	
8.9	10	47	89	0.08	089	●
9	10	47	89	0.08	090	●
9.2	10	47	89	0.08	092	●
9.5	10	47	89	0.08	095	●
9.6	10	47	89	0.08	096	●
9.7	10	47	89	0.08	097	○
9.8	10	47	89	0.08	098	●
9.9	10	47	89	0.08	099	●
10	10	47	89	0.08	100	●
10.2	12	55	102	0.08	102	●
10.4	12	55	102	0.08	104	●
10.5	12	55	102	0.08	105	●
10.8	12	55	102	0.08	108	●
11	12	55	102	0.08	110	●
11.5	12	55	102	0.08	115	●
11.6	12	55	102	0.08	116	○
11.7	12	55	102	0.08	117	●
11.8	12	55	102	0.08	118	●
11.9	12	55	102	0.08	119	●
12	12	55	102	0.08	120	●
12.2	14	60	107	0.1	122	●

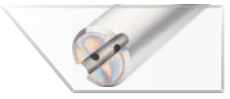
Tool holding device					HA parallel shank	
Surface					TiAlSiN	
Coolant supply					External	
Tolerance of cutting edge Ø					h7	
mm	h6 mm	mm	mm	f hard 65 HRC ● (mm/r)	11154... Ident. No.	
12.5	14	60	107	0.1	125	●
12.8	14	60	107	0.1	128	●
13	14	60	107	0.1	130	●
13.5	14	60	107	0.1	135	●
14	14	60	107	0.1	140	●
14.2	16	65	115	0.1	142	●
14.3	16	65	115	0.1	143	●
14.5	16	65	115	0.1	145	●
14.8	16	65	115	0.1	148	●
15	16	65	115	0.1	150	●
15.5	16	65	115	0.1	155	●
15.8	16	65	115	0.1	158	●
16	16	65	115	0.1	160	●
17	18	73	123	0.11	170	○
17.5	18	73	123	0.11	175	●
18	18	73	123	0.11	180	●
18.5	20	79	131	0.11	185	●
19	20	79	131	0.11	190	●
19.5	20	79	131	0.11	195	●
20	20	79	131	0.11	200	○

Prod. Gr. 1AB

Ultra M solid carbide high-performance drill bit range

Application:
For HPC bore machining in the stainless steel, titanium, nickel and special alloy material groups.

Advantage:
- Special HPC rake: innovative rake with extremely smooth cutting edge and very long service life
- Latest coating technology: newly developed extremely thin ULTRA M coating for improved service life and process stability
- Cutting edge preparation minimises micro-breakouts on the cutting edge



ULTRA M

HPC VA

ATORN high-performance drill bit, solid carbide ULTRA M HPC 5xD with internal cooling (DIN 6537)

For machining stainless steel and titanium

VHM | ULTRA M | 5xD | HPC VA | 140° | IK | HA | HB

Application:
For HPC boring in stainless steel, titanium alloys, nickel alloys and special alloys.

Execution:
- Solid carbide high-performance drill ULTRA M
- 2 drill heels
- 4 grinding faces
- 30° spiral angle
- Straight main cutting edge

Advantage:
- innovative cutting geometry with extremely effective cutting edge
- newly developed form-fitting ULTRA M coating for improved service life
- Cutting edge preparation minimises micro-fractures on the cutter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
				60	55										40	30	30		

Tool holding device					HA parallel shank		HB parallel shank	
Surface					ULTRA M		ULTRA M	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steinl. st. ● (mm/r)	11147... Ident. No.		11147... Ident. No.	
3	6	28	66	0.09	030	●	230	●
3.1	6	28	66	0.09	031	●	231	●
3.2	6	28	66	0.09	032	●	232	●
3.25	6	28	66	0.09	201	●	204	●
3.3	6	28	66	0.09	033	●	233	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					ULTRA M		ULTRA M	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steinl. st. ● (mm/r)	11147... Ident. No.		11147... Ident. No.	
3.4	6	28	66	0.09	034	●	234	●
3.5	6	28	66	0.09	035	●	235	○
3.6	6	28	66	0.09	036	●	236	○
3.7	6	28	66	0.09	037	●	237	●
3.8	6	36	74	0.09	038	●	238	●

Tool holding device					HA parallel shank		HB parallel shank	
Surface					ULTRA M		ULTRA M	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steinl. st. ● (mm/r)	11147... Ident. No.		11147... Ident. No.	
3.9	6	36	74	0.09	039	●	239	●
4	6	36	74	0.09	040	●	240	●
4.1	6	36	74	0.09	041	○	241	●
4.2	6	36	74	0.09	042	●	242	●
4.3	6	36	74	0.09	043	●	243	●
4.4	6	36	74	0.09	044	●	244	●
4.5	6	36	74	0.09	045	●	245	●
4.6	6	36	74	0.09	046	○	246	●
4.65	6	36	74	0.09	202	●	205	●
4.7	6	36	74	0.09	047	●	247	●
4.8	6	44	82	0.09	048	●	248	●
4.9	6	44	82	0.09	049	●	249	●
5	6	44	82	0.09	050	●	250	●
5.1	6	44	82	0.09	051	●	251	●
5.2	6	44	82	0.09	052	●	252	●
5.3	6	44	82	0.09	053	●	253	○
5.4	6	44	82	0.09	054	●	254	●
5.5	6	44	82	0.1	055	●	255	●
5.55	6	44	82	0.1	203	●	206	●
5.6	6	44	82	0.1	056	●	256	●
5.7	6	44	82	0.1	057	●	257	●
5.8	6	44	82	0.1	058	●	258	●
5.9	6	44	82	0.1	059	●	259	●
6	6	44	82	0.1	060	●	260	●
6.1	8	53	91	0.1	061	●	261	●
6.2	8	53	91	0.1	062	●	262	●
6.3	8	53	91	0.1	063	●	263	●
6.4	8	53	91	0.1	064	○	264	●
6.5	8	53	91	0.11	065	●	265	●
6.6	8	53	91	0.11	066	○	266	○
6.7	8	53	91	0.11	067	○	267	●
6.8	8	53	91	0.11	068	○	268	●
6.9	8	53	91	0.11	069	●	269	●
7	8	53	91	0.11	070	●	270	●
7.1	8	53	91	0.11	071	●	271	○
7.2	8	53	91	0.11	072	○	272	●
7.3	8	53	91	0.11	073	○	273	●
7.4	8	53	91	0.11	074	●	274	●
7.5	8	53	91	0.12	075	●	275	●
7.6	8	53	91	0.12	076	○	276	●
7.7	8	53	91	0.12	077	○	277	●
7.8	8	53	91	0.12	078	○	278	●
7.9	8	53	91	0.12	079	●	279	●
8	8	53	91	0.12	080	●	280	●
8.1	10	61	103	0.12	081	○	281	●
8.2	10	61	103	0.12	082	●	282	●
8.3	10	61	103	0.12	083	●	283	●

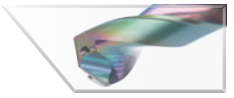
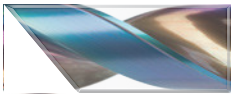
Tool holding device					HA parallel shank		HB parallel shank	
Surface					ULTRA M		ULTRA M	
Coolant supply					Internal		Internal	
Tolerance of cutting edge Ø					m7		m7	
mm	h6 mm	mm	mm	f steinl. st. ● (mm/r)	11147... Ident. No.		11147... Ident. No.	
8.4	10	61	103	0.13	084	●	284	●
8.5	10	61	103	0.13	085	●	285	●
8.6	10	61	103	0.13	086	●	286	●
8.7	10	61	103	0.13	087	●	287	●
8.8	10	61	103	0.13	088	●	288	●
8.9	10	61	103	0.13	089	●	289	●
9	10	61	103	0.13	090	●	290	●
9.1	10	61	103	0.13	091	●	291	●
9.2	10	61	103	0.14	092	●	292	●
9.3	10	61	103	0.14	093	●	293	●
9.4	10	61	103	0.14	094	●	294	●
9.5	10	61	103	0.14	095	○	295	●
9.6	10	61	103	0.14	096	●	296	●
9.7	10	61	103	0.14	097	●	297	○
9.8	10	61	103	0.14	098	●	298	●
9.9	10	61	103	0.14	099	●	299	●
10	10	61	103	0.15	100	●	300	●
10.2	12	71	118	0.15	102	●	302	○
10.5	12	71	118	0.15	105	●	305	●
10.8	12	71	118	0.16	108	○	308	●
11	12	71	118	0.16	110	●	310	●
11.2	12	71	118	0.16	112	●	312	○
11.5	12	71	118	0.16	115	○	315	○
11.8	12	71	118	0.17	118	●	318	○
12	12	71	118	0.17	120	●	320	●
12.2	14	77	124	0.17	122	○	322	●
12.5	14	77	124	0.17	125	●	325	●
12.7	14	77	124	0.18	127	●	327	●
13	14	77	124	0.18	130	○	330	●
13.5	14	77	124	0.18	135	●	335	●
14	14	77	124	0.19	140	●	340	●
14.2	16	83	133	0.19	142	○	342	●
14.5	16	83	133	0.19	145	●	345	●
15	16	83	133	0.19	150	●	350	●
15.5	16	83	133	0.2	155	●	355	●
16	16	83	133	0.2	160	●	360	●
16.5	18	93	143	0.21	165	●	365	●
16.9	18	93	143	0.22	169	●	369	●
17	18	93	143	0.23	170	●	370	○
17.5	18	93	143	0.24	175	●	375	●
18	18	93	143	0.25	180	●	380	●
18.5	20	101	153	0.26	185	●	385	●
18.9	20	101	153	0.27	189	●	389	●
19	20	101	153	0.28	190	●	390	●
19.5	20	101	153	0.29	195	○	395	●
20	20	101	153	0.3	200	○	400	●

Prod. Gr. 113

SC ULTRA N PRO high-performance drill bit range

Application:
For HPC drilling in non-ferrous metals material groups

Advantage:
- Perfect chip breaking due to the sharp, specially prepared cutting edges
- The specially designed ULTRA N PRO coating prevents built-up edges
- Very good chip removal even in the case of long-chipping material due to the large and polished chip grooves
- Excellent borehole quality due to low friction coefficient

ULTRA N PRO | HPC ALU

ATORN ULTRA N PRO 5xD high-performance solid carbide drill bit with internal cooling

for use in non-ferrous metals

VHM | ULTRA N PRO | 5xD | HPC ALU | 130° | IK | HA

Application:
For HPC drilling in non-ferrous metals

Execution:
- SC ULTRA N PRO high-performance drill bit
- 2 margins
- 4-facet point
- 30° spiral angle
- Straight main cutting edge
- Polished chip grooves
- Specially prepared cutting edges

Advantage:
- Perfect chip breaking due to the sharp, specially prepared cutting edges
- The specially designed ULTRA N PRO coating prevents built-up edges
- Very good chip removal even in the case of long-chipping material due to the large and polished chip grooves
- Excellent drilled hole quality due to low friction coefficient

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						380	350	260	210	210	190	100							

Tool holding device	HA parallel shank
Surface	ULTRA N PRO
Coolant supply	Internal
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f alu ● (mm/r)	11199... Ident. No.	
1	3	6.5	50	0.08	010	●
1.1	3	7.2	50	0.08	011	●
1.2	3	7.8	50	0.08	012	●
1.3	3	8.5	50	0.08	013	●
1.4	3	9.1	50	0.08	014	●
1.5	3	9.8	50	0.08	015	●
1.6	3	10.4	50	0.08	016	●
1.7	3	11.1	50	0.08	017	●
1.8	3	11.7	50	0.08	018	●
1.9	3	12.4	50	0.08	019	●
2	3	13	55	0.08	020	●
2.1	3	13.7	55	0.08	021	●
2.2	3	14.3	55	0.08	022	●
2.3	3	15	55	0.08	023	●
2.4	3	15.6	55	0.08	024	●
2.5	3	16.3	55	0.08	025	●
2.6	3	16.9	55	0.08	026	●
2.7	3	17.6	55	0.08	027	●
2.8	3	18.2	55	0.08	028	●
2.9	3	18.9	55	0.08	029	●
3	6	28	66	0.08	030	●
3.1	6	28	66	0.13	031	●
3.2	6	28	66	0.13	032	●
3.3	6	28	66	0.13	033	●
3.4	6	28	66	0.13	034	●
3.5	6	28	66	0.13	035	●
3.6	6	28	66	0.13	036	●
3.7	6	28	66	0.13	037	●
3.8	6	36	74	0.13	038	●
3.9	6	36	74	0.13	039	●
4	6	36	74	0.18	040	●
4.1	6	36	74	0.18	041	●

Tool holding device	HA parallel shank
Surface	ULTRA N PRO
Coolant supply	Internal
Tolerance of cutting edge Ø	m7

mm	h6 mm	mm	mm	f alu ● (mm/r)	11199... Ident. No.	
4.2	6	36	74	0.18	042	●
4.3	6	36	74	0.18	043	●
4.4	6	36	74	0.18	044	●
4.5	6	36	74	0.18	045	●
4.6	6	36	74	0.18	046	●
4.65	6	36	74	0.18	201	●
4.7	6	36	74	0.18	047	●
4.8	6	44	82	0.18	048	●
4.9	6	44	82	0.18	049	●
5	6	44	82	0.18	050	●
5.1	6	44	82	0.25	051	●
5.2	6	44	82	0.25	052	●
5.3	6	44	82	0.25	053	●
5.4	6	44	82	0.25	054	●
5.5	6	44	82	0.25	055	●
5.55	6	44	82	0.25	202	●
5.6	6	44	82	0.25	056	●
5.7	6	44	82	0.25	057	●
5.8	6	44	82	0.25	058	●
5.9	6	44	82	0.25	059	●
6	6	44	82	0.25	060	●
6.1	8	53	91	0.3	061	●
6.2	8	53	91	0.3	062	●
6.3	8	53	91	0.3	063	●
6.4	8	53	91	0.3	064	●
6.5	8	53	91	0.3	065	●
6.6	8	53	91	0.3	066	●
6.7	8	53	91	0.3	067	●
6.8	8	53	91	0.3	068	●
6.9	8	53	91	0.3	069	●
7	8	53	91	0.3	070	●
7.1	8	53	91	0.33	071	●

Tool holding device	HA parallel shank					
Surface	ULTRA N PRO					
Coolant supply	Internal					
Tolerance of cutting edge Ø	m7					
mm	mm	mm	mm	f alu ● (mm/r)	11199... Ident. No.	
7.2	8	53	91	0.33	072	●
7.3	8	53	91	0.33	073	●
7.4	8	53	91	0.33	074	●
7.5	8	53	91	0.33	075	●
7.6	8	53	91	0.33	076	●
7.7	8	53	91	0.33	077	●
7.8	8	53	91	0.33	078	●
7.9	8	53	91	0.33	079	●
8	8	53	91	0.33	080	●
8.1	10	61	103	0.36	081	●
8.2	10	61	103	0.36	082	●
8.3	10	61	103	0.36	083	●
8.4	10	61	103	0.36	084	●
8.5	10	61	103	0.36	085	●
8.6	10	61	103	0.36	086	●
8.7	10	61	103	0.36	087	●
8.8	10	61	103	0.36	088	●
8.9	10	61	103	0.36	089	●
9	10	61	103	0.36	090	●
9.1	10	61	103	0.4	091	●
9.2	10	61	103	0.4	092	●
9.25	10	61	103	0.4	203	●
9.3	10	61	103	0.4	093	●
9.4	10	61	103	0.4	094	●
9.5	10	61	103	0.4	095	●
9.6	10	61	103	0.4	096	●
9.7	10	61	103	0.4	097	●
9.8	10	61	103	0.4	098	●
9.9	10	61	103	0.4	099	●
10	10	61	103	0.4	100	●
10.2	12	71	118	0.45	102	●
10.5	12	71	118	0.45	105	●

Tool holding device	HA parallel shank					
Surface	ULTRA N PRO					
Coolant supply	Internal					
Tolerance of cutting edge Ø	m7					
mm	mm	mm	mm	f alu ● (mm/r)	11199... Ident. No.	
10.8	12	71	118	0.45	108	●
11	12	71	118	0.45	110	●
11.2	12	71	118	0.45	112	●
11.3	12	71	118	0.45	113	●
11.5	12	71	118	0.45	115	●
11.8	12	71	118	0.45	118	●
12	12	71	118	0.45	120	●
12.2	14	77	124	0.5	122	●
12.5	14	77	124	0.5	125	●
12.7	14	77	124	0.5	127	●
12.8	14	77	124	0.5	128	●
13	14	77	124	0.5	130	●
13.3	14	77	124	0.5	133	●
13.5	14	77	124	0.5	135	●
13.7	14	77	124	0.5	137	●
13.8	14	77	124	0.5	138	●
14	14	77	124	0.5	140	●
14.5	16	83	133	0.54	145	●
15	16	83	133	0.54	150	●
15.1	16	83	133	0.54	151	●
15.3	16	83	133	0.54	153	●
15.5	16	83	133	0.54	155	●
15.8	16	83	133	0.54	158	●
16	16	83	133	0.54	160	●
16.5	18	93	143	0.54	165	●
17	18	93	143	0.58	170	●
17.5	18	93	143	0.58	175	●
18	18	93	143	0.58	180	●
18.5	20	101	153	0.58	185	●
19	20	101	153	0.58	190	●
19.5	20	101	153	0.62	195	●
20	20	101	153	0.62	200	●

Prod. Gr. 134

High-feed drill bit solid carbide TiAlNPlus high-feed range

Application:
Designed for use with very high feed rates on stable and high-performance machines

Advantage:
- Up to 50 % higher productivity compared to dual-edge drill bits
- Perfect bore concentricity combined with excellent self-centring behaviour, even on uneven surfaces
- Extremely high feed rates thanks to the special rake
- Polished chip spaces and optimised core tapering ensure perfect chip removal
- Minimum burr formation at hole exit thanks to the 135° tip angle

TiAlN plus

HPC UNI

ATORN High-feed drill VHM-TiAlNplus HPC 5xD with IC (DIN 6537)

For use in steel and casting materials

VHM | TiAlN plus | 5xD | HPC UNI | 135° | IK | HA

Application:
Designed for use with very high feeds on stable and high-performance machines

Execution:
- 3-edge drill
- 4 grinding surfaces with concave main cutting edge
- 3 drill heels
- 30° spiral angle

Advantage:
- Up to 50% higher productivity compared to dual-edge drill bits
- Perfectly round holes combined with excellent self-centring behaviour, even on uneven surfaces
- Extremely high feed rates thanks to the special cutting geometry
- Polished chip spaces and optimised tapered core rejuvenation ensure perfect chip removal
- Minimum burr formation at hole exit thanks to the 135° tip angle

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	140	110	90											130					

Tool holding device	HA parallel shank
Surface	TiAlN plus
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11131... Ident. No.	
3	6	28	66	0.28	030	●
3.1	6	28	66	0.28	031	●
3.2	6	28	66	0.28	032	●
3.3	6	28	66	0.28	033	●
3.4	6	28	66	0.28	034	●
3.5	6	28	66	0.28	035	●
3.6	6	28	66	0.28	036	●
3.7	6	28	66	0.28	037	●
3.8	6	36	74	0.28	038	●
3.9	6	36	74	0.28	039	●
4	6	36	74	0.28	040	●
4.1	6	36	74	0.3	041	●
4.2	6	36	74	0.3	042	●
4.3	6	36	74	0.3	043	●
4.4	6	36	74	0.3	044	●
4.5	6	36	74	0.3	045	●
4.6	6	36	74	0.3	046	●
4.7	6	36	74	0.3	047	●
4.8	6	44	82	0.3	048	●
4.9	6	44	82	0.3	049	●
5	6	44	82	0.3	050	●
5.1	6	44	82	0.33	051	●
5.2	6	44	82	0.33	052	●
5.3	6	44	82	0.33	053	●
5.4	6	44	82	0.33	054	●
5.5	6	44	82	0.33	055	●
5.6	6	44	82	0.33	056	●
5.7	6	44	82	0.33	057	●
5.8	6	44	82	0.33	058	●
5.9	6	44	82	0.33	059	●
6	6	44	82	0.33	060	●
6.1	8	53	91	0.38	061	●

Tool holding device	HA parallel shank
Surface	TiAlN plus
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11131... Ident. No.	
6.2	8	53	91	0.38	062	●
6.3	8	53	91	0.38	063	●
6.4	8	53	91	0.38	064	●
6.5	8	53	91	0.38	065	●
6.6	8	53	91	0.38	066	●
6.7	8	53	91	0.38	067	●
6.8	8	53	91	0.38	068	●
6.9	8	53	91	0.38	069	●
7	8	53	91	0.38	070	●
7.1	8	53	91	0.38	071	●
7.2	8	53	91	0.38	072	●
7.3	8	53	91	0.38	073	●
7.4	8	53	91	0.38	074	●
7.5	8	53	91	0.38	075	●
7.6	8	53	91	0.38	076	●
7.7	8	53	91	0.38	077	●
7.8	8	53	91	0.38	078	●
7.9	8	53	91	0.38	079	●
8	8	53	91	0.38	080	●
8.1	10	61	103	0.45	081	●
8.2	10	61	103	0.45	082	●
8.3	10	61	103	0.45	083	●
8.4	10	61	103	0.45	084	●
8.5	10	61	103	0.45	085	●
8.6	10	61	103	0.45	086	●
8.7	10	61	103	0.45	087	●
8.8	10	61	103	0.45	088	●
8.9	10	61	103	0.45	089	●
9	10	61	103	0.45	090	●
9.1	10	61	103	0.45	091	●
9.2	10	61	103	0.45	092	●
9.3	10	61	103	0.45	093	●

Tool holding device	HA parallel shank
Surface	TiAlN plus
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11131... Ident. No.	
9.4	10	61	103	0.45	094	●
9.5	10	61	103	0.45	095	●
9.6	10	61	103	0.45	096	●
9.7	10	61	103	0.45	097	●
9.8	10	61	103	0.45	098	●
9.9	10	61	103	0.45	099	●
10	10	61	103	0.45	100	●
10.1	12	71	118	0.52	101	●
10.2	12	71	118	0.52	102	●
10.3	12	71	118	0.52	103	●
10.4	12	71	118	0.52	104	●
10.5	12	71	118	0.52	105	●
10.6	12	71	118	0.52	106	●
10.7	12	71	118	0.52	107	●
10.8	12	71	118	0.52	108	●
10.9	12	71	118	0.52	109	●
11	12	71	118	0.52	110	●
11.1	12	71	118	0.52	111	●
11.2	12	71	118	0.52	112	●
11.3	12	71	118	0.52	113	●
11.4	12	71	118	0.52	114	●
11.5	12	71	118	0.52	115	●
11.6	12	71	118	0.52	116	●
11.7	12	71	118	0.52	117	●
11.8	12	71	118	0.52	118	●
11.9	12	71	118	0.52	119	●
12	12	71	118	0.52	120	●
12.2	14	77	124	0.58	122	●
12.5	14	77	124	0.58	125	●
12.8	14	77	124	0.58	128	●

Tool holding device	HA parallel shank
Surface	TiAlN plus
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11131... Ident. No.	
13	14	77	124	0.58	130	●
13.2	14	77	124	0.58	132	●
13.5	14	77	124	0.58	135	●
13.8	14	77	124	0.58	138	●
14	14	77	124	0.58	140	●
14.2	16	83	133	0.63	142	●
14.5	16	83	133	0.63	145	●
14.8	16	83	133	0.63	148	●
15	16	83	133	0.63	150	●
15.1	16	83	133	0.63	151	●
15.2	16	83	133	0.63	152	●
15.5	16	83	133	0.63	155	●
15.8	16	83	133	0.63	158	●
16	16	83	133	0.63	160	●
16.2	18	93	143	0.68	162	●
16.5	18	93	143	0.68	165	●
16.8	18	93	143	0.68	168	●
17	18	93	143	0.68	170	●
17.2	18	93	143	0.68	172	●
17.5	18	93	143	0.68	175	●
17.8	18	93	143	0.68	178	●
18	18	93	143	0.68	180	●
18.2	20	101	153	0.7	182	●
18.5	20	101	153	0.7	185	●
18.8	20	101	153	0.7	188	●
19	20	101	153	0.7	190	●
19.2	20	101	153	0.7	192	●
19.5	20	101	153	0.7	195	●
19.8	20	101	153	0.7	198	●
20	20	101	153	0.7	200	●

Prod. Gr. 1AB

High-performance deep-hole drill bit range - 16-30XD

Application:
For HPC deep-hole bore machining up to a strength of 1,300 N/mm².

Advantage:
- The entire range is coordinated in terms of angle and diameter
- Very good all-round properties and precise cutting performance with high cutting rates
- Very good chip removal and chip control thanks to polished chip space
- State-of-the-art coating technology provides a long service life in series production
- High drilling accuracy thanks to newly developed drill heels
- Cutting edge preparation minimises micro-breakouts on the cutting edge
- Available in 40xD and 50xD upon request

TiAlN

HPC UNI

ATORN high-performance pilot drill bit, solid carbide TiAlN 5xD with internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiAlN | 5xD | HPC UNI | 140° | IK | HA

Application:
For placing a pilot hole for deep-hole drills from 12xD with HPC geometry up to a strength of 1300 N/mm².

Execution:
- Solid carbide TiAlN high-performance drill
- 2 drill heels
- Cone polished section
- 30° spiral angle
- Straight main cutting edge

Advantage:
- Precision grinding for very accurate holes in terms of fit and shape for demanding requirements around dimensional tolerance
- very precise guidance due to innovative geometry
- High-performance coating provides high cutting parameters and long service life
- the entire range is coordinated in terms of angle and diameter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	95	80	65	50	40	200	250	230	180	160	130			95	35	30	30		

Tool holding device	HA parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	h7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11181... Ident. No.	
2.02	4	21	57	0.08	202	●
2.22	4	21	57	0.08	208	●
2.32	4	21	57	0.08	214	●
2.42	4	21	57	0.08	220	●
2.52	4	21	57	0.08	226	●
2.62	4	21	57	0.08	232	●
2.72	4	21	57	0.08	238	●
2.82	4	21	57	0.08	244	●
2.92	4	21	57	0.08	250	●
3.02	6	28	66	0.08	256	●
3.22	6	28	66	0.08	262	●
3.32	6	28	66	0.08	268	●
3.52	6	28	66	0.08	274	●
3.82	6	36	74	0.15	280	●
4.02	6	36	74	0.15	286	●
4.22	6	36	74	0.15	292	●
4.52	6	36	74	0.15	298	●
4.82	6	44	82	0.15	304	●
5.02	6	44	82	0.15	310	●
5.52	6	44	82	0.15	316	●

Tool holding device	HA parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	h7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11181... Ident. No.	
5.82	6	44	82	0.25	322	●
6.02	6	44	82	0.25	328	●
6.52	8	53	91	0.25	334	●
6.82	8	53	91	0.25	340	●
7.02	8	53	91	0.25	346	●
7.52	8	53	91	0.25	352	●
7.82	8	53	91	0.25	364	●
8.02	8	53	91	0.25	370	●
8.52	10	61	103	0.27	376	●
8.82	10	61	103	0.27	382	●
9.02	10	61	103	0.27	388	●
9.52	10	61	103	0.27	394	●
9.82	10	61	103	0.27	400	●
10.02	10	61	103	0.27	406	●
10.22	12	71	118	0.27	412	○
10.82	12	71	118	0.27	418	○
11.02	12	71	118	0.27	424	●
11.52	12	71	118	0.27	430	●
11.82	12	71	118	0.27	436	●
12.02	12	71	118	0.27	442	●

Prod. Gr. 113

ATORN high-performance deep hole drill bit, solid carbide TiAlN HPC 16xD with internal cooling

for universal use up to 1300 N/mm²

VHM | TiAlN | 16xD | HPC UNI | 135° | IK | HA

Application:
For HPC deep-hole boring up to a strength of 1300 N/mm².

Execution:
- High-performance deep hole drill, solid carbide TiAlN
- 4 drill heels
- Four grinding faces
- 30° spiral angle
- Straight main cutting edge

Advantage:
- very good all-round properties and precise cutting performance with high cutting rates
- unique, extremely hard, low-friction, temperature-resistant and form-fitting TiAlN coating ensures a longer service life
- Cutting edge preparation minimises micro-fractures on the cutter
- the entire range is coordinated in terms of angle and diameter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	90	75	65	35	30	200	250	180	160	160	130			80	35	30	30		

Tool holding device	HA parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11179... Ident. No.	
3	6	60	100	0.08	430	●
3.2	6	60	100	0.08	432	●
3.3	6	60	100	0.08	433	●
3.5	6	60	100	0.08	435	●
3.8	6	75	115	0.08	438	●
4	6	75	115	0.08	440	●
4.2	6	75	115	0.08	442	●
4.5	6	90	130	0.08	445	●
4.8	6	90	130	0.08	448	○
5	6	90	130	0.08	450	●
5.5	6	108	150	0.12	455	●
5.8	6	108	150	0.12	458	●
6	6	108	150	0.12	460	●
6.5	8	125	165	0.12	465	●
6.8	8	125	165	0.12	468	●
7	8	125	165	0.12	470	●

Tool holding device	HA parallel shank
Surface	TiAlN
Coolant supply	Internal
Tolerance of cutting edge Ø	h7

mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11179... Ident. No.	
7.5	8	140	180	0.12	475	○
7.8	8	140	180	0.12	478	●
8	8	140	180	0.12	480	●
8.5	10	160	205	0.15	485	●
8.8	10	160	205	0.15	488	●
9	10	160	205	0.15	490	●
9.5	10	160	205	0.15	495	●
9.8	10	180	225	0.15	498	●
10	10	180	225	0.15	500	●
10.2	12	190	240	0.15	502	●
10.5	12	190	240	0.15	505	●
10.8	12	190	240	0.15	508	●
11	12	190	240	0.15	510	●
11.5	12	215	265	0.15	515	●
11.8	12	215	265	0.15	518	●
12	12	215	265	0.15	520	●

Prod. Gr. 113

ATORN high-performance deep hole drill bit, solid carbide TiAlN HPC 20xD with internal cooling

for universal use up to 1300 N/mm²

VHM | TiAlN | 20xD | HPC UNI | 135° | IK | HA

Application:
For HPC deep-hole boring up to a strength of 1300 N/mm².

Execution:
- High-performance deep hole drill, solid carbide TiAlN
- 4 drill heels
- Four grinding faces
- 30° spiral angle
- Straight main cutting edge

Advantage:
- very good all-round properties and precise cutting performance with high cutting rates
- unique, extremely hard, low-friction, temperature-resistant and form-fitting TiAlN coating ensures a longer service life
- Cutting edge preparation minimises micro-fractures on the cutter
- the entire range is coordinated in terms of angle and diameter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	90	75	65	35	30	200	250	180	160	160	130			80	35	30	30		

Tool holding device	HA parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	h7					
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11181... Ident. No.	
2	4	50	92	0.05	020	●
2.2	4	50	92	0.05	022	○
2.3	4	50	92	0.05	023	●
2.4	4	70	112	0.05	024	●
2.5	4	70	112	0.05	025	●
2.7	4	70	112	0.05	027	○
2.8	4	70	112	0.05	028	●
2.9	4	70	112	0.05	029	●
3	6	80	120	0.08	030	●
3.2	6	80	120	0.08	032	●
3.3	6	80	120	0.08	033	●
3.5	6	80	120	0.08	035	●
3.8	6	90	130	0.08	038	●
4	6	90	130	0.08	040	●
4.2	6	110	160	0.08	042	●
4.5	6	110	160	0.08	045	●
4.6	6	120	160	0.08	046	●
4.8	6	120	160	0.08	048	●
5	6	120	160	0.08	050	●
5.5	6	140	185	0.12	055	●
5.8	6	140	185	0.12	058	●

Tool holding device	HA parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	h7					
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11181... Ident. No.	
6	6	140	185	0.12	060	●
6.5	8	160	210	0.12	065	●
6.8	8	160	210	0.12	068	●
7	8	160	210	0.12	070	●
7.5	8	180	230	0.12	075	○
7.8	8	180	230	0.12	078	●
8	8	180	230	0.12	080	●
8.5	10	195	260	0.15	085	●
8.8	10	230	290	0.15	088	●
9	10	230	290	0.15	090	●
9.5	10	230	290	0.15	095	●
9.8	10	230	290	0.15	098	●
10	10	230	290	0.15	100	●
10.2	12	268	315	0.15	102	●
10.5	12	268	315	0.15	105	○
10.8	12	268	315	0.15	108	●
11	12	268	315	0.15	110	●
11.5	12	268	315	0.15	115	●
11.8	12	268	315	0.15	118	○
12	12	268	315	0.15	120	●

Prod. Gr. 113

ATORN high-performance deep hole drill bit, solid carbide TiAlN HPC 25xD with internal cooling

for universal use up to 1300 N/mm²

VHM | TiAlN | 25xD | HPC UNI | 135° | IK | HA

Application:
For HPC deep-hole boring up to a strength of 1300 N/mm².

Execution:
- High-performance deep hole drill, solid carbide TiAlN
- 4 drill heels
- Four grinding faces
- 30° spiral angle
- Straight main cutting edge

Advantage:
- very good all-round properties and precise cutting performance with high cutting rates
- unique, extremely hard, low-friction, temperature-resistant and form-fitting TiAlN coating ensures a longer service life
- Cutting edge preparation minimises micro-fractures on the cutter
- the entire range is coordinated in terms of angle and diameter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	60	50	35	35	30	150	200	160	140	140	120			70	30	20	20		

Tool holding device	HA parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	h7					
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11189... Ident. No.	
3	6	98	135	0.08	230	●
3.2	6	98	135	0.08	232	●
3.3	6	110	150	0.08	233	●
3.5	6	110	150	0.08	235	●
3.8	6	120	160	0.08	238	●
4	6	120	160	0.08	240	●
4.2	6	120	160	0.08	242	○
4.5	6	135	180	0.08	245	●
4.8	6	135	180	0.08	248	○
5	6	135	180	0.08	250	●

Tool holding device	HA parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	h7					
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11189... Ident. No.	
5.5	6	168	205	0.12	255	○
5.8	6	168	205	0.12	258	○
6	6	168	205	0.12	260	●
6.5	8	200	240	0.12	265	●
6.8	8	200	240	0.12	268	●
7	8	200	240	0.12	270	●
7.5	8	220	260	0.12	275	○
7.8	8	220	260	0.12	278	○
8	8	220	260	0.12	280	●
8.5	10	240	285	0.15	285	○

Tool holding device	HA parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	h7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11189... Ident. No.	
8.8	10	268	310	0.15	288	●
9	10	268	310	0.15	290	●
9.5	10	268	310	0.15	295	○
9.8	10	268	310	0.15	298	●
10	10	268	310	0.15	300	●
10.2	12	325	375	0.15	302	●

Tool holding device	HA parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	h7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11189... Ident. No.	
10.5	12	325	375	0.15	305	○
10.8	12	325	375	0.15	308	○
11	12	325	375	0.15	310	●
11.5	12	325	375	0.15	315	○
11.8	12	325	375	0.15	318	○
12	12	325	375	0.15	320	●

Prod. Gr. 113

ATORN high-performance deep hole drill bit, solid carbide TiAlN HPC 30xD with internal cooling

for universal use up to 1300 N/mm²

VHM | TiAlN | 30xD | HPC UNI | 135° | IK | HA

Application:
For HPC deep-hole boring up to a strength of 1300 N/mm².

Execution:
- High-performance deep hole drill, solid carbide TiAlN
- 4 drill heels
- Four grinding faces
- 30° spiral angle
- Straight main cutting edge

Advantage:
- very good all-round properties and precise cutting performance with high cutting rates
- unique, extremely hard, low-friction, temperature-resistant and form-fitting TiAlN coating ensures a longer service life
- Cutting edge preparation minimises micro-fractures on the cutter
- the entire range is coordinated in terms of angle and diameter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	60	40	35	30	150	200	160	140	140	120			70	30	20	20		

Tool holding device	HA parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	h7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11182... Ident. No.	
2	4	70	115	0.05	020	●
2.2	4	70	115	0.05	022	○
2.3	4	70	115	0.05	023	●
2.4	4	90	138	0.05	024	●
2.5	4	90	138	0.05	025	●
2.7	4	90	138	0.05	027	○
2.8	4	90	138	0.05	028	●
2.9	4	90	138	0.05	029	●
3	6	105	150	0.05	030	●
3.2	6	105	150	0.08	032	○
3.3	6	135	185	0.08	033	●
3.5	6	135	185	0.08	035	●
3.8	6	135	185	0.08	038	●
4	6	135	185	0.08	040	●
4.2	6	135	185	0.08	042	●
4.5	6	165	215	0.08	045	●
4.6	6	165	215	0.08	046	●
4.8	6	165	215	0.08	048	●
5	6	165	215	0.08	050	●
5.5	6	180	230	0.12	055	●
5.8	6	180	230	0.12	058	●

Tool holding device	HA parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	h7					
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11182... Ident. No.	
6	6	180	230	0.12	060	●
6.5	8	215	280	0.12	065	○
6.8	8	230	280	0.12	068	○
7	8	230	280	0.12	070	○
7.5	8	230	280	0.12	075	○
7.8	8	265	315	0.12	078	●
8	8	265	315	0.12	080	●
8.5	10	295	350	0.15	085	○
8.8	10	330	380	0.15	088	○
9	10	330	380	0.15	090	○
9.5	10	330	380	0.15	095	○
9.8	10	330	380	0.15	098	●
10	10	330	380	0.15	100	●
10.2	12	380	430	0.15	102	●
10.5	12	380	430	0.15	105	●
10.8	12	380	430	0.15	108	○
11	12	380	430	0.15	110	●
11.5	12	380	430	0.15	115	○
11.8	12	380	430	0.15	118	●
12	12	380	430	0.15	120	○

Prod. Gr. 113

High-performance micro drill bit solid carbide

Application:
For HPC micro bore machining up to a strength of 1,300 N/mm².

Advantage:
- High-quality solid carbide cutting material and cutting edge preparation minimise micro-breakouts on the cutter
- Smallest diameter from 0.10 mm to 3.00 mm

TiAlN

HPC UNI

ATORN Micro drill CC HPC without IC

for universal use up to 1300 N/mm²

VHM | TiAlN | HPC UNI | 130° | HA

Ident. No. 010–300

Ident. No. 310–600

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Application:
For HPC boring up to a strength of 1300 N/mm².

Execution:
- High-performance drill, solid carbide, with universal precision grinding and 3 H6 straight shank
- **Ident. No. 010–300:** Coated design
- **Ident. No. 310–600:** Bare metal design

Advantage:
- **Ident. No. 010–300:** Extremely hard, low-friction, temperature-resistant, form-fitting coatings
- **Ident. No. 310–600:** Extremely sharp cutters ensure reliable machining even with long chipping non-ferrous metals

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	55	55	55	35	35	65	65	65	65	65	65	65	40	55	35	65	35		

					Tool holding device	HA parallel shank		HA parallel shank	
					Surface	TiAlN		Uncoated	
					Coolant supply	External		External	
					Tolerance of cutting edge Ø	h7		h7	
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11137... Ident. No.			11137... Ident. No.	
0.1	3	1	38	0.01	010	●		310	●
0.15	3	2	38	0.01	015	●		315	●
0.2	3	2.5	38	0.01	020	●		320	●
0.25	3	4	38	0.01	025	●		325	●
0.3	3	5.5	38	0.01	030	●		330	●
0.35	3	5.5	38	0.01	035	●		335	●
0.4	3	6	38	0.01	040	●		340	●
0.45	3	6	38	0.01	045	●		345	●
0.5	3	6	38	0.015	050	●		350	●
0.55	3	8	38	0.015	055	●		355	●
0.6	3	8	38	0.015	060	●		360	●
0.65	3	8	38	0.015	065	●		365	●
0.7	3	8	38	0.015	070	●		370	●
0.75	3	8	38	0.015	075	●		375	●
0.8	3	8	38	0.015	080	●		380	●
0.85	3	8	38	0.015	085	●		385	●
0.9	3	8	38	0.015	090	●		390	●
0.95	3	8	38	0.015	095	●		395	●
0.97	3	8	38	0.02	097	●		397	●
0.98	3	8	38	0.02	098	●		398	●
0.99	3	8	38	0.02	099	●		399	●
1	3	10	38	0.02	100	●		400	●
1.01	3	10	38	0.02	101	●		401	●
1.02	3	10	38	0.03	102	●		402	●
1.03	3	10	38	0.03	103	●		403	●
1.05	3	10	38	0.03	105	●		405	●
1.1	3	10	38	0.03	110	●		410	●
1.15	3	10	38	0.03	115	●		415	●
1.2	3	10	38	0.03	120	●		420	●
1.25	3	10	38	0.03	125	●		425	●
1.3	3	10	38	0.03	130	●		430	●
1.35	3	10	38	0.03	135	●		435	●
1.4	3	10	38	0.03	140	●		440	●
1.45	3	10	38	0.03	145	●		445	●
1.47	3	10	38	0.03	147	●		447	●
1.48	3	10	38	0.03	148	●		448	●
1.49	3	10	38	0.03	149	●		449	●
1.5	3	12	38	0.03	150	●		450	●
1.51	3	12	38	0.03	151	●		451	●

				Tool holding device	HA parallel shank		HA parallel shank	
				Surface	TiAlN		Uncoated	
				Coolant supply	External		External	
				Tolerance of cutting edge Ø	h7		h7	
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11137... Ident. No.		11137... Ident. No.	
1.52	3	12	38	0.03	152	●	452	●
1.53	3	12	38	0.03	153	●	453	●
1.55	3	12	38	0.03	155	●	455	●
1.6	3	12	38	0.03	160	●	460	●
1.65	3	12	38	0.03	165	●	465	●
1.7	3	12	38	0.03	170	●	470	●
1.75	3	12	38	0.03	175	●	475	●
1.8	3	12	38	0.03	180	●	480	●
1.85	3	12	38	0.03	185	●	485	●
1.9	3	12	38	0.03	190	●	490	●
1.95	3	12	38	0.03	195	●	495	●
1.97	3	12	38	0.03	197	●	497	●
1.98	3	12	38	0.03	198	●	498	●
1.99	3	12	38	0.03	199	●	499	●
2	3	12	38	0.05	200	●	500	●
2.01	3	12	38	0.05	201	●	501	●
2.02	3	12	38	0.05	202	●	502	●
2.03	3	12	38	0.05	203	●	503	●
2.05	3	12	38	0.05	205	●	505	●
2.1	3	12	38	0.05	210	●	510	●
2.15	3	12	38	0.05	215	●	515	●
2.2	3	12	38	0.05	220	●	520	●
2.25	3	12	38	0.05	225	●	525	●
2.3	3	12	38	0.05	230	●	530	●
2.35	3	12	38	0.05	235	●	535	●
2.4	3	12	38	0.05	240	●	540	●
2.45	3	12	38	0.05	245	●	545	●
2.5	3	12	38	0.05	250	●	550	●
2.51	3	12	38	0.06	251	●	551	○
2.52	3	12	38	0.06	252	●	552	○
2.53	3	12	38	0.06	253	●	553	●
2.55	3	12	38	0.06	255	●	555	●
2.6	3	12	38	0.06	256	●	556	●
2.65	3	12	38	0.06	265	●	565	●
2.7	3	12	38	0.06	270	●	570	●
2.75	3	12	38	0.06	275	●	575	●
2.8	3	12	38	0.06	280	●	580	●
2.85	3	12	38	0.06	285	●	585	●
2.9	3	12	38	0.06	290	●	590	●
2.95	3	12	38	0.06	295	●	595	●
2.96	3	12	38	0.06	296	○	596	○
2.97	3	12	38	0.06	297	●	597	●
2.98	3	12	38	0.06	298	●	598	●
2.99	3	12	38	0.06	299	●	599	○
3	3	12	38	0.06	300	●	600	●

Prod. Gr. 113

Solid carbide TiALN high-performance drill, 180°

Applications:
For producing drill holes with 180° bore hole bottom.

Advantages:
- Drilling on slanted surfaces
- Drilling on convex surfaces
- Drilling despite slugs
- Drilling on existing drill hole
- Drilling through cross hole

TiAlN

HPC UNI

ATORN 180° high-performance drill bit, solid carbide TiAlN 3xD with internal cooling (DIN 6537)

For universal use up to 1000 N/mm²

VHM | TiAlN | 3xD | 180° | IK | HA

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Application:
For producing drill holes with a 180° hole base in one operation

Execution:
- Heavy-duty solid carbide drill with 180° precision grinding and drill heels
- Recommended pilot drill bits under art. no. 11181.

Advantage:
- Drilling and sinking in a single work step at high cutting speed
- Innovative geometry ensures good chip removal

Notes:
The maximum permissible inclination of the drilling surface is 45°

inclination up to 15° correction factor = 0.50
inclination up to 30° correction factor = 0.40
inclination up to 45° correction factor = 0.25
For spot drilling, multiply feed f [mm/r] by correction factor Cf
- Spot drill with reduced feed until the tool cuts to 0.25xD over the total ø
- For angled spot drilling: Retract at double feed rate f [mm/r]
- After spot drilling at reduced feed rate (correction factor), drilling continues at feed rate f [mm/r] according to recommended cutting data without correction factors

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	85	55	35	40	35	60	80	60	40	40	30			90					

Tool holding device					HA parallel shank	
Surface					TiAlN	
Coolant supply					Internal	
Tolerance of cutting edge Ø					h7	
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11128... Ident. No.	
3	6	20	62	0.08	030	●
3.1	6	20	62	0.08	031	●
3.2	6	20	62	0.08	032	●
3.3	6	20	62	0.08	033	●
3.4	6	20	62	0.08	034	●
3.5	6	20	62	0.08	035	●
3.6	6	20	62	0.08	036	●
3.7	6	20	62	0.08	037	●
3.8	6	24	66	0.08	038	●
3.9	6	24	66	0.08	039	●
4	6	24	66	0.08	040	●
4.1	6	24	66	0.08	041	●
4.2	6	24	66	0.08	042	●
4.3	6	24	66	0.08	043	●
4.4	6	24	66	0.08	044	●
4.5	6	24	66	0.08	045	●
4.6	6	24	66	0.08	046	●
4.65	6	24	66	0.08	465	●
4.7	6	24	66	0.08	047	●
4.8	6	28	66	0.08	048	●
4.9	6	28	66	0.08	049	●
5	6	28	66	0.13	050	●
5.1	6	28	66	0.13	051	●
5.2	6	28	66	0.13	052	●
5.3	6	28	66	0.13	053	○
5.4	6	28	66	0.13	054	●

Tool holding device					HA parallel shank	
Surface					TiAlN	
Coolant supply					Internal	
Tolerance of cutting edge Ø					h7	
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11128... Ident. No.	
5.5	6	28	66	0.13	055	●
5.55	6	28	66	0.13	555	●
5.6	6	28	66	0.13	056	●
5.7	6	28	66	0.13	057	●
5.8	6	28	66	0.13	058	●
5.9	6	28	66	0.13	059	●
6	6	28	66	0.13	060	●
6.1	8	34	79	0.13	061	●
6.2	8	34	79	0.13	062	●
6.3	8	34	79	0.13	063	●
6.4	8	34	79	0.13	064	●
6.5	8	34	79	0.13	065	●
6.6	8	34	79	0.13	066	●
6.7	8	34	79	0.13	067	●
6.8	8	34	79	0.13	068	●
6.9	8	34	79	0.13	069	●
7	8	34	79	0.13	070	●
7.1	8	41	79	0.13	071	●
7.2	8	41	79	0.13	072	●
7.3	8	41	79	0.13	073	●
7.4	8	41	79	0.13	074	●
7.5	8	41	79	0.13	075	●
7.6	8	41	79	0.13	076	●
7.7	8	41	79	0.13	077	●
7.8	8	41	79	0.13	078	●
7.9	8	41	79	0.13	079	●

Tool holding device	HA parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	h7					
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11128... Ident. No.	
8	8	41	79	0.13	080	●
8.1	10	47	89	0.13	081	●
8.2	10	47	89	0.13	082	●
8.3	10	47	89	0.13	083	●
8.4	10	47	89	0.13	084	●
8.5	10	47	89	0.13	085	●
8.6	10	47	89	0.13	086	●
8.7	10	47	89	0.13	087	●
8.8	10	47	89	0.13	088	●
8.9	10	47	89	0.13	089	●
9	10	47	89	0.14	090	●
9.1	10	47	89	0.14	091	●
9.2	10	47	89	0.14	092	●
9.3	10	47	89	0.14	093	●
9.4	10	47	89	0.14	094	●
9.5	10	47	89	0.14	095	●
9.6	10	47	89	0.14	096	●
9.7	10	47	89	0.14	097	●
9.8	10	47	89	0.14	098	●
9.9	10	47	89	0.14	099	●
10	10	47	89	0.14	100	●
10.1	12	55	102	0.14	101	●
10.2	12	55	102	0.14	102	●
10.3	12	55	102	0.14	103	●
10.4	12	55	102	0.14	104	●
10.5	12	55	102	0.14	105	●
10.6	12	55	102	0.14	106	●
10.7	12	55	102	0.14	107	●
10.8	12	55	102	0.14	108	●
10.9	12	55	102	0.14	109	●
11	12	55	102	0.14	110	●
11.1	12	55	102	0.16	111	●
11.2	12	55	102	0.16	112	●

Tool holding device	HA parallel shank					
Surface	TiAlN					
Coolant supply	Internal					
Tolerance of cutting edge Ø	h7					
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11128... Ident. No.	
11.3	12	55	102	0.16	113	●
11.4	12	55	102	0.16	114	●
11.5	12	55	102	0.16	115	●
11.6	12	55	102	0.16	116	●
11.7	12	55	102	0.16	117	●
11.8	12	55	102	0.16	118	●
11.9	12	55	102	0.16	119	●
12	12	55	102	0.16	120	●
12.5	14	60	107	0.16	125	●
12.8	14	60	107	0.16	128	●
13	14	60	107	0.16	130	●
13.5	14	60	107	0.16	135	●
13.8	14	60	107	0.16	138	●
14	14	60	107	0.16	140	●
14.5	16	65	115	0.16	145	●
14.8	16	65	115	0.16	148	○
15	16	65	115	0.18	150	●
15.5	16	65	115	0.18	155	●
15.8	16	65	115	0.18	158	●
16	16	65	115	0.18	160	●
16.5	18	73	123	0.18	165	●
16.8	18	73	123	0.18	168	●
17	18	73	123	0.18	170	●
17.5	18	73	123	0.18	175	●
17.8	18	73	123	0.18	178	●
18	18	73	123	0.2	180	●
18.5	20	79	131	0.2	185	●
18.8	20	79	131	0.2	188	●
19	20	79	131	0.2	190	●
19.5	20	79	131	0.2	195	●
19.8	20	79	131	0.2	198	●
20	20	79	131	0.23	200	●

Prod. Gr. 1AB

Solid carbide TiNALOX high-performance drill bit for tolerance bores

Application:
HPC special geometry for producing tolerance bores in H7 quality.

Advantage:
- High drilling accuracy provided by four drill heels even at high cutting speeds
- Innovative coating technology provides long service life

H7 | TiNALOX | HPC UNI

ORION® high-performance tolerance drill bit, solid carbide TiNALOX HPC 5xD with internal cooling (DIN 6537)

for universal use up to 1300 N/mm²

VHM | TiNALOX | 5xD | HPC | 145° | IK | HA

Application:
HPC special geometry for producing clearance bore holes in H7 quality for universal application up to 1300 N/mm²

Execution:
- High-performance tolerance drill, solid carbide TiNAIOX with special grinding and 4 drill heels

Advantage:
- innovative cutting geometry with 4 drill heels ensure high drilling precision in H7 quality
- 4 drill heels: high drilling precision provided by 4 drill heels even at high cutting speeds
- extremely hard, low-friction, temperature-resistant and form-fitting TiNAIOX coating ensures greater service life
- Cutting edge preparation minimises micro-fractures on the cutter

Notes:
test drilling with cutting-speed adjustment is needed to create an H7 fit tolerance. make sure the tool and workpiece are really well clamped.

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	130	90	70	40	35	270	200	200	170	150	130			90	30	20	20		

Tool holding device					HA parallel shank	
Surface					TiNALOX	
Coolant supply					Internal	
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11176... Ident. No.	
3	6	28	66	0.1	030	●
4	6	36	74	0.14	040	●
5	6	44	82	0.18	050	●
6	6	44	82	0.2	060	●
8	8	53	91	0.25	080	●
10	10	61	103	0.29	100	●
12	12	71	118	0.32	120	●
14	14	77	124	0.35	140	●
16	16	83	133	0.38	160	●
18	18	93	143	0.4	180	○
20	20	101	153	0.42	200	●

Prod. Gr. 113

Solid carbide drill bit with three cutting edges

Application:
For drilling solid bodies, for precisely positioned and shaped bores.

Advantage:
- Special geometry with three cutting edges: innovative rake for precisely positioned and shaped bores in solid bodies without the need for centring
- Universal use: wide range of carbide grades and geometries for highly varied applications; thus increasing service life and providing a high degree of process stability

TiN | Z 3

ATORN Solid carbide high-performance drill 3-flute without IC (DIN 6539)

For universal use up to 1300 N/mm²

VHM | TiN | 5xD | 150° | HA | Z 3

Application:
special geometry with 3 cutting edges for precise position and shape drilling into the main body.

Execution:
- **No. 11164:** SC drill bit, 3-edge, uncoated, **for machining steels up to 1000 N/mm²**
- **No. 11166:** SC drill bit, 3-edge, TiN **for machining steels and non-ferrous metals**
- **No. 11167:** Solid carbide drill bit, 3-edge, 3xD, uncoated, **for machining cast and non-ferrous metals**

Advantage:
- **No. 11164:** Special geometry with three cutting edges: Innovative cutting geometry for precise position and shape drilling into the main body
- **No. 11166–11167:** special geometry with three cutting edges: innovative cutting geometry for precise position and shape drilling into the main body

No. 11164

No. 11166

No. 11167

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11164	80	70	50	35	30	170	200	120	100	70	60	50		80					
11166	85	75	55	35		180	210	140						80					
11167	85	75	55	35	30	180	210	140	100	70	60	50		90					

					Tool holding device	HA parallel shank		HA parallel shank		HA parallel shank	
					Surface	Uncoated		TiN		Uncoated	
					Coolant supply	External		External		External	
					Tolerance of cutting edge Ø	h7		h7		h7	
mm	h6 mm	mm	mm	f steel 1000 ● (mm/r)	11164... Ident. No.			11166... Ident. No.		11167... Ident. No.	
3	3	22	46	0.09	030	●		030	●	030	●
3.2	3.2	24	49	0.09	032	●		032	●	032	●
3.3	3.3	24	49	0.09	033	●		033	●	033	●
3.5	3.5	27	52	0.09	035	●		035	●	035	●
3.8	3.8	30	55	0.09	038	●		038	●	038	●
4	4	30	55	0.09	040	●		040	●	040	●
4.2	4.2	30	55	0.09	042	●		042	●	042	●
4.5	4.5	32	58	0.09	045	●		045	●	045	●
4.8	4.8	35	62	0.09	048	●		048	●	048	●
5	5	35	62	0.09	050	●		050	●	050	●
5.5	5.5	39	66	0.1	055	●		055	●	055	●
5.8	5.8	39	66	0.1	058	●		058	●	058	●
6	6	39	66	0.11	060	●		060	●	060	●
6.5	6.5	42	70	0.12	065	●		065	●	065	●
6.8	6.8	45	74	0.12	068	●		068	●	068	●
7	7	45	74	0.12	070	●		070	●	070	●
7.5	7.5	45	74	0.13	075	●		075	●	075	●
7.8	7.8	48	79	0.14	078	●		078	●	078	●
8	8	48	79	0.14	080	●		080	●	080	●
8.5	8.5	48	79	0.15	085	●		085	●	085	●
9	9	52	84	0.16	090	●		090	●	090	●
9.5	9.5	52	84	0.17	095	●		095	○	095	●
9.8	9.8	55	89	0.18	098	●		098	●	098	●
10	10	55	89	0.19	100	●		100	●	100	●
10.2	10.2	55	89	0.19	102	●		102	●	102	●

Prod. Gr. 113

SC TiAINPlus drill mill range

Application:
For drilling out high-strength material connections on bodywork

Advantage:
- Low-vibration running due to four cutting edges with unequal pitch
- High stability due to corner protection chamfer
- Very good spot drilling behaviour due to centring tip with two cutting edges above centre
- No spinning in the drill chuck due to the 3-flat shank

TiAIN plus

ATORN SC TiAINPlus drill mill T=4 3-flat shank

for use in high-strength Usibor® and Ductibor®

VHM | TiAIN plus

No. 11200

No. 11201

Application:
For drilling high-strength connections on bodywork

Execution:
- **No. 11200:** Long version for hand drills and cordless drivers
- **No. 11201:** short version for pneumatic drills such as VARIO DRILL

Advantage:
- Low-vibration due to four cutting edges with unequal pitch
- High stability due to corner protection chamfer
- Very good tapping behaviour due to centring tip with two cutting edges above centre
- No spinning in the drill chuck due to the 3-flat shank

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●	●															●	●

Tool holding device				Parallel shank with three tightening surfaces		Parallel shank with three tightening surfaces	
Surface				TiAIN plus		TiAIN plus	
Coolant supply				External		External	
Tolerance of cutting edge Ø				h5		h5	
mm	mm (h6)	mm	mm	11200... Ident. No.		11201... Ident. No.	
6	6	12	70	060	●	-	-
6	6	12	44	-	-	060	●
6.5	8	12	70	065	●	-	-
6.5	8	12	44	-	-	065	●
6.7	8	12	70	067	●	-	-
6.7	8	12	44	-	-	067	●
7	7	12	70	070	●	-	-
7	8	12	44	-	-	070	●
8	8	15	100	080	●	-	-
8	8	12	44	-	-	080	●
9	9	15	100	090	●	-	-
9	8	12	44	-	-	090	●
10	10	15	100	100	●	-	-
10	8	12	44	-	-	100	●
11	11	15	100	110	●	-	-

Prod. Gr. 134

TYPE N solid carbide twist drill bit range

Application:
Standard geometry for use up to a strength of 1,300 N/mm².

Advantage:
- Excellent all-round properties and precise cutting behaviour in a wide range of materials
- Universal use: Minimises tool costs and improves flexibility
- High-quality cutting material and cutting edge preparation minimise micro-breakouts on the cutter

Typ N | TiAlN

ATORN Twist drill solid carbide type N without IC (DIN 1897)

For universal use up to 1300 N/mm²

VHM | TiAlN | 118° | Typ N | HA

Application:
Standard geometry for use up to a strength of 1300 N/mm².

Execution:
- Standard solid carbide tool with universal precision grinding

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Cutting edge preparation minimises micro-fractures on the cutter
- **No. 11153:** TiAlN coating for up to 50% longer service life, dry processing possible in steel

No. 11150

No. 11153

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11150	70	60	50	30	28	140	190	130	120	130	120	100	80	80	25	25	25		
11153	80	70	60	32	30	150	200	140	150	150	130	100	80	90	30	30	30		

Tool holding device				HA parallel shank		HA parallel shank	
Surface				Uncoated		TiAlN	
Coolant supply				External		External	
Tolerance of cutting edge Ø				h7		h7	
mm	mm	mm	f steel 1000 ● (mm/r)	11150... Ident. No.		11153... Ident. No.	
0.5	3	20	0.02	005	●	005	●
0.6	3.5	21	0.02	006	●	006	●
0.7	4.5	23	0.02	007	●	007	●
0.8	5	24	0.02	008	●	008	●
0.9	5.5	25	0.02	009	●	009	●
1	6	26	0.03	010	●	010	●
1.1	7	28	0.03	011	●	011	●
1.2	8	30	0.03	012	●	012	●
1.3	8	30	0.03	013	●	013	●
1.4	9	32	0.05	014	●	014	●
1.5	9	32	0.05	015	●	015	●
1.6	10	34	0.06	016	●	016	●
1.7	10	34	0.06	017	●	017	●
1.8	11	36	0.06	018	●	018	●
1.9	11	36	0.06	019	●	019	●
2	12	38	0.06	020	●	020	●
2.1	12	38	0.07	021	●	021	●
2.2	13	40	0.07	022	●	022	●
2.3	13	40	0.07	023	●	023	●
2.4	14	43	0.07	024	●	024	●
2.5	14	43	0.07	025	●	025	●
2.6	14	43	0.08	026	●	026	●
2.7	16	46	0.08	027	●	027	●
2.8	16	46	0.08	028	●	028	●
2.9	16	46	0.08	029	●	029	●
3	16	46	0.09	030	●	030	●
3.1	18	49	0.09	031	●	031	●
3.2	18	49	0.09	032	●	032	●
3.3	18	49	0.09	033	●	033	●
3.4	20	52	0.09	034	●	034	●
3.5	20	52	0.09	035	●	035	●
3.6	20	52	0.09	036	●	036	●
3.7	20	52	0.09	337	●	337	●
3.8	22	55	0.09	038	●	038	●
3.9	22	55	0.09	039	●	039	●

Tool holding device				HA parallel shank		HA parallel shank	
Surface				Uncoated		TiAlN	
Coolant supply				External		External	
Tolerance of cutting edge Ø				h7		h7	
mm	mm	mm	f steel 1000 ● (mm/r)	11150... Ident. No.		11153... Ident. No.	
4	22	55	0.09	040	●	040	●
4.1	22	55	0.09	041	●	041	●
4.2	22	55	0.09	042	●	042	●
4.3	24	58	0.09	043	●	043	●
4.4	24	58	0.09	344	●	344	●
4.5	24	58	0.09	045	●	045	●
4.6	24	58	0.09	046	●	046	●
4.7	24	58	0.09	347	●	347	●
4.8	26	62	0.09	048	●	048	●
4.9	26	62	0.09	349	●	349	●
5	26	62	0.09	050	●	050	●
5.1	26	62	0.09	051	●	051	●
5.2	26	62	0.09	052	●	052	●
5.3	26	62	0.09	353	●	353	●
5.4	28	66	0.09	354	●	354	●
5.5	28	66	0.1	055	●	055	●
5.6	28	66	0.1	356	●	356	●
5.7	28	66	0.1	357	●	357	●
5.8	28	66	0.1	058	●	058	●
5.9	28	66	0.1	359	●	359	●
6	28	66	0.1	060	●	060	●
6.1	31	70	0.1	061	●	061	●
6.2	31	70	0.1	362	●	362	●
6.3	31	70	0.1	363	●	363	●
6.4	31	70	0.1	364	●	364	●
6.5	31	70	0.11	065	●	065	●
6.6	31	70	0.11	366	●	366	●
6.7	31	70	0.11	367	●	367	●
6.8	34	74	0.11	068	●	068	●
6.9	34	74	0.11	369	●	369	●
7	34	74	0.11	070	●	070	●
7.1	34	74	0.11	371	●	371	●
7.2	34	74	0.11	372	●	372	●
7.3	34	74	0.11	373	●	373	●
7.4	34	74	0.11	374	●	374	●

Tool holding device				HA parallel shank		HA parallel shank	
Surface				Uncoated		TiAlN	
Coolant supply				External		External	
Tolerance of cutting edge Ø				h7		h7	
mm	mm	mm	f steel 1000 ● (mm/r)	11150... Ident. No.		11153... Ident. No.	
7.5	34	74	0.12	075	●	075	●
7.6	37	79	0.12	376	●	376	●
7.7	37	79	0.12	377	●	377	●
7.8	37	79	0.12	378	●	378	●
7.9	37	79	0.12	379	●	379	●
8	37	79	0.12	080	●	080	●
8.1	37	79	0.12	081	●	081	●
8.2	37	79	0.12	082	●	082	●
8.3	37	79	0.12	383	●	383	●
8.4	37	79	0.13	384	●	384	●
8.5	37	79	0.13	085	●	085	●
8.6	40	84	0.13	386	●	386	●
8.7	40	84	0.13	387	●	387	●
8.8	40	84	0.13	388	●	388	●
8.9	40	84	0.13	389	●	389	●
9	40	84	0.13	090	●	090	●
9.1	40	84	0.13	391	●	391	●
9.2	40	84	0.14	392	●	392	●

Tool holding device				HA parallel shank		HA parallel shank	
Surface				Uncoated		TiAlN	
Coolant supply				External		External	
Tolerance of cutting edge Ø				h7		h7	
mm	mm	mm	f steel 1000 ● (mm/r)	11150... Ident. No.		11153... Ident. No.	
9.3	40	84	0.14	393	●	393	●
9.4	40	84	0.14	394	●	394	●
9.5	40	84	0.14	095	●	095	●
9.6	43	89	0.14	396	●	396	●
9.7	43	89	0.14	397	●	397	●
9.8	43	89	0.14	098	●	098	●
9.9	43	89	0.14	399	●	399	●
10	43	89	0.15	100	●	100	●
10.2	43	89	0.15	102	●	102	●
10.5	43	89	0.15	105	●	105	●
11	47	95	0.16	110	●	110	●
11.2	47	95	0.16	112	●	112	●
11.5	47	95	0.16	115	●	115	●
12	51	102	0.17	120	●	120	●
13	51	102	0.18	130	●	130	●
14	54	107	0.19	140	●	140	●
15	56	111	0.19	150	●	150	●
16	58	115	0.2	160	●	160	○

Prod. Gr. 1AB

ATORN Twist drill solid carbide type N without IC (DIN 338)

for universal use up to 1300 N/mm²

VHM | TiAlN | 118° | Typ N | HA

No. 11155

No. 11157

p. 9 p. 11 p. 12 p. 123

Application:
Standard geometry for use up to a strength of 1300 N/mm².

Execution:
- **No. 11155:** Standard solid carbide tool with universal precision grinding
- **No. 11157:** Standard solid carbide tool with universal precision-ground flutes

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Cutting edge preparation minimises micro-fractures on the cutter
- **No. 11157:** TiAlN coating for up to 50% longer service life, dry processing possible in steel

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11155	70	60	50	30	28	140	190	130	120	130	120	100	80	80	25	25	25		
11157	80	70	60	32	30	150	200	140	150	150	130	100	80	90	30	30	30		

Tool holding device				HA parallel shank		HA parallel shank	
Surface				Uncoated		TiAlN	
Coolant supply				External		External	
Tolerance of cutting edge Ø				h7		h7	
mm	mm	mm	f steel 1000 ● (mm/r)	11155... Ident. No.		11157... Ident. No.	
1	12	34	0.04	010	●	010	●
1.1	14	36	0.04	011	●	011	●
1.2	16	38	0.05	012	●	012	●
1.3	16	38	0.05	013	●	013	●
1.4	18	40	0.05	014	●	014	●
1.5	18	40	0.05	015	●	015	●
1.6	20	43	0.06	016	●	016	●
1.7	20	43	0.06	017	●	017	●
1.8	22	46	0.06	018	●	018	●
1.9	22	46	0.06	019	●	019	●
2	24	49	0.06	020	●	020	●
2.1	24	49	0.07	021	●	021	●
2.2	27	53	0.07	022	●	022	●
2.3	27	53	0.07	023	●	023	●
2.4	30	57	0.07	024	●	024	●
2.5	30	57	0.07	025	●	025	●
2.6	30	57	0.08	026	●	026	●
2.7	33	61	0.08	027	●	027	●
2.8	33	61	0.08	028	●	028	●
2.9	33	61	0.08	029	●	029	●
3	33	61	0.09	030	●	030	●
3.1	36	65	0.09	031	●	031	●
3.2	36	65	0.09	032	●	032	●
3.3	36	65	0.09	033	●	033	●
3.4	39	70	0.09	034	●	034	●

Tool holding device				HA parallel shank		HA parallel shank	
Surface				Uncoated		TiAlN	
Coolant supply				External		External	
Tolerance of cutting edge Ø				h7		h7	
mm	mm	mm	f steel 1000 ● (mm/r)	11155... Ident. No.		11157... Ident. No.	
3.5	39	70	0.09	035	●	035	●
3.6	39	70	0.09	036	●	036	●
3.7	39	70	0.09	037	●	037	●
3.8	43	75	0.09	038	●	038	●
3.9	43	75	0.09	039	●	039	●
4	43	75	0.09	040	●	040	●
4.1	43	75	0.09	041	●	041	●
4.2	43	75	0.09	042	●	042	●
4.3	47	80	0.09	043	●	043	●
4.4	47	80	0.09	044	●	344	●
4.5	47	80	0.09	045	●	045	●
4.6	47	80	0.09	346	●	346	●
4.7	47	80	0.09	047	●	047	●
4.8	52	86	0.09	048	●	048	●
4.9	52	86	0.09	049	●	049	●
5	52	86	0.09	050	●	050	●
5.1	52	86	0.09	051	●	051	●
5.2	52	86	0.09	052	●	052	●
5.3	52	86	0.09	053	●	053	●
5.4	57	93	0.09	354	●	354	●
5.5	57	93	0.1	055	●	055	●
5.6	57	93	0.1	356	●	356	●
5.7	57	93	0.1	057	●	057	●
5.8	57	93	0.1	058	●	058	●
5.9	57	93	0.1	359	●	359	●

Tool holding device				HA parallel shank		HA parallel shank	
Surface				Uncoated		TiAlN	
Coolant supply				External		External	
Tolerance of cutting edge Ø				h7		h7	
mm	mm	mm	f steel 1000 ● (mm/r)	11155... Ident. No.		11157... Ident. No.	
6	57	93	0.1	060	●	060	●
6.1	63	101	0.1	361	●	361	●
6.2	63	101	0.1	062	●	062	●
6.3	63	101	0.1	063	●	063	●
6.4	63	101	0.1	364	●	364	●
6.5	63	101	0.11	065	●	065	●
6.6	63	101	0.11	066	●	066	●
6.7	63	101	0.11	367	●	367	●
6.8	69	109	0.11	068	●	068	●
6.9	69	109	0.11	369	●	369	●
7	69	109	0.11	070	●	070	●
7.1	69	109	0.11	371	●	371	●
7.2	69	109	0.11	372	●	372	●
7.3	69	109	0.11	373	●	373	●
7.4	69	109	0.11	374	●	374	●
7.5	69	109	0.12	075	●	075	●
7.6	75	117	0.12	376	●	376	●
7.7	75	117	0.12	377	●	377	●
7.8	75	117	0.12	378	●	378	●
7.9	75	117	0.12	379	●	379	●
8	75	117	0.12	080	●	080	●
8.1	75	117	0.12	381	●	381	●
8.2	75	117	0.12	382	●	382	●
8.3	75	117	0.12	383	●	383	●

Tool holding device				HA parallel shank		HA parallel shank	
Surface				Uncoated		TiAlN	
Coolant supply				External		External	
Tolerance of cutting edge Ø				h7		h7	
mm	mm	mm	f steel 1000 ● (mm/r)	11155... Ident. No.		11157... Ident. No.	
8.4	75	117	0.13	384	●	384	●
8.5	75	117	0.13	085	●	085	●
8.6	81	125	0.13	386	●	386	●
8.7	81	125	0.13	387	●	387	●
8.8	81	125	0.13	088	●	088	●
8.9	81	125	0.13	389	●	389	○
9	81	125	0.13	090	●	090	●
9.1	81	125	0.13	391	●	391	●
9.2	81	125	0.14	392	●	392	●
9.3	81	125	0.14	393	●	393	●
9.4	81	125	0.14	394	●	394	●
9.5	81	125	0.14	095	●	095	●
9.6	87	133	0.14	396	●	396	●
9.7	87	133	0.14	397	●	397	●
9.8	87	133	0.14	398	●	398	●
9.9	87	133	0.14	399	●	399	●
10	87	133	0.14	100	●	100	●
10.2	87	133	0.14	102	●	102	●
10.5	87	133	0.14	105	●	105	●
11	94	142	0.15	110	●	110	●
11.5	94	142	0.15	115	●	115	●
12	101	151	0.18	120	●	120	●
13	101	151	0.18	130	●	130	●

Prod. Gr. 1AB

ATORN Twist drill sets solid carbide type N without IC

In box

VHM | TiN | 3xD | Typ N | HA

Application:
Standard geometry for use up to a strength of 1300 N/mm².

Execution:
- Standard solid carbide tool with universal precision grinding

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Cutting edge preparation minimises micro-fractures on the cutter
- robust metal box protects the tool from damage

No. 11150

No. 11151

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11150900	70	60	50	30	28	140	190	130	120	130	120	100	80	80	25	25	25		
11151900	80	70	60	32	30	150	200	140	150	150	130	100	80	90	30	30	30		

Composition of set	Number of pieces in assortment/set (PCS)	Pitch of drill Ø	Surface	Uncoated		TiN	
				11150... Ident. No.		11151... Ident. No.	
1.0-10.0	10	1 mm		900	●	900	●

Prod. Gr. 1AB

ATORN Stepped drill bit, short, type N solid carbide/TiAlN, 90°

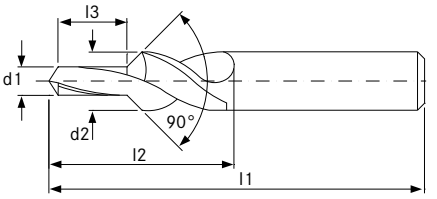
for thread core hole with countersink

VHM | TiAlN | Typ N | 140° | HA

Application:
Countersink and thread core holes are manufactured in one machining step. Sturdy short design in particular for using in NC machines and automatic machines.

Execution:
- Heavy-duty stepped drill bit with universal precision grinding

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	70	60	40	35	25	170	200	180	120	140	110			100	30				

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shank Ø (mm)	f steel 1300 ● (mm/r)	11134... Ident. No.	
M3	2.5	6	8.8	20	66	6	0.05	030	●
M4	3.3	6	11.4	24	66	6	0.06	040	●
M5	4.2	6	13.6	28	66	6	0.09	050	●
M6	5	8	16.5	34	79	8	0.11	060	●
M8	6.8	10	21	47	89	10	0.14	080	●
M10	8.5	12	25.5	55	102	12	0.15	100	●
M12	10.2	14	30	60	107	14	0.16	120	●

Prod. Gr. 113

ATORN Solid carbide TiAlN stepped drill bit short type N

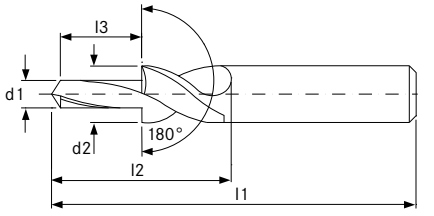
For 180° cylinder head screws

VHM | TiAlN | Typ N | 140° | HA

Application:
Drill diameter and countersink diameter are manufactured in one machining step. Sturdy short design in particular for using in NC machines and automatic machines.

Execution:
- Heavy-duty stepped drill bit with universal precision grinding

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased
- Hole and countersink are manufactured in one machining step



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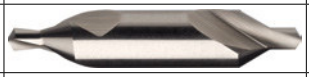
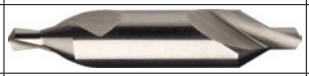
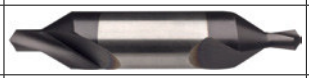
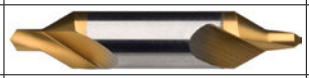
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	70	60	40	35	25	170	200	180	120	140	110			100	30				

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shank Ø (mm)	f steel 1300 ● (mm/r)	11135... Ident. No.	
M3	3.4	6	9	28	64	6	0.05	030	●
M4	4.5	8	11	37	79	8	0.06	040	●
M5	5.5	10	13	43	89	10	0.09	050	●
M6	6.6	11	15	55	102	12	0.11	060	●
M8	9	15	19	60	115	16	0.14	080	●
M10	11	18	23	62	123	18	0.15	100	●

Prod. Gr. 113

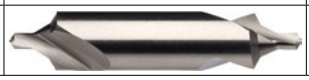
Centre drill, type A

Application:
For centre drilling with shape A on conventional and CNC machines.

	Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 55HRC		page
11001	0.5-12.5 mm	HSS	●	●	○		●	●				67
11011	1.0-5 mm	HSSE	●	●	●	●	●	●	○			67-68
11002	1.0-5 mm	HSSE	●	●	●	●	●	●	●			67-68
11004	0.5-6.3 mm	HSSE	●	●	●	●	●	●	●			67-68
11003	0.5-6.3 mm	HSS	●	●	○		●	●				69
11014	0.75-5 mm	HSSE	●	●	○		●	●				69
11001160-630	1.6-6.3 mm	HSSE	●	●	●	●	●	●	○			68

Centre drill with protective chamfer, type B

Application:
For centre drilling with shape B on conventional and CNC machines. Protective counterbore protects the centre drill hole from damage.

	Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	N	K		page
11012	1.6-4 mm	HSS	●	●	○	●	●		70

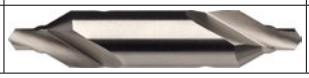
Centre drill with radius, type R

Application:
For centre drilling with shape R on conventional and CNC machines. Radius provides low risk of breakage and corrects misalignment.

	Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11010	0.5-12.5 mm	HSS	●	●	○		●	●			70
11010160-630	1.6-6.3 mm	HSSE	●	●	●	●	●	●	○		71

Centre drill with reinforcing bulge, type W

Application:
For centre drilling with shape W on conventional and CNC machines. Bulge provides additional room for lubricant.

	Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	N	K		page
11005	1.0-5 mm	HSS	●	●	○	●	●		71

90° NC spotting drill

Application:
For NC spot drilling 90° on conventional and CNC machines. For spot drilling and countersinking in one step.

	Ø	Cutting material	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11016	3-25 mm	HSSE	●	●	●	●	○			72
11019031-251	3-25 mm	HSSE	●	●	●	●	●	○		72
11019606-620	6-20 mm	HSSE	●	●	●	●	●	●		72
11016740-860	4-16 mm	HSSE	●	●	●	●	○			72
11019541-661	4-16 mm	HSSE	●	●	●	●	●	○		72
11016035-205	3-20 mm	HSSE	●	●	●	●	○			72-73
11022	3-16 mm	HSS	●	●	●	●	●	●		73

120° NC spotting drill

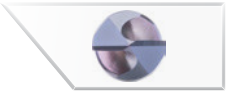
Application:
For NC spot drilling 120° on conventional and CNC machines. Ensures optimum centring for drill bits with 118° tip angle.

	Ø	Cutting material	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11015	3-25 mm	HSSE	●	●	●	●	○			73
11019030-202	3-20 mm	HSSE	●	●	●	●	●	○		73
11019506-516	6-16 mm	HSSE	●	●	●	●	●	●		73

Twist drill bit type U4
For universal use up to 1,300 N/mm²

Application:
Series and single-part production, in particular on CNC machines in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups.

Advantage:
- 4-face grinding for drilling without centring
- Universal use, therefore tool costs are minimised and user flexibility is increased
- Innovative and high-quality coating technology provides longer service life



	Ø	Cutting material	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11023	1.0-14 mm	HSSE	338	●	●	●	●	●	●	○		74-75
11037	1.0-14 mm	HSSE	338	●	●	●	●	●	●	○		74-75

Twist drill bit type N
For universal use up to 1,000 N/mm²

Application:
Series and single-part production on conventional and CNC machines in the steel, non-ferrous metals, cast iron material groups up to a strength of 1000 N/mm²

Advantage:
- Long-term proven rake: excellent all-round properties and precise cutting pattern
- Universal use: Tool costs minimised and greater flexibility for the user

Typ **N**

	Ø	Cutting material	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11020	0.3-20 mm	HSS	338	●	○			○	○			75-77
11066	1.0-25 mm	HSS	338	●	○			○	○			77-78
11022600-834	1.0-16 mm	HSS	338	●	○			○	○			77-78
11031	1.0-13 mm	HSS	338	●	○			○	○			78-79
11041	1.0-13 mm	HSS	338	●	○			○	○			78-79
11040	2.0-16 mm	HSS	338	●	○			○	○			80
11056	0.6-16 mm	HSS	340	●	○			○	○			83
11059	1.0-13 mm	HSS	340	●	○			○	○			84
11063	1.5-14 mm	HSS	1869	●	○			○	○			84-85
11070	5.0-65 mm	HSS	345	●	○			○	○			108-110
11071	10.0-60 mm	HSS	345	●	○			○	○			108-110
11084	14.0-25 mm	HSS	341	●	○			○	○			111

Twist drill bit type NV
For use in high-strength materials from 700 N/mm²

Application:
Series and single-part production on conventional and CNC machines for use in the steel, stainless steel, cast iron and special alloy material groups from a strength of 700 N/mm².

Advantage:
- Special geometry with reinforced core and increased heat resistance
- Use in high-strength material due to high cobalt content in the cutting material

Typ **NV**

	Ø	Cutting material	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11026	1.0-13 mm	HSSE Co8	338	○	●	●	●	○	●	○		86

Twist drill bit type TLP
For universal use up to 1,300 N/mm²

Application:
Series and single-part production on conventional and CNC machines in the steel, (stainless steel), non-ferrous metals, cast iron and special alloy material groups up to a strength of 1,300 N/mm².

Advantage:
- Deep-hole profile with large chip spaces for optimised chip removal at greater drilling depths without venting
- Large chip space volume for excellent chip removal

Typ TLP

	Ø	Cutting material	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11021	1.0-16 mm	HSS	338	●	○			●	●			87-88
11027	1.0-16 mm	HSSE	338	●	●	●	○	●	●	○		87-88
11033	1.0-15 mm	HSSE	338	●	●	●	○	●	●	○		87-88
11055	1.0-14 mm	HSS	340	●	●			●	●			89-91
11057	1.0-16 mm	HSSE	340	●	●	●	○	●	●	○		89-91
11060	1.0-12 mm	HSSE	340	●	●	●	○	●	●	○		89-91
11061	2.0-10 mm	HSS	1869	●	○			●	●			91
11085	8.0-25 mm	HSS	341	●	○			●	●			111-112

Twist drill bit type VA
For use in stainless steel and special alloys

Application:
Series and single-part production on conventional and CNC machines in the stainless steel, special alloy and (steel) material groups up to a strength of 1,300 N/mm².

Advantage:
- Special geometry with aggressive cutting edge design and free geometry for very smooth cutting
- Long service life due to increased cobalt content

Typ VA

	Ø	Cutting material	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11028	1.0-13 mm	HSSE	338	○	○	○	●	○		●		94-95
11029	0.3-16 mm	HSSE	338	○	○	○	●	○		●		94
11074	11.0-23 mm	HSSE	345	○	○	○	●	○		●		110

Twist drill bit type X
For universal use up to 1,300 N/mm²

Application:
Series and single-part production on conventional and CNC machines in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1,300 N/mm².

Advantage:
- Very high wear and heat resistance due to high-quality HSSE-PM cutting material
- High cutting edge stability owing to special point thinning and chip angle adjustment
- Very long service life in higher-alloyed steels and materials

	Ø	Cutting material	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11025	1.0-14 mm	HSSE-PM	338	●	●	●	●	●	●	○		96-97

Twist drill bit type UNI/VA HSSE V3
For high-strength and stainless steel machining

Application:
Problem solver on conventional machines without internal cooling in the following material groups: steel, stainless steel and high-strength materials.

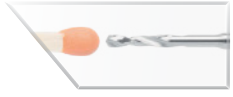
Advantage:
- Special geometry combined with cutting material HSSE-V3 makes the drill bit an absolute problem solver
- Very high cutting speeds can be achieved
- Extremely long service life in high-alloyed steels and stainless steels
- For low-performance machines without internal cooling in stainless steel

	Ø	Cutting material	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11036346-456	2.0-20 mm	HSSE V3		●	●	●	●	●	●	○		97-98

Micro twist drill bit HSSE-PM
For universal use up to 1,300 N/mm²

Application:
For machining micro holes up to a strength of 1,300 N/mm².

Advantage:
- High-quality HSSE-PM cutting material ensures maximum toughness and is therefore less sensitive to breakage
- Diameter of 0.05 mm-1.50 mm
- Cost-effective alternative to the solid carbide range

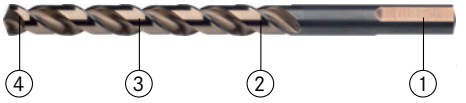


	Ø	Cutting material	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11054	0.05-1.5 mm	HSSE-PM	1899	●	●	●	●	●	●	○		99

Multi-twist drill bit
Straight shank with 3-face grinding

Application:
The multi-twist drill bit was specially developed for mobile use on cordless drill drivers (plates up to 5 mm) and drills.

Advantage:
- 3-face grinding on the shank provides optimum power transmission and retention in drill chuck. Slippage is a thing of the past. Less effort when loosening or tightening in drill chuck.
- 40° helix angle ensures reliable chip removal during universal use. Higher cutting speeds with increased stability and accuracy.
- Special coating in connection with relief grinding provides for maximum adhesion of the lubricant and reliable chip removal.
- In the case of hand-held applications with a cordless drill driver in particular, the 135° tip angle provides for a very high precision of the bore hole, reduced cutting forces (extension of the battery life) and optimum centring precision, thanks to the innovative centre grinding.

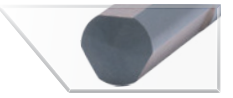


	Ø	Cutting material	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11032020-130	2.0-13 mm	HSSE	338	●	●	○	●	●	○	○		100

Step Drill twist drill bit
For universal use up to 1,300 N/mm² in hand-held drills

Application:
The Step Drill has been developed for use in a wide variety of materials, ranging from metals, plastics and acrylic glass to wood.
There are no limits to its use, with typical areas of application including sheet metals, flat materials, metal or plastic profiles, round materials, pipes, steel supports, wood and even plastic panels. It can even be used to drill out rivets.

Advantages:
- Circular holes
- Burr-free hole exit
- No centring required
- No snagging of the drill bit in the material
- Minimal force
- Does not spin in the drill chuck due to 3-flat shank
- Multiple main cutting edges create short chips
- Maximum flexibility

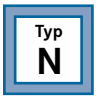


	Ø	Cutting material	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11049100-430	1.0-13 mm	HSSE	338	●	●	○	●	●	●	○		101-102
11046100-430	1.0-13 mm	HSS	338	●	●			●	●			103
11048100-430	1.0-13 mm	HSS	338	●	●			●	●			103

Twist drill bit with soldered carbide cutting edge

Application:
Series and single-part production on conventional and CNC machines.

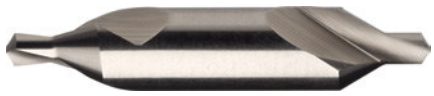
Advantage:
- Polished chip spaces provide good chip removal
- K20 carbide cutting edge provides long service life
- A problem solver when high elasticity and high wear resistance are required
- Excellent value for money



	Ø	Cutting material	Max. drilling depth (D)	DIN	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H 65HRC		page
11160	1.5-20 mm	Carbide	4xD	8037	●	●	●	○	○	●	○			106
11163	13.0-30 mm	Carbide	4xD	8041	●	●	●	○	○	●	○			112

ATORN HSS centre drill, form A (DIN 333)

for universal use up to 1000 N/mm²



Application:
For centre drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding. diameter 0.5–0.8, ground on one side

- Packing unit: Ref. no. 005 - 031 = 10 units (price per unit)

Advantage:
- Radial relief ensures optimum chip breaking

Notes:
For making centring holes in accordance with DIN 332

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	35	20	10	10		50	70	40	30	35	30	20	10	20					

				Surface	Uncoated	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11001... Ident. No.	
0.5	3.15	0.6-0.9 mm	25	0.01	005	●
0.8	3.15	1-1.3 mm	25	0.02	008	●
1	3.15	1.3-1.7 mm	31	0.02	010	●
1.25	3.15	1.6-2.0 mm	31.5	0.03	012	●
1.6	4.00	2-2.6 mm	35	0.03	016	●
2	5.00	2.5-3.1 mm	40	0.04	020	●
2.5	6.30	3.1-3.8 mm	45	0.05	025	●
3.15	8.00	3.9-4.6 mm	50	0.05	031	●
4	10.00	5-5.9 mm	56	0.06	040	●
5	12.50	6.3-7.2 mm	63	0.07	050	●
6.3	16.00	8-8.9 mm	71	0.08	063	●
8	20.00	10.1-11.1 mm	80	0.08	080	●
10	25.00	12.8-13.8 mm	100	0.08	100	●
12.5	31.50	16.5-17.5 mm	125	0.08	125	●

Prod. Gr. 1AD

ATORN HSSE centre drill, form A (DIN 333)

for universal use up to 1300 N/mm²

Application:
For centre drilling on conventional and CNC machines.

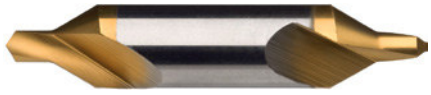
Execution:
- spiral-fluted design with relief grinding. diameter 0.5–0.8, ground on one side

- **No. 11002 010–11002 050, 11011 010–11011 050:** Packing unit: Ref. no. 010 - 031 = 10 units (price per unit)
- **No. 11004:** Packing unit: Ref. no. 005 - 031 = 10 units (price per unit)

Advantage:
- radial relief ensures optimum chip breaking

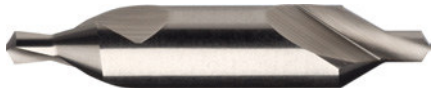
- **No. 11002:** TiAlN coating ensures long service life
- **No. 11004:** TiN coating ensures long service life

Notes:
For making centring holes in accordance with DIN 332



No. 11004

No. 11002



No. 11011

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11002; 11004	40	20	20	15	10	50	80	40	30	35	30	20	10	20	5	5	5		
11011	40	20	20	15	10	50	80	40	30	35	40	20	10	20	5	5	5		

					Surface	TiN		TiAlN		Uncoated	
mm	mm	mm	mm		f steel 1000 ● (mm/r)	11004... Ident. No.		11002... Ident. No.		11011... Ident. No.	
0.5	3.15	0.6-0.8 mm	25		0.01	005	●	-	-	-	-
0.8	3.15	1-1.2 mm	25		0.01	008	●	-	-	-	-
1	3.15	1.3-1.6 mm	31.5		0.01	010	●	010	●	010	●
1.25	3.15	1.6-1.9 mm	31.5		0.02	012	●	012	●	012	●
1.6	4.00	2-2.4 mm	30.3		0.02	016	●	016	●	016	●
2	5.00	2.5-2.9 mm	40		0.02	020	●	020	●	020	●
2.5	6.30	3.1-3.6 mm	45		0.03	025	●	025	●	025	●
3.15	8.00	3.9-4.4 mm	50		0.03	031	●	031	●	031	●
4	10.00	5-5.6 mm	56		0.04	040	●	040	●	040	●
5	12.50	6.3-6.9 mm	63		0.04	050	●	050	●	050	●
6.3	16.00	8-8.6 mm	71		0.05	063	●	-	-	-	-

Prod. Gr. 1AD

ATORN HSS centre-drill set, form A (DIN 333)

for universal use up to 1300 N/mm²

60° | HSS | HSSE | TiAlN | TiN | Form A | HA

Application:
For centre drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with grinding relief in metal box

Advantage:
- radial relief ensures optimum chip breaking
- robust metal box
- **No. 11002:** TiAlN coating ensures long service life
- **No. 11004:** TiN coating ensures long service life

Notes:
For making centring holes in accordance with DIN 332

Surface	Uncoated		TiAlN		TiN	
Cutting material	HSS		HSSE		HSSE	
Included in delivery	11001... Ident. No.		11002... Ident. No.		11004... Ident. No.	
1 piece each diameter 1.0/1.6/5.0 mm, 2 pieces each diameter 2.0/2.5/4.0 mm, 3 pieces each diameter 3.15 mm	900	●	900	●	900	●

Prod. Gr. 1AD

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11001900	35	20	10	10		50	70	40	30	35	30	20	10	20					
11002900; 11004900	40	20	20	15	10	50	80	40	30	35	30	20	10	20	5	5	5		

ATORN HSSE centre drill form A with surface (DIN 333)

for universal use up to 1000 N/mm²

60° | HSSE | Form A | HA

Application:
For centre drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- Face ensures good accessibility
- radial relief ensures optimum chip breaking

Notes:
For making centring holes in accordance with DIN 332

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	20	20	15	10	50	80	40	30	35	40	20	10	20	5	5	5		

				Surface	Uncoated	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11001... Ident. No.	
1.6	4.00	2-2.6 mm	35	0.03	160	●
2	5.00	2.5-3.1 mm	40	0.04	200	●
2.5	6.30	3.1-3.8 mm	45	0.05	250	●
3.15	8.00	3.9-4.6 mm	50	0.05	315	●
4	10.00	5-5.9 mm	55	0.06	400	●
5	12.50	6.3-7.2 mm	63	0.07	500	●
6.3	16.00	8-8.9 mm	71	0.08	630	○

Prod. Gr. 1AD

ATORN HSS centre drill, form A left (DIN 333)

for universal use up to 1000 N/mm²

Application:
For centre drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding. diameter 0.5–0.8, ground on one side

Advantage:
- radial relief ensures optimum chip breaking

Notes:
For making centring holes in accordance with DIN 332

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	35	20	10	10		50	70	40	30	35	30	20	10	20					

				Surface	Uncoated	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11003... Ident. No.	
0.5	3.15	0.6-0.9 mm	25	0.01	105	●
0.8	3.15	1-1.3 mm	25	0.02	108	○
1	3.15	1.3-1.7 mm	31	0.02	110	●
1.25	3.15	1.6-2 mm	31	0.03	125	●
1.6	4.00	2-2.6 mm	35	0.03	160	●
2	5.00	2.5-3.1 mm	40	0.04	200	●
2.5	6.30	3.1-3.8 mm	45	0.05	250	●
3.15	8.00	3.9-4.6 mm	50	0.05	315	●
4	10.00	5-5.9 mm	56	0.06	400	●
5	12.50	6.3-7.2 mm	63	0.07	500	●
6.3	16.00	8-8.9 mm	71	0.08	630	○

Prod. Gr. 1AD

ATORN HSS centre drill, extra long (DIN 333)

for universal use up to 1000 N/mm²

Application:
For centre drilling on conventional and CNC machines on low-lying or difficult-to-access components.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- Extra length permits precise drilling, even on difficult-to-access components
- Radial relief ensures optimum chip breaking

Notes:
For making centring holes in accordance with DIN 332

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	20	10	10		50	80	40	35	35	30	20	10	20					

				f steel 700 ● (mm/r)	11014... Ident. No.	
mm	mm	mm	mm			
0.75	3.50	1-1.2 mm	120	0.02	020	●
1	4.00	1.3-1.6 mm	120	0.02	030	●
1.6	5.00	2-2.4 mm	120	0.03	050	●
2	6.00	2.5-2.9 mm	120	0.04	070	●
2.5	8.00	3.1-3.6 mm	120	0.05	100	●
2.5	6.30	3.1-3.6 mm	200	0.05	300	●
3.15	10.00	3.9-4.4 mm	120	0.05	150	●
3.15	8.00	3.9-4.4 mm	200	0.05	350	●
4	10.00	5-5.6 mm	120	0.06	170	●
4	10.00	5-5.6 mm	200	0.06	370	●
5	14.00	6.3-6.9 mm	120	0.07	200	●

Prod. Gr. 1AD

ATORN HSS centre drill with protective countersink form B (DIN 333)

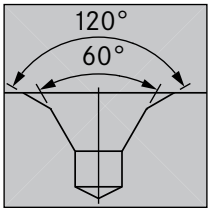
for universal use up to 1000 N/mm²

Application:
For centre drilling on conventional and CNC machines.

Execution:
- Spiral-fluted design with grinding relief
- Packing unit: Ref. no. 016 - 025 = 10 units (price per unit)

Advantage:
- Protective countersink protects the centre drill from damage
- Radial relief ensures optimum chip breaking

Notes:
For making centring holes in accordance with DIN 332



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	20	10	10		50	80	40	35	35	30	20	10	20					

mm	mm	mm	mm	f steel 700 ● (mm/r)	11012... Ident. No.	
1.6	6.30	2-2.4 mm	45	0.03	016	●
2	8.00	2.5-2.9 mm	50	0.04	020	●
2.5	10.00	3.1-3.6 mm	56	0.05	025	●
3.15	11.20	3.9-4.4 mm	60	0.05	031	●
4	14.00	5-5.6 mm	67	0.06	040	●

Prod. Gr. 1AD

ATORN HSS centre drill with radius type R (DIN 333)

for universal use up to 1000 N/mm²

Application:
For centre drilling on CNC machines.

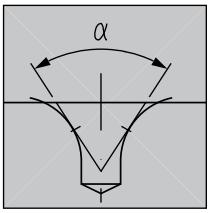
Execution:
- spiral-fluted design with relief grinding. diameter 0.5–0.8, ground on one side

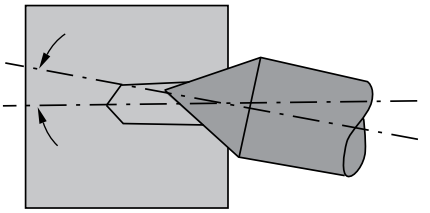
- Packing unit: Ref. no. 005 - 025 = 10 units (price per unit)

Advantage:
- less risk of centre drill breakage, since the radius does not leave behind sharp edges

- radius compensates for positioning inaccuracies and angle errors (sufficient bearing surface present even with offset lathe centre)

Notes:
For making centring holes in accordance with DIN 332





Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	20	10	10		50	80	40	35	35	30	20	10	20					

mm	mm	mm	mm	R	f steel 700 ● (mm/r)	11010... Ident. No.	
0.5	3.15	2.3-2.6 mm	25	2	0.01	005	●
0.8	3.15	2.6-2.9 mm	25	2.5	0.02	008	●
1	3.15	3-3.3 mm	31.5	2.9	0.02	010	●
1.25	3.15	3.3-3.6 mm	31.5	3.15	0.03	012	●
1.6	4.00	4.2-4.7 mm	30.3	4	0.03	016	●
2	5.00	5-5.4 mm	40	5	0.04	020	●
2.5	6.30	6.3-6.8 mm	45	6.3	0.05	025	●
3.15	8.00	8-8.5 mm	50	8	0.05	031	●
4	10.00	10-10.6 mm	56	10	0.06	040	●
5	12.50	12.5-13.1 mm	63	12.5	0.07	050	●
6.3	16.00	16-16.6 mm	71	16	0.08	063	●
8	20.00	20-20.7 mm	80	20	0.08	080	●
10	25.00	25-25.7 mm	100	25	0.08	100	●
12.5	31.50	31.5-32.3 mm	125	31.5	0.08	125	○

Prod. Gr. 1AD

ATORN HSSE centre drill with radius form R with surface (DIN 333)

for universal use up to 1300 N/mm²

Application:
For centre drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- radius compensates for positioning inaccuracies and angle errors (sufficient bearing surface present even with offset lathe centre)
- radial relief ensures optimum chip breaking
- Face ensures good accessibility

Notes:
For making centring holes in accordance with DIN 332

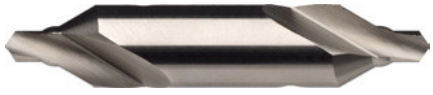
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	20	20	15	10	50	80	40	30	35	40	20	10	20	5	5	5		

mm	mm	mm	mm	R	f steel 700 ● (mm/r)	11010... Ident. No.	
1.6	4.00	4.2-4.7 mm	35	4	0.03	160	●
2	5.00	5-5.4 mm	40	5	0.04	200	●
2.5	6.30	6.3-6.8 mm	45	6.3	0.05	250	●
3.15	8.00	8-8.5 mm	50	8	0.05	315	●
4	10.00	10-10.6 mm	55	10	0.06	400	●
5	12.50	12.5-13.1 mm	63	12.5	0.07	500	●
6.3	16.00	16-16.6 mm	71	16	0.08	630	●

Prod. Gr. 1AD

ATORN HSS centre drill with bulge type W (DIN 333)

for universal use up to 1000 N/mm²



Application:
For centre drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- Bulge ensures additional room for lubricant
- radial relief ensures optimum chip breaking

Notes:
For making centring holes in accordance with DIN 332

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	20	10	10		50	80	40	35	35	30	20	10	20					

mm	mm	mm	mm	f steel 700 ● (mm/r)	11005... Ident. No.	
1	3.15	1.3-1.6 mm	31.5	0.02	010	●
1.6	4	2-2.4 mm	30.3	0.03	016	●
2	5	2.5-2.9 mm	40	0.04	020	●
2.5	6.3	3.1-3.6 mm	45	0.05	025	●
3.15	8	3.9-4.4 mm	50	0.05	031	●
4	10	5-5.6 mm	56	0.06	040	●
5	12.5	6.3-6.9 mm	63	0.07	050	●

Prod. Gr. 1AD

ATORN ORION® HSSE 90° NC spotting drill

for universal use up to 1300 N/mm²

HSSE | TiN | TiNAlOX | HA | HB

No. 11016

No. 11019 031–11019 601, 11019 621–11019 661

No. 11019 606–11019 620

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Application:
For NC spot drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- **No. 11016 030–11016 250, 11019 031–11019 251, 11019 606–11019 620:** short design with precise point geometry and chisel edge ensure form-true and reliable spot drilling
- **No. 11016 030–11016 860, 11019 541–11019 661:** 90° NC spotting drill for spot drilling and countersinking in a single action
- **No. 11016 740–11016 860, 11019 541–11019 601, 11019 621–11019 661:**
  - profile-ground, cost-effective NC spotting drill
  - short design with cross-cutter
- **No. 11019 031–11019 251:** 90° NC spotting drill for drilling and countersinking in one step
- **No. 11019 031–11019 601, 11019 621–11019 661:** TiN coating for increased service life requirements
- **No. 11019 606–11019 620:** TiNAlOX coating for increased service life requirements

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11016; 11016740-860	40	20	10	12	10	70	80	40	35	35	30	20	10	20	6				
11019031-251; 11019541-661	50	30	12	20	15	80	90	50	40	45	40	30	10	30	10	10	10		
11019606-620	50	30	10	20	15	80	90	50	40	45	40	30	10	30	8	8	8		

				ATORN				ORION				ATORN	
			Surface	Uncoated		TiN		Uncoated		TiN		TiNALOX	
			Tool holding device	HA parallel shank		HA parallel shank		HA parallel shank		HA parallel shank		HB parallel shank	
mm	mm	mm	f steel 1000 ● (mm/r)	11016... Ident. No.		11019... Ident. No.		11016... Ident. No.		11019... Ident. No.		11019... Ident. No.	
3	10	50	0.04	030	●	031	●	-	-	-	-	-	-
4.00	12	52	0.05	-	-	-	-	740	●	541	●	-	-
4	12	52	0.05	040	●	041	●	-	-	-	-	-	-
5.00	15	60	0.05	-	-	-	-	751	●	552	●	-	-
5	15	60	0.05	050	●	051	●	-	-	-	-	-	-
6.00	20	66	0.06	-	-	-	-	761	●	561	●	-	-
6	20	66	0.06	060	●	061	●	-	-	-	-	606	●
8.00	25	79	0.07	-	-	-	-	780	●	581	●	-	-
8	25	79	0.07	080	●	081	●	-	-	-	-	608	●
10.00	25	89	0.08	-	-	-	-	800	●	601	●	-	-
10	25	89	0.08	100	●	101	●	-	-	-	-	610	●
12.00	30	102	0.08	-	-	-	-	820	●	621	●	-	-
12	30	102	0.08	120	●	121	●	-	-	-	-	612	●
14	35	115	0.09	140	●	-	-	-	-	-	-	-	-
16.00	35	115	0.09	-	-	-	-	860	●	661	●	-	-
16	35	115	0.09	160	●	161	●	-	-	-	-	616	●
18	40	131	0.09	180	●	181	●	-	-	-	-	-	-
20	40	131	0.09	200	●	201	●	-	-	-	-	620	●
25	45	138	0.1	250	●	251	●	-	-	-	-	-	-

ATORN® = Prod. Gr. 1AD
ORION = Prod. Gr. 1AO

ATORN HSSE 90° NC spotting drill, uncoated, extra-long

for universal use up to 1300 N/mm²

HSSE | HA

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Application:
For NC spot drilling on conventional and CNC machines on deep-seated or hard to reach components.

Execution:
- Spiral-fluted design with relief grinding.

Advantage:
- short design with precise point geometry and chisel edge ensure form-true and reliable spot drilling
- 90° NC spotting drill for spot drilling and countersinking in a single action
- Extra length enables precision drilling even on components that are difficult to reach

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	20	10	12	10	70	80	80	50	40	30	20	10	20	10				

			Surface	Uncoated	
			Tool holding device	HA parallel shank	
mm	mm	mm	f steel 1000 ● (mm/r)	11016... Ident. No.	
3	10	80	0.04	035	●
4	12	100	0.05	045	●
5	15	120	0.05	055	●
6	20	140	0.06	065	●
8	25	140	0.07	085	●

			Surface	Uncoated	
			Tool holding device	HA parallel shank	
mm	mm	mm	f steel 1000 ● (mm/r)	11016... Ident. No.	
10	25	170	0.08	105	●
12	30	170	0.08	125	●
16	35	200	0.09	165	●
20	40	200	0.09	205	●

Prod. Gr. 1AD

ORION® HSS 90° multifunctional tool

for universal use up to 1300 N/mm²

Application:
For centring, drilling, countersinking, chamfering and peripheral milling.

Execution:
- Spiral-fluted design with grinding relief

Advantage:
- Universal point geometry ensures a broad range of uses
- TiNAlOX coating for increased service life requirements

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	50	30	12	20	18	80	90	90	60	50	40	30	10	30	10	10	10		

mm	h6 mm	mm	mm	f steel 700 ● (mm/r)	11022... Ident. No.	
3.00	3	6	50	0.04	030	●
4.00	4	8	52	0.05	040	●
5.00	5	10	60	0.05	050	●
6.00	6	12	66	0.06	060	●

mm	h6 mm	mm	mm	f steel 700 ● (mm/r)	11022... Ident. No.	
8.00	8	14	79	0.07	080	●
10.00	10	16	89	0.08	100	●
12.00	12	18	102	0.08	120	●
16.00	16	24	115	0.1	160	●

Prod. Gr. 1AO

ATORN HSSE 120° NC spotting drill

for universal use up to 1300 N/mm²

No. 11015

No. 11019 030–11019 160

No. 11019 506–11019 516

Application:
For NC spot drilling on conventional and CNC machines.

Execution:
- spiral-fluted design with relief grinding

Advantage:
- short design with precise point geometry and chisel edge ensure form-true and reliable spot drilling
- 120° NC spotting drill ensures precise centring (deflection of drill is minimised)
- **No. 11019 030–11019 160:** TiN coating for increased service life requirements
- **No. 11019 506–11019 516:** TiNAlOX coating for increased service life requirements

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11015	40	20	10	12	10	70	80	80	50	40	30	20	10	20	10				
11019506-516; 11019030-202	50	30	12	20	18	80	90	90	60	50	40	30	10	30	10	10	10		

			Surface	Uncoated		TiN		TiNALOX	
			Tool holding device	HA parallel shank		HA parallel shank		HB parallel shank	
mm	mm	mm	f steel 1000 ● (mm/r)	11015... Ident. No.		11019... Ident. No.		11019... Ident. No.	
3	10	50	0.04	030	●	030	●	-	-
4	12	52	0.05	040	●	040	●	-	-
5	15	60	0.05	050	●	050	●	-	-
6	20	66	0.06	060	●	060	●	506	●
8	25	79	0.07	080	●	080	●	508	●
10	25	89	0.08	100	●	100	●	510	●
12	30	102	0.08	120	●	120	●	512	●
14	35	115	0.09	140	●	-	-	-	-
16	35	115	0.09	160	●	160	●	516	●
20	40	131	0.09	200	●	-	-	-	-
25	45	138	0.1	250	●	-	-	-	-

Prod. Gr. 1AD

Twist drill bit type U4
For universal use up to 1,300 N/mm²

Application:
Series and single-part production, in particular on CNC machines in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups.

Advantage:
- 4-face grinding for drilling without centring
- Universal use, therefore tool costs are minimised and user flexibility is increased
- Innovative and high-quality coating technology provides longer service life

Typ U4

ATORN Twist drill type U4 HSSE (DIN 338)
for universal use up to 1300 N/mm²

HSSE | TiNAIOX | Typ U4 | 118° | HA

Application:
Universal application in all material groups up to a strength of 1300 N/mm2.

Execution:
- **No. 11023:** Twist drill with 4-surface cutting
- **No. 11037:** Twist drill with 4-flute cutting

Advantage:
- universal use: tool costs minimised and greater flexibility for the user
- extremely hard, low-friction, temperature-resistant and form-fitting TiNAIOX coating ensures greater service life
- **No. 11023:** 4-flute cutting for drilling without centring
- **No. 11037:** 4-faced polished section for drilling without centring

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

No. 11023

No. 11037

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	20	10	10	8	60	80	70	45	40	30	30	10	30	10	10	10		

Cutting material			HSSE			HSSE	
			Surface	TiNALOX		Uncoated	
mm	mm	mm	f steel 1000 ● (mm/r)	11037... Ident. No.		11023... Ident. No.	
1	12	34	0.03	081	●	081	●
1.1	14	36	0.03	091	●	091	●
1.2	16	38	0.03	101	●	101	●
1.3	16	38	0.03	111	●	111	●
1.4	18	40	0.03	121	●	121	●
1.5	18	40	0.03	131	●	131	●
1.6	20	43	0.03	141	●	141	●
1.7	20	43	0.03	151	●	151	●
1.8	22	46	0.03	161	●	161	●
1.9	22	46	0.03	171	●	171	●
2	24	49	0.03	181	●	181	●
2.1	24	49	0.03	192	●	192	●
2.2	27	53	0.04	202	●	202	●
2.3	27	53	0.04	210	●	210	●
2.4	30	57	0.04	220	●	220	●
2.5	30	57	0.04	230	●	230	●
2.6	30	57	0.04	240	●	240	●
2.7	33	61	0.04	250	●	250	●
2.8	33	61	0.04	260	●	260	●
2.9	33	61	0.04	270	●	270	●
3	33	61	0.04	280	●	280	●
3.1	36	65	0.04	282	●	282	●
3.17	36	65	0.04	-	-	285	●
3.2	36	65	0.04	286	●	286	●
3.3	36	65	0.05	289	●	289	●
3.4	39	70	0.05	291	●	291	●
3.5	39	70	0.05	293	●	293	●
3.6	39	70	0.05	296	●	296	●
3.7	39	70	0.06	299	●	299	●
3.8	43	75	0.06	302	●	302	●
3.9	43	75	0.06	305	●	305	●
3.97	43	75	0.06	-	-	307	●
4	43	75	0.06	310	●	310	●
4.1	43	75	0.06	314	●	314	●
4.2	43	75	0.07	316	●	316	●
4.3	47	80	0.07	319	●	319	●
4.4	47	80	0.07	324	●	324	●

Cutting material			HSSE			HSSE	
			Surface	TiNALOX		Uncoated	
mm	mm	mm	f steel 1000 ● (mm/r)	11037... Ident. No.		11023... Ident. No.	
4.5	47	80	0.07	326	●	326	●
4.6	47	80	0.08	329	●	329	●
4.7	47	80	0.08	332	●	332	●
4.8	52	86	0.08	335	●	335	●
4.9	52	86	0.08	337	●	337	●
5	52	86	0.08	341	●	341	●
5.1	52	86	0.09	344	●	344	●
5.2	52	86	0.09	349	●	349	●
5.3	52	86	0.09	352	●	352	●
5.4	57	93	0.09	355	●	355	●
5.5	57	93	0.1	358	●	358	●
5.6	57	93	0.1	361	●	361	●
5.7	57	93	0.1	364	●	364	●
5.8	57	93	0.1	367	●	367	●
5.9	57	93	0.1	369	●	369	●
6	57	93	0.11	371	●	371	●
6.1	63	101	0.11	373	●	373	●
6.2	63	101	0.11	375	●	375	●
6.3	63	101	0.11	377	●	377	●
6.35	63	101	0.11	-	-	378	●
6.4	63	101	0.12	379	●	379	●
6.5	63	101	0.12	381	●	381	●
6.6	63	101	0.12	383	●	383	●
6.7	63	101	0.12	385	●	385	●
6.8	69	109	0.12	387	●	387	●
6.9	69	109	0.13	389	●	389	●
7	69	109	0.13	391	●	391	●
7.1	69	109	0.13	393	●	393	●
7.2	69	109	0.13	396	●	396	●
7.3	69	109	0.14	398	●	398	●
7.4	69	109	0.14	400	●	400	●
7.5	69	109	0.14	402	●	402	●
7.6	75	117	0.14	405	●	405	●
7.7	75	117	0.14	407	●	407	●
7.8	75	117	0.15	409	●	409	●
7.9	75	117	0.15	411	●	411	●
7.94	75	117	0.15	-	-	412	●

Cutting material				HSSE		HSSE	
Surface				TiNALOX		Uncoated	
mm	mm	mm	f steel 1000 ● (mm/r)	11037... Ident. No.		11023... Ident. No.	
8	75	117	0.15	414	●	414	●
8.1	75	117	0.15	416	●	416	●
8.2	75	117	0.15	418	●	418	●
8.3	75	117	0.15	420	●	420	●
8.4	75	117	0.15	423	●	423	●
8.5	75	117	0.15	425	●	425	●
8.6	81	125	0.15	427	●	427	●
8.7	81	125	0.15	429	●	429	●
8.8	81	125	0.16	432	●	432	●
8.9	81	125	0.16	434	●	434	●
9	81	125	0.16	436	●	436	●
9.1	81	125	0.16	438	●	438	●
9.2	81	125	0.16	441	●	441	●
9.3	81	125	0.16	443	●	443	●
9.4	81	125	0.16	445	●	445	●
9.5	81	125	0.16	447	●	447	●

Cutting material				HSSE		HSSE	
Surface				TiNALOX		Uncoated	
mm	mm	mm	f steel 1000 ● (mm/r)	11037... Ident. No.		11023... Ident. No.	
9.6	87	133	0.16	450	●	450	●
9.7	87	133	0.16	452	●	452	●
9.8	87	133	0.16	454	●	454	●
9.9	87	133	0.16	456	●	456	●
10	87	133	0.16	459	●	459	●
10.2	87	133	0.16	461	●	461	●
10.3	87	133	0.16	-	-	463	●
10.5	87	133	0.17	466	●	466	●
11	94	142	0.17	473	●	473	●
11.11	94	142	0.17	-	-	475	●
11.5	94	142	0.17	480	●	480	●
12	101	151	0.18	488	●	488	●
12.5	101	151	0.18	494	●	494	●
13	101	151	0.18	500	●	500	●
13.5	108	160	0.18	507	●	505	●
14	108	160	0.19	514	●	510	●

Prod. Gr. 1AG

Twist drill bit type N
For universal use up to 1,000 N/mm²

Application:
Series and single-part production on conventional and CNC machines in the steel, non-ferrous metals, cast iron material groups up to a strength of 1000 N/mm²

Advantage:
- Long-term proven rake: excellent all-round properties and precise cutting pattern
- Universal use: Tool costs minimised and greater flexibility for the user

Typ N

ATORN Twist drill bit type N HSS, vaporised (DIN 338)
For universal use up to 1,000 N/mm²

HSS | Typ N | 118° | HA

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- vaporisation ensures favourable adherence of coolant

Delivery:
box quantity: drill Ø 1.0–6.0 mm = 10 units (price per unit)

Notes:
vaporised drill Ø >2.4 mm

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20		10		50	45	40	35	**40**	**30**	20	10	25					

Cutting material			HSS		Cutting material			HSS	
Surface			Vaporised		Surface			Vaporised	
mm	mm	f steel 700 ● (mm/r)	11020... Ident. No.		mm	mm	f steel 700 ● (mm/r)	11020... Ident. No.	
0.3	3	20	0.02	011	●	1.2	16	38	0.04	101	●
0.4	5	20	0.03	021	●	1.25	16	38	0.04	105	●
0.45	5	20	0.03	025	●	1.3	16	38	0.04	111	●
0.5	6	22	0.03	031	●	1.4	18	40	0.04	121	●
0.6	7	24	0.03	041	●	1.45	18	40	0.04	125	●
0.65	7	24	0.03	045	●	1.5	18	40	0.04	131	●
0.7	9	28	0.03	051	●	1.6	20	43	0.04	141	●
0.75	9	28	0.03	055	●	1.7	20	43	0.04	151	●
0.8	10	30	0.03	061	●	1.8	22	46	0.04	161	●
0.85	10	30	0.03	065	●	1.9	22	46	0.05	171	●
0.9	11	32	0.03	071	●	2	24	49	0.05	181	●
0.95	11	32	0.03	075	●	2.05	24	49	0.05	185	●
1	12	34	0.03	081	●	2.1	24	49	0.05	192	●
1.1	14	36	0.04	091	●	2.15	24	49	0.05	195	●
1.19	16	38	0.04	095	●	2.2	27	53	0.05	202	●

			Cutting material	HSS	
			Surface	Vaporised	
mm	mm	mm	f steel 700 ● (mm/r)	11020... Ident. No.	
2.3	27	53	0.05	210	●
2.4	30	57	0.05	220	●
2.49	30	57	0.05	229	●
2.5	30	57	0.05	230	●
2.6	30	57	0.06	240	●
2.65	30	57	0.06	245	●
2.7	33	61	0.06	250	●
2.8	33	61	0.06	260	●
2.9	33	61	0.06	270	●
3	33	61	0.06	280	●
3.1	36	65	0.06	282	●
3.15	36	65	0.06	283	●
3.17	36	65	0.06	285	●
3.2	36	65	0.07	286	●
3.25	36	65	0.07	287	●
3.26	36	65	0.07	288	●
3.3	36	65	0.07	289	●
3.4	39	70	0.07	291	●
3.5	39	70	0.07	293	●
3.6	39	70	0.08	296	●
3.7	39	70	0.08	299	●
3.8	43	75	0.08	302	●
3.9	43	75	0.09	305	●
3.97	43	75	0.09	308	●
4	43	75	0.09	310	●
4.09	43	75	0.09	312	●
4.1	43	75	0.09	314	●
4.2	43	75	0.09	316	●
4.25	43	75	0.09	318	●
4.3	47	80	0.1	319	●
4.37	47	80	0.1	323	●
4.4	47	80	0.1	324	●
4.5	47	80	0.1	326	●
4.6	47	80	0.11	329	●
4.65	47	80	0.11	331	●
4.7	47	80	0.11	332	●
4.76	47	80	0.11	334	●
4.8	52	86	0.11	335	●
4.9	52	86	0.11	337	●
5	52	86	0.12	341	●
5.1	52	86	0.12	344	●
5.16	52	86	0.12	347	●
5.2	52	86	0.12	349	●
5.25	52	86	0.12	350	●
5.3	52	86	0.12	352	●
5.4	57	93	0.13	355	●
5.5	57	93	0.13	358	●
5.55	57	93	0.13	359	●
5.56	57	93	0.13	360	●
5.6	57	93	0.13	361	●
5.65	57	93	0.13	362	●
5.7	57	93	0.14	364	●
5.8	57	93	0.14	367	●
5.9	57	93	0.14	369	●
6	57	93	0.14	371	●
6.1	63	101	0.15	373	●
6.2	63	101	0.15	375	●
6.3	63	101	0.15	377	●
6.35	63	101	0.15	378	●
6.4	63	101	0.16	379	●
6.5	63	101	0.16	381	●
6.6	63	101	0.16	383	●
6.7	63	101	0.16	385	●
6.75	63	101	0.16	386	●
6.8	69	109	0.17	387	●
6.9	69	109	0.17	389	●
7	69	109	0.17	391	●
7.1	69	109	0.18	393	●
7.2	69	109	0.18	396	●
7.3	69	109	0.18	398	●
7.4	69	109	0.18	400	●
7.5	69	109	0.19	402	●
7.55	69	109	0.19	403	●
7.6	75	117	0.19	405	●
7.7	75	117	0.19	407	●
7.8	75	117	0.19	409	●
7.9	75	117	0.2	411	●

			Cutting material	HSS	
			Surface	Vaporised	
mm	mm	mm	f steel 700 ● (mm/r)	11020... Ident. No.	
7.94	75	117	0.2	412	●
8	75	117	0.2	414	●
8.1	75	117	0.2	416	●
8.2	75	117	0.2	418	●
8.3	75	117	0.2	420	●
8.4	75	117	0.2	423	●
8.5	75	117	0.21	425	●
8.6	81	125	0.21	427	●
8.7	81	125	0.21	429	●
8.75	81	125	0.21	431	●
8.8	81	125	0.21	432	●
8.9	81	125	0.21	434	●
9	81	125	0.21	436	●
9.1	81	125	0.21	438	●
9.2	81	125	0.21	441	●
9.3	81	125	0.21	443	●
9.4	81	125	0.21	445	●
9.5	81	125	0.22	447	●
9.52	81	125	0.22	448	●
9.6	87	133	0.22	450	●
9.7	87	133	0.22	452	●
9.8	87	133	0.22	454	●
9.9	87	133	0.22	456	●
10	87	133	0.22	459	●
10.1	87	133	0.22	460	●
10.2	87	133	0.22	461	●
10.25	87	133	0.22	462	●
10.3	87	133	0.22	463	●
10.4	87	133	0.22	465	●
10.5	87	133	0.23	466	●
10.6	87	133	0.23	467	●
10.7	94	142	0.23	468	●
10.72	94	142	0.23	469	●
10.8	94	142	0.23	471	●
10.9	94	142	0.23	472	●
11	94	142	0.23	473	●
11.1	94	142	0.23	474	●
11.2	94	142	0.23	476	●
11.3	94	142	0.23	478	●
11.4	94	142	0.23	479	●
11.5	94	142	0.24	480	●
11.6	94	142	0.24	482	●
11.7	94	142	0.24	483	●
11.8	94	142	0.24	485	●
11.9	101	151	0.24	486	●
12	101	151	0.24	488	●
12.1	101	151	0.24	489	●
12.2	101	151	0.24	490	●
12.3	101	151	0.24	492	●
12.4	101	151	0.24	493	●
12.5	101	151	0.25	494	●
12.6	101	151	0.25	495	●
12.7	101	151	0.25	496	●
12.8	101	151	0.25	498	●
12.9	101	151	0.25	499	●
13	101	151	0.25	500	●
13.25	108	160	0.25	503	●
13.5	108	160	0.26	507	●
13.75	108	160	0.26	510	●
14	108	160	0.26	514	●
14.25	114	169	0.26	517	●
14.5	114	169	0.27	521	●
14.75	114	169	0.27	525	●
15	114	169	0.27	528	●
15.25	120	178	0.27	532	●
15.5	120	178	0.28	536	●
15.75	120	178	0.28	539	●
16	120	178	0.28	543	●
16.5	125	187	0.28	550	●
17	125	187	0.29	557	●
17.5	130	196	0.29	561	●
18	130	196	0.3	564	●
18.5	135	205	0.3	567	●
19	135	205	0.3	570	●
19.5	140	214	0.31	574	●
20	140	214	0.31	577	●

Prod. Gr. 1AA

ATORN Coated twist drill bit, type N, HSS (DIN 338)

For universal use up to 1,000 N/mm²

HSS | TiN | Typ N | 118° | HA

No. 11022

No. 11066

p. 9 p. 11 p. 12 p. 123

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- **No. 11022:** twist drill with universal standard geometry
- **No. 11066:** Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- TiN coating for increased requirements in service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20		10		50	45	40	35	**40**	**30**	20	10	25					

			Cutting material	HSS		HSS	
			Surface	TiN		Uncoated	
			Surface of the head	-		TiN	
mm	mm	mm	f steel 700 ● (mm/r)	11066... Ident. No.		11022... Ident. No.	
1	12	34	0.03	081	●	600	●
1.1	14	36	0.04	091	●	602	●
1.2	16	38	0.04	101	●	604	●
1.25	16	38	0.04	105	●	-	-
1.3	16	38	0.04	111	●	606	●
1.4	18	40	0.04	121	●	608	●
1.45	18	40	0.04	125	●	-	-
1.5	18	40	0.04	131	●	610	●
1.6	20	43	0.04	141	●	612	●
1.7	20	43	0.04	151	●	614	●
1.8	22	46	0.04	161	●	616	●
1.9	22	46	0.05	171	●	618	●
2	24	49	0.05	181	●	620	●
2.05	24	49	0.05	185	●	-	-
2.1	24	49	0.05	192	●	622	●
2.15	24	49	0.05	195	●	-	-
2.2	27	53	0.05	202	●	624	●
2.3	27	53	0.05	210	●	626	●
2.4	30	57	0.05	220	●	628	●
2.5	30	57	0.05	230	●	630	●
2.6	30	57	0.06	240	●	632	●
2.7	33	61	0.06	250	●	634	●
2.8	33	61	0.06	260	●	636	●
2.9	33	61	0.06	270	●	638	●
3	33	61	0.06	280	●	640	●
3.1	36	65	0.06	282	●	642	●
3.2	36	65	0.07	286	●	644	●
3.3	36	65	0.07	289	●	646	●
3.4	39	70	0.07	291	●	648	●
3.5	39	70	0.07	293	●	650	●
3.6	39	70	0.08	296	●	652	●
3.7	39	70	0.08	299	●	654	●
3.8	43	75	0.08	302	●	656	●
3.9	43	75	0.09	305	●	658	●
4	43	75	0.09	310	●	660	●
4.1	43	75	0.09	314	●	662	●
4.2	43	75	0.09	316	●	664	●
4.3	47	80	0.1	319	●	666	●
4.4	47	80	0.1	324	●	668	●
4.5	47	80	0.1	326	●	670	●
4.6	47	80	0.11	329	●	672	●
4.7	47	80	0.11	332	●	674	●
4.8	52	86	0.11	335	●	676	●
4.9	52	86	0.11	337	●	678	●
5	52	86	0.12	341	●	680	●
5.1	52	86	0.12	344	●	682	●
5.2	52	86	0.12	349	●	684	●
5.3	52	86	0.12	352	●	686	●
5.4	57	93	0.13	355	●	688	●
5.5	57	93	0.13	358	●	690	●
5.6	57	93	0.13	361	●	692	●
5.7	57	93	0.14	364	●	694	●
5.8	57	93	0.14	367	●	696	●
5.9	57	93	0.14	369	●	698	●
6	57	93	0.14	371	●	700	●

			Cutting material	HSS		HSS	
			Surface	TiN		Uncoated	
			Surface of the head	-		TiN	
mm	mm	mm	f steel 700 ● (mm/r)	11066... Ident. No.		11022... Ident. No.	
6.1	63	101	0.15	373	●	702	●
6.2	63	101	0.15	375	●	704	●
6.3	63	101	0.15	377	●	706	●
6.4	63	101	0.16	379	●	708	●
6.5	63	101	0.16	381	●	710	●
6.6	63	101	0.16	383	●	712	●
6.7	63	101	0.16	385	●	714	●
6.8	69	109	0.17	387	●	716	●
6.9	69	109	0.17	389	●	718	●
7	69	109	0.17	391	●	720	●
7.1	69	109	0.18	393	●	722	●
7.2	69	109	0.18	396	●	724	●
7.3	69	109	0.18	398	●	726	●
7.4	69	109	0.18	400	●	728	●
7.5	69	109	0.19	402	●	730	●
7.6	75	117	0.19	405	●	732	●
7.7	75	117	0.19	407	●	734	●
7.8	75	117	0.19	409	●	736	●
7.9	75	117	0.2	411	●	738	●
8	75	117	0.2	414	●	740	●
8.1	75	117	0.2	416	●	742	●
8.2	75	117	0.2	418	●	744	●
8.3	75	117	0.2	420	●	746	●
8.4	75	117	0.2	423	●	748	●
8.5	75	117	0.21	425	●	750	●
8.6	81	125	0.21	427	●	752	●
8.7	81	125	0.21	429	●	754	●
8.8	81	125	0.21	432	●	756	●
8.9	81	125	0.21	434	●	758	●
9	81	125	0.21	436	●	760	●
9.1	81	125	0.21	438	●	762	●
9.2	81	125	0.21	441	●	764	●
9.3	81	125	0.21	443	●	766	●
9.4	81	125	0.21	445	●	768	●
9.5	81	125	0.22	447	●	770	●
9.6	87	133	0.22	450	●	772	●
9.7	87	133	0.22	452	●	774	●
9.8	87	133	0.22	454	●	776	●
9.9	87	133	0.22	456	●	778	●
10	87	133	0.22	459	●	780	●
10.1	87	133	0.22	460	●	782	●
10.2	87	133	0.22	461	●	784	●
10.3	87	133	0.22	463	●	786	●
10.4	87	133	0.22	465	●	788	●
10.5	87	133	0.23	466	●	790	●
10.6	87	133	0.23	467	●	792	●
10.7	94	142	0.23	468	●	794	●
10.8	94	142	0.23	471	●	796	●
10.9	94	142	0.23	472	●	798	●
11	94	142	0.23	473	●	800	●
11.1	94	142	0.23	474	●	802	●
11.2	94	142	0.23	476	●	804	●
11.3	94	142	0.23	478	●	806	●
11.4	94	142	0.23	479	●	808	●
11.5	94	142	0.24	480	●	810	●

			Cutting material	HSS		HSS	
			Surface	TiN		Uncoated	
			Surface of the head	-		TiN	
mm	mm	mm	f steel 700 ● (mm/r)	11066... Ident. No.		11022... Ident. No.	
11.6	94	142	0.24	482	●	812	●
11.7	94	142	0.24	483	●	814	●
11.8	94	142	0.24	485	●	816	●
11.9	101	151	0.24	486	●	818	●
12	101	151	0.24	488	●	820	●
12.1	101	151	0.24	489	●	822	●
12.2	101	151	0.24	490	●	824	●
12.3	101	151	0.24	492	●	826	●
12.4	101	151	0.24	493	●	828	●
12.5	101	151	0.25	494	●	830	●
12.6	101	151	0.25	495	●	832	●
12.7	101	151	0.25	496	●	834	●
12.8	101	151	0.25	498	●	836	●
12.9	101	151	0.25	499	●	838	●
13	101	151	0.25	500	●	840	●

			Cutting material	HSS		HSS	
			Surface	TiN		Uncoated	
			Surface of the head	-		TiN	
mm	mm	mm	f steel 700 ● (mm/r)	11066... Ident. No.		11022... Ident. No.	
13.25	108	160	0.25	-	-	842	●
13.5	108	160	0.26	505	●	844	●
13.75	108	160	0.26	-	-	846	●
14	108	160	0.26	514	●	848	●
14.25	114	169	0.26	-	-	850	●
14.5	114	169	0.27	521	●	852	●
14.75	114	169	0.27	-	-	854	●
15	114	169	0.27	528	●	856	●
15.25	120	178	0.27	-	-	858	●
15.5	120	178	0.28	536	●	860	●
15.75	120	178	0.28	-	-	862	●
16	120	178	0.28	543	●	864	●
16.5	125	187	0.28	550	●	-	-
17	125	187	0.29	557	●	-	-
18	130	196	0.3	561	●	-	-

Prod. Gr. 1AA

ORION® Twist drill type N HSS (DIN 338)

for universal use up to 1000 N/mm²

HSS | TiN | Typ N | 118° | HA

No. 11031

No. 11041

p. 9 p. 11 p. 12 p. 123

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility

- **No. 11031:** TiN coating for increased service life requirements
- **No. 11041:** Vaporisation ensures favourable adherence of coolant

Delivery:
box quantity: drill Ø 1.0–6.0 mm = 10 units (price per unit)

Notes:
No. 11041: steam-treated drill Ø >2.4 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11031	40	20		10		50	45	40	35	40	30	20	10	30	10				
11041	30	20		10		50	45	40	35	40	30	20	10	25					

			Cutting material	HSS		HSS	
			Surface	TiN		Vaporised	
mm	mm	mm	f steel 700 ● (mm/r)	11031... Ident. No.		11041... Ident. No.	
1	12	34	0.03	081	●	081	●
1.1	14	36	0.03	091	●	-	-
1.1	14	36	0.04	-	-	091	●
1.2	16	38	0.04	101	●	101	●
1.3	16	38	0.04	111	●	111	●
1.4	18	40	0.04	121	●	121	●
1.5	18	40	0.04	131	●	131	●
1.6	20	43	0.04	141	●	141	●
1.7	20	43	0.04	151	●	151	●
1.8	22	46	0.04	161	●	161	●
1.9	22	46	0.05	171	●	171	●
2	24	49	0.05	181	●	181	●
2.1	24	49	0.05	192	●	192	●
2.2	27	53	0.05	202	●	202	●
2.3	27	53	0.05	210	●	210	●
2.4	30	57	0.05	220	●	220	●
2.5	30	57	0.05	230	●	230	●
2.6	30	57	0.06	240	●	240	●
2.7	33	61	0.06	250	●	250	●
2.8	33	61	0.06	260	●	260	●
2.9	33	61	0.06	270	●	270	●
3	33	61	0.06	280	●	280	●
3.1	36	65	0.06	282	●	282	●
3.2	36	65	0.07	286	●	286	●
3.3	36	65	0.07	289	●	289	●
3.4	39	70	0.07	291	●	291	●
3.5	39	70	0.07	293	●	293	●
3.6	39	70	0.08	296	●	296	●

			Cutting material	HSS		HSS	
			Surface	TiN		Vaporised	
mm	mm	mm	f steel 700 ● (mm/r)	11031... Ident. No.		11041... Ident. No.	
3.7	39	70	0.08	299	●	299	●
3.8	43	75	0.08	302	●	302	●
3.9	43	75	0.09	305	●	305	●
4	43	75	0.09	310	●	310	●
4.1	43	75	0.09	314	●	314	●
4.2	43	75	0.09	316	●	316	●
4.3	47	80	0.1	319	●	319	●
4.4	47	80	0.1	324	●	324	●
4.5	47	80	0.1	326	●	326	●
4.6	47	80	0.11	329	●	329	●
4.7	47	80	0.11	332	●	332	●
4.8	52	86	0.11	335	●	335	●
4.9	52	86	0.11	337	●	337	●
5	52	86	0.12	341	●	341	●
5.1	52	86	0.12	344	●	344	●
5.2	52	86	0.12	349	●	349	●
5.3	52	86	0.12	352	●	352	●
5.4	57	93	0.13	355	●	355	●
5.5	57	93	0.13	358	●	358	●
5.6	57	93	0.13	361	●	361	●
5.7	57	93	0.14	364	●	364	●
5.8	57	93	0.14	367	●	367	●
5.9	57	93	0.14	369	●	369	●
6	57	93	0.14	371	●	371	●
6.1	63	101	0.15	373	●	373	●
6.2	63	101	0.15	375	●	375	●
6.3	63	101	0.15	377	●	377	●
6.4	63	101	0.16	379	●	379	●

Cutting material				HSS		HSS	
Surface				TiN		Vaporised	
mm	mm	mm	f steel 700 ● (mm/r)	11031... Ident. No.		11041... Ident. No.	
6.5	63	101	0.16	381	●	381	●
6.6	63	101	0.16	383	●	383	●
6.7	63	101	0.16	385	●	385	●
6.8	69	109	0.17	387	●	387	●
6.9	69	109	0.17	389	●	389	●
7	69	109	0.17	391	●	391	●
7.1	69	109	0.18	393	●	393	●
7.2	69	109	0.18	396	●	396	●
7.3	69	109	0.18	398	●	398	●
7.4	69	109	0.18	400	●	400	●
7.5	69	109	0.19	402	●	402	●
7.6	75	117	0.19	405	●	405	●
7.7	75	117	0.19	407	●	407	●
7.8	75	117	0.19	409	●	409	●
7.9	75	117	0.2	411	●	411	●
8	75	117	0.2	414	●	414	●
8.1	75	117	0.2	416	●	416	●
8.2	75	117	0.2	418	●	418	●
8.3	75	117	0.2	420	●	420	●
8.4	75	117	0.2	423	●	423	●
8.5	75	117	0.21	425	●	425	●
8.6	81	125	0.21	427	●	427	●
8.7	81	125	0.21	429	●	429	●

Cutting material				HSS		HSS	
Surface				TiN		Vaporised	
mm	mm	mm	f steel 700 ● (mm/r)	11031... Ident. No.		11041... Ident. No.	
8.8	81	125	0.21	432	●	432	●
8.9	81	125	0.21	434	●	434	●
9	81	125	0.21	436	●	436	●
9.1	81	125	0.21	438	●	438	●
9.2	81	125	0.21	441	●	441	●
9.3	81	125	0.21	443	●	443	●
9.4	81	125	0.21	445	●	445	●
9.5	81	125	0.22	447	●	447	●
9.6	87	133	0.22	450	●	450	●
9.7	87	133	0.22	452	●	452	●
9.8	87	133	0.22	454	●	454	●
9.9	87	133	0.22	456	●	456	●
10	87	133	0.22	459	●	459	●
10.2	87	133	0.22	461	●	461	●
10.5	87	133	0.23	466	●	466	●
10.75	94	142	0.23	-	-	470	●
11	94	142	0.23	473	●	473	●
11.5	94	142	0.24	480	●	480	●
11.75	94	142	0.24	-	-	484	●
12	101	151	0.24	488	●	488	●
12.5	101	151	0.25	494	●	494	●
13	101	151	0.25	500	●	500	●

Prod. Gr. 1AP

ORION® Twist drill type N HSS, roll forged (DIN 338)

for universal use up to 1000 N/mm²

HSS | Typ N | 118° | HA

Application:
for drilling on hand-guided drills and CNC machines.

Execution:
- Twist drill with universal standard geometry, roll forged

Advantage:
- excellent all-round properties and precise cutting pattern
- vaporisation ensures favourable adherence of coolant
- the drill is perfectly suited to machining on hand-operated machines due to its high degree of resilience
- very economical tool

Delivery:
packing unit: drill bits up to Ø10, 20 mm = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20		10		50	45	40	35	**40**	**30**	20	10	25					

Cutting material			HSS	
Surface			Vaporised	
mm	mm	mm	f steel 700 ● (mm/r)	11040... Ident. No.	
2	24	49	0.05	181	●
2.1	24	49	0.05	192	●
2.2	27	53	0.05	202	●
2.3	27	53	0.05	210	●
2.4	30	57	0.05	220	●
2.5	30	57	0.05	230	●
2.6	30	57	0.06	240	●
2.7	33	61	0.06	250	●
2.8	33	61	0.06	260	●
2.9	33	61	0.06	270	●
3	33	61	0.06	280	●
3.1	36	65	0.06	282	●
3.2	36	65	0.07	286	●
3.3	36	65	0.07	289	●
3.4	39	70	0.07	291	●
3.5	39	70	0.07	293	●
3.6	39	70	0.08	296	●
3.7	39	70	0.08	299	●
3.8	43	75	0.08	302	●
3.9	43	75	0.09	305	●
4	43	75	0.09	310	●
4.1	43	75	0.09	314	●
4.2	43	75	0.09	316	●
4.3	47	80	0.1	319	●
4.4	47	80	0.1	324	●
4.5	47	80	0.1	326	●
4.6	47	80	0.11	329	●
4.7	47	80	0.11	332	●
4.8	52	86	0.11	335	●
4.9	52	86	0.11	337	●
5	52	86	0.12	341	●
5.1	52	86	0.12	344	●
5.2	52	86	0.12	349	●
5.3	52	86	0.12	352	●
5.4	57	93	0.13	355	●
5.5	57	93	0.13	358	●
5.6	57	93	0.13	361	●
5.7	57	93	0.14	364	●
5.8	57	93	0.14	367	●
5.9	57	93	0.14	369	●
6	57	93	0.14	371	●
6.1	63	101	0.15	373	●
6.2	63	101	0.15	375	●
6.3	63	101	0.15	377	●
6.4	63	101	0.16	379	●
6.5	63	101	0.16	381	●
6.6	63	101	0.16	383	●
6.7	63	101	0.16	385	●

Cutting material			HSS	
Surface			Vaporised	
mm	mm	mm	f steel 700 ● (mm/r)	11040... Ident. No.	
6.8	69	109	0.17	387	●
6.9	69	109	0.17	389	●
7	69	109	0.17	391	●
7.1	69	109	0.18	393	●
7.2	69	109	0.18	396	●
7.3	69	109	0.18	398	●
7.4	69	109	0.18	400	●
7.5	69	109	0.19	402	●
7.6	75	117	0.19	405	●
7.7	75	117	0.19	407	●
7.8	75	117	0.19	409	●
7.9	75	117	0.2	411	●
8	75	117	0.2	414	●
8.1	75	117	0.2	416	●
8.2	75	117	0.2	418	●
8.3	75	117	0.2	420	●
8.4	75	117	0.2	423	●
8.5	75	117	0.21	425	●
8.6	81	125	0.21	427	●
8.7	81	125	0.21	429	●
8.8	81	125	0.21	432	●
8.9	81	125	0.21	434	●
9	81	125	0.21	436	●
9.1	81	125	0.21	438	●
9.2	81	125	0.21	441	●
9.3	81	125	0.21	443	●
9.4	81	125	0.21	445	●
9.5	81	125	0.22	447	●
9.6	87	133	0.22	450	●
9.7	87	133	0.22	452	●
9.8	87	133	0.22	454	●
9.9	87	133	0.22	456	●
10	87	133	0.22	459	●
10.2	87	133	0.22	461	●
10.5	87	133	0.23	466	●
11	94	142	0.23	473	●
11.5	94	142	0.24	480	●
11.75	94	142	0.24	484	●
12	101	151	0.24	488	●
12.25	101	151	0.24	491	●
12.5	101	151	0.25	494	●
13	101	151	0.25	500	●
13.5	108	160	0.26	507	●
14	108	160	0.26	514	●
14.5	114	169	0.27	521	●
15	114	169	0.27	528	●
15.5	120	178	0.28	536	●
16	120	178	0.28	543	●

Prod. Gr. 1AP

ATORN Twist drill set type N HSS (DIN 338)

In assortment case

HSS | TiN | Typ N | 118° | HA

Application:
Proven standard geometry for universal use in the material groups of steel, non-ferrous metals and cast metal up to a strength of 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- Long-term proven cutting geometry: excellent all-round properties and precise cutting pattern
- Universal use up to 1000 N/mm²
- Steam treatment ensures a good level of adhesion to the drill and increases the service life

Delivery:
10 units Ø1–6, 5 units Ø6.5–10

Ident. No. 030

Ident. No. 031

Ident. No. 032

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20		10		40	60	70	45	**40**	**30**	20	10	25					

			Surface	Vaporised		Uncoated		TiN	
			Surface of the head			TiN			
			Cutting material	HSS		HSS		HSS	
			Type	N		N		N	
Included in delivery	Pitch of drill Ø	Number of pieces in assortment/ set (PCS)		**11042...** Ident. No.		**11042...** Ident. No.		**11042...** Ident. No.	
1.0-10.0 mm	0.5 mm	150		**030**	●	**031**	●	**032**	●

Prod. Gr. 1AA

ATORN Twist drill set HSS/E (DIN 338)

In box

HSS | Typ N | 118° | HA

Application:
Proven standard geometry for universal use in the material groups of steel, non-ferrous metals and cast metal up to a strength of 1000 N/mm².

Execution:
- **Ident. No. 011–081:** Twist drill with universal standard geometry
- **Ident. No. 111–271:** twist drill with universal standard geometry

Advantage:
- Universal use up to 1000 N/mm²
- **Ident. No. 011–081:**
  - long-term proven cutting geometry: excellent all-round properties and precise cutting behaviour
  - steam treatment ensures good adhesion to the drill and increases the service life
  - Robust and user-friendly plastic box ensures reliable protection and good accessibility
- **Ident. No. 111–271:**
  - Long-term proven cutting geometry: excellent all-round properties and precise cutting behaviour
  - TIN head coating ensures long service lives and profitability
  - the robust and user-friendly metal box guarantees reliable protection and easy access

Ident. No. 061

Ident. No. 261

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20		10		40	60	70	45	**40**	**30**	20	10	25					

			Surface	Vaporised		
			Surface of the head		TiN	
			Cutting material	HSS	HSS	
			Type	N	N	
Included in delivery	Pitch of drill Ø	Number of pieces in assortment/set (PCS)		**11042...** Ident. No.	**11042...** Ident. No.	
6.0-10.0 mm	0.1 mm	41		**021** ●	**121**	●

			Surface	Vaporised			
			Surface of the head			TiN	
			Cutting material	HSS		HSS	
			Type	N		N	
Included in delivery	Pitch of drill Ø	Number of pieces in assortment/set (PCS)	11042... Ident. No.			11042... Ident. No.	
1.0-10.0 mm	0.1 mm	91	081	●		-	-
1.0-10.0 mm	0.5 mm	19	051	●		251	●
1.0-10.5 mm	0.5 mm + core-hole drill	24	061	●		261	●
1.0-13.0 mm	0.5 mm	25	071	●		271	●
1.0-5.9 mm	0.1 mm	50	011	●		111	●

11042 111 = Prod. Gr. 1AA, 11042 121 = Prod. Gr. 1AA, 11042 251 = Prod. Gr. 1AA, 11042 261 = Prod. Gr. 1AA, 11042 271 = Prod. Gr. 1AA, 11042 011 = Prod. Gr. 112, 11042 021 = Prod. Gr. 112, 11042 051 = Prod. Gr. 112, 11042 061 = Prod. Gr. 112, 11042 071 = Prod. Gr. 112, 11042 081 = Prod. Gr. 112

ORION® Twist drill set HSS/E (DIN 338)

In box

Application:

No. 11043: For drilling on hand-guided drills and CNC machines.

No. 11044–11047: Proven standard geometry for universal use in the material groups of steel, non-ferrous metals and cast metal up to a strength of 1000 N/mm².

Execution:

- **No. 11043:** Twist drill with universal standard geometry, roll forged
- **No. 11044–11047:** Twist drill with universal standard geometry

Advantage:

- **No. 11043:**
  - Long-term proven cutting geometry: excellent all-round properties and precise cutting behaviour
  - Steam treatment ensures excellent adhesion to the drill bit and increases the service life
- **No. 11044:**
  - universal use up to a strength of 1000 N/mm²
  - steam treatment ensures good adhesion to the drill and increases the service life
- **No. 11044–11047:** long-term proven cutting geometry: excellent all-round properties and precise cutting behaviour

No. 11043 011, 11044 011, 11047 011
D = 1.0–5.9 mm, increasing by 0.1 mm

No. 11043 021, 11044 021, 11047 021
D = 6.0-10.0 mm, increasing by 0.1 mm

No. 11043 051, 11044 051, 11047 051
D = 1.0-10.0mm, increasing by 0.5 mm

No. 11043 061, 11044 061, 11047 061
D = 1.0–10.5 mm, increasing by 0.5 mm

No. 11043 071, 11044 071, 11047 071
D = 1.0-13.0 mm, increasing by 0.5 mm

No. 11044 081, 11047 081
D = 1.0-10.0 mm, increasing by 0.1 mm

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11043011-081	30	20		10		40	60	70	45	40	30	20	10	25					
11044011-081	30	20		10		50	45	40	35	40	30	20	10	25					
11047011-081	40	20	10	10		50	45	40	35	40	30	20	10	30	10				

			Surface	Vaporised		Vaporised		TiN	
			Cutting material	HSS		HSS		HSS	
			Type	N, roll forged		N		N	
Included in delivery	Pitch of drill Ø	Number of pieces in assortment/set (PCS)	11043... Ident. No.			11044... Ident. No.		11047... Ident. No.	
1,0-5,9	0.1 mm	50	011	●		011	●	011	●
6,01-10,0	0.1 mm	41	021	●		-	-	-	-
1,0-10,0	0.5 mm	19	051	●		051	●	051	●
1,0-10,5	0.5 mm	20	061	●		-	-	-	-
1,0-13,0	0.5 mm	25	071	●		071	●	071	●
6,0-10,0	0.1 mm	41	-	-		021	●	021	●
1,0-10,5	0.5 mm + core-hole drill	24	-	-		061	●	061	●
1,0-10,0	0.1 mm	91	-	-		081	●	081	●

Prod. Gr. 1AP

ATORN Twist drill type N HSS (DIN 340)

for universal use up to 1000 N/mm²

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Vaporisation ensures favourable adherence of coolant

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20		10		40	60	50	35	**30**	**20**	20	10	25					

Cutting material			HSS			Cutting material			HSS		
Surface			Vaporised			Surface			Vaporised		
mm	mm	mm	f steel 700 ● (mm/r)	11056... Ident. No.		mm	mm	mm	f steel 700 ● (mm/r)	11056... Ident. No.	
0.6	15	35	0.03	006	●	5.1	87	132	0.12	119	●
0.8	29	46	0.03	008	●	5.2	87	132	0.12	121	●
1	33	56	0.03	030	●	5.3	87	132	0.12	123	●
1.1	37	60	0.04	031	●	5.4	91	139	0.13	124	●
1.2	41	65	0.04	033	●	5.5	91	139	0.13	125	●
1.3	41	65	0.04	035	●	5.6	91	139	0.13	127	●
1.4	45	70	0.04	037	●	5.7	91	139	0.14	128	●
1.5	45	70	0.04	039	●	5.8	91	139	0.14	130	●
1.6	50	76	0.04	042	●	5.9	91	139	0.14	131	●
1.7	50	76	0.04	044	●	6	91	139	0.14	133	●
1.8	53	80	0.04	046	●	6.1	97	148	0.15	134	●
1.9	53	80	0.05	048	●	6.2	97	148	0.15	135	●
2	56	85	0.05	051	●	6.3	97	148	0.15	137	●
2.1	56	85	0.05	053	●	6.4	97	148	0.16	139	●
2.2	59	90	0.05	055	●	6.5	97	148	0.16	140	●
2.3	59	90	0.05	057	●	6.6	97	148	0.16	141	●
2.4	62	95	0.05	060	●	6.7	97	148	0.16	142	●
2.5	62	95	0.05	062	●	6.8	102	156	0.17	144	●
2.6	62	95	0.06	064	●	7	102	156	0.17	146	●
2.7	66	100	0.06	066	●	7.5	102	156	0.19	153	●
2.8	66	100	0.06	069	●	7.7	109	165	0.19	156	●
2.9	66	100	0.06	071	●	7.8	109	165	0.19	158	●
3	66	100	0.06	073	●	8	109	165	0.2	161	●
3.1	69	106	0.06	075	●	8.1	109	165	0.2	162	●
3.2	69	106	0.07	078	●	8.2	109	165	0.2	163	●
3.3	69	106	0.07	080	●	8.4	109	165	0.2	167	●
3.4	73	112	0.07	082	●	8.5	109	165	0.21	168	●
3.5	73	112	0.07	084	●	9	115	175	0.21	175	●
3.6	73	112	0.08	087	●	9.5	115	175	0.22	182	●
3.7	73	112	0.08	089	●	9.8	121	184	0.22	187	●
3.8	78	119	0.08	091	●	10	121	184	0.22	190	●
3.9	78	119	0.09	093	●	10.2	121	184	0.22	192	●
4	78	119	0.09	096	●	10.5	121	184	0.23	197	●
4.1	78	119	0.09	098	●	11	128	197	0.23	204	●
4.2	78	119	0.09	100	●	11.5	128	197	0.24	207	●
4.3	82	126	0.1	102	●	12	134	205	0.24	211	●
4.5	82	126	0.1	107	●	12.5	134	205	0.25	214	●
4.6	82	126	0.11	109	●	13	134	205	0.25	217	●
4.7	82	126	0.11	111	●	13.5	140	214	0.26	221	●
4.8	87	132	0.11	114	●	14	140	214	0.26	224	●
4.9	87	132	0.11	116	●	15	144	220	0.27	230	●
5	87	132	0.12	118	●	16	149	227	0.28	235	●

Prod. Gr. 1AA

ORION® Twist drill bit, type N, HSS (DIN 340)

For universal use up to 1,000 N/mm²

HSS | Typ N | 118° | HA

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Vaporisation ensures favourable adherence of coolant

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20		10		40	60	50	35	**30**	**20**	20	10	25					

Cutting material			HSS		
Surface			Vaporised		
mm	mm	mm	f steel 700 ● (mm/r)	11059... Ident. No.	
1	33	56	0.03	030	●
1.5	45	70	0.04	039	●
2	56	85	0.05	051	●
2.5	62	95	0.05	062	●
3	66	100	0.06	073	●
3.3	69	106	0.07	080	●
3.5	73	112	0.07	084	●
4	78	119	0.09	096	●
4.2	78	119	0.09	100	●
4.5	82	126	0.1	107	●

Cutting material			HSS		
Surface			Vaporised		
mm	mm	mm	f steel 700 ● (mm/r)	11059... Ident. No.	
5	87	132	0.12	118	●
5.5	91	139	0.13	125	●
6	91	139	0.14	133	●
6.5	97	148	0.16	140	●
7	102	156	0.17	146	●
7.5	102	156	0.19	153	●
8	109	165	0.2	161	●
8.5	109	165	0.21	168	●
9	115	175	0.21	175	●
13	134	205	0.25	217	●

Prod. Gr. 1AP

ATORN Twist drill type N HSS (DIN 1869)

for universal use up to 1000 N/mm²

HSS | Typ N | 118° | HA

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Vaporisation ensures favourable adherence of coolant

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	20	10				**40**	50	**40**	30	**30**	20	10		20					

Cutting material			HSS		
Surface			Vaporised		
mm	mm	mm	f steel 700 ● (mm/r)	11063... Ident. No.	
1.5	80	125	0.04	005	●
1.5	100	160	0.04	010	●
2	80	125	0.05	015	●
2	100	160	0.05	020	●
2.5	80	125	0.05	025	●
2.5	100	160	0.05	030	●
3	100	160	0.06	045	●
3	150	200	0.06	050	●
3	200	250	0.06	055	●
3.5	100	160	0.07	060	●
3.5	200	250	0.07	070	●
4	100	160	0.09	075	●
4	150	200	0.09	080	●
4	200	250	0.09	085	●
4	250	315	0.09	090	●
4.5	100	160	0.1	095	●
4.5	150	200	0.1	100	●
4.5	200	250	0.1	105	●
4.5	250	315	0.1	110	●

Cutting material			HSS		
Surface			Vaporised		
mm	mm	mm	f steel 700 ● (mm/r)	11063... Ident. No.	
5	100	160	0.12	115	●
5	150	200	0.12	120	●
5	200	250	0.12	125	●
5	250	315	0.12	130	●
5	300	400	0.12	135	●
5.5	150	200	0.13	140	●
5.5	200	250	0.13	145	●
5.5	250	315	0.13	150	●
6	150	200	0.14	155	●
6	200	250	0.14	160	●
6	250	315	0.14	165	●
6	300	400	0.14	170	●
6.5	150	200	0.16	180	●
6.5	200	250	0.16	185	●
6.5	250	315	0.16	190	●
7	150	200	0.17	195	●
7	200	250	0.17	200	●
7	250	315	0.17	205	●
7.5	150	200	0.19	215	●

			Cutting material	HSS	
			Surface	Vaporised	
mm	mm	mm	f steel 700 ● (mm/r)	11063... Ident. No.	
7.5	200	250	0.19	220	●
7.5	250	315	0.19	225	●
8	200	250	0.2	235	●
8	250	315	0.2	240	●
8	300	400	0.2	250	●
8.5	200	250	0.21	260	●
8.5	250	315	0.21	265	●
9	200	250	0.21	275	●
9	250	315	0.21	280	●
9	300	400	0.21	285	●
9.5	200	250	0.22	290	●
9.5	250	315	0.22	295	●
10	200	250	0.22	300	●
10	250	315	0.22	305	●

			Cutting material	HSS	
			Surface	Vaporised	
mm	mm	mm	f steel 700 ● (mm/r)	11063... Ident. No.	
10	300	400	0.22	315	●
10.5	200	250	0.23	320	●
10.5	250	315	0.23	325	●
10.5	300	400	0.23	335	●
11	200	250	0.23	340	●
11	250	315	0.23	345	●
11	300	400	0.23	355	●
12	200	250	0.24	360	●
12	250	315	0.24	365	●
12	300	400	0.24	375	●
13	250	315	0.25	380	●
13	300	400	0.25	385	●
14	250	315	0.26	390	●
14	300	400	0.26	395	●

Prod. Gr. 112

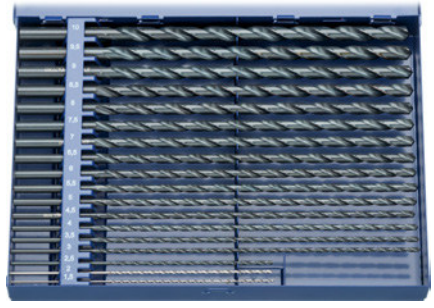
ATORN Twist drill set type N HSS, steam-treated (DIN 1869)

for universal use up to 1000 N/mm²

Application:
Proven standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry
- Ø 2.0 mm cutting length 100 mm, overall length 160 mm
- Ø 3.0 mm–10.0 mm cutting length 200 mm, overall length 250 mm

Advantage:
- Excellent all-round properties and precise cutting pattern
- Steam treatment increases service life



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	20	10				**40**	50	**40**	30	**30**	20	10		20					

		Surface	Vaporised	
		Cutting material	HSS	
		Type	N	
Included in delivery	Pitch of drill Ø	Number of pieces in assortment/set (PCS)	11063... Ident. No.	
1.5-10.0 mm	0.5 mm	19	900	●
2.0-10.0 mm	1 mm	9	910	●

Prod. Gr. 112

Twist drill bit type NV
For use in high-strength materials from 700 N/mm²

Application:
Series and single-part production on conventional and CNC machines for use in the steel, stainless steel, cast iron and special alloy material groups from a strength of 700 N/mm².

Advantage:
- Special geometry with reinforced core and increased heat resistance
- Use in high-strength material due to high cobalt content in the cutting material

Typ NV

ATORN Twist drill type NV HSSE (DIN 338)
for use in high-strength materials from 700 N/mm²

HSSE Co8 | Typ NV | 135° | HA

Application:
Geometry with reinforced core and increased thermal resistance for application from strengths upwards of 700 N/mm².

Execution:
- Twist drill with reinforced geometry

Advantage:
- excellent cutting durability owing to reinforced core geometry

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	20	10			45	35	40	30			30	7	6	6		

Cutting material				HSSE Co8	
			Surface	Uncoated	
mm	mm	mm	f steel 1300 ● (mm/r)	11026... Ident. No.	
1	12	34	0.03	081	●
1.1	14	36	0.03	091	●
1.2	16	38	0.03	101	●
1.3	16	38	0.03	111	●
1.4	18	40	0.03	121	●
1.5	18	40	0.03	131	●
1.6	20	43	0.03	141	●
1.7	20	43	0.03	151	●
1.8	22	46	0.03	161	●
1.9	22	46	0.03	171	●
2	24	49	0.03	181	●
2.1	24	49	0.03	192	●
2.2	27	53	0.04	202	●
2.3	27	53	0.04	210	●
2.4	30	57	0.04	220	●
2.5	30	57	0.04	230	●
2.6	30	57	0.04	240	●
2.7	33	61	0.04	250	●
2.8	33	61	0.04	260	●
2.9	33	61	0.04	270	●
3	33	61	0.04	280	●
3.1	36	65	0.04	282	●
3.2	36	65	0.04	286	●
3.3	36	65	0.04	289	●
3.4	39	70	0.05	291	●
3.5	39	70	0.05	293	●
3.6	39	70	0.05	296	●
3.7	39	70	0.05	299	●
3.8	43	75	0.05	302	●
3.9	43	75	0.05	305	●
4	43	75	0.05	310	●
4.1	43	75	0.05	314	●
4.2	43	75	0.05	316	●
4.3	47	80	0.06	319	●

Cutting material				HSSE Co8	
			Surface	Uncoated	
mm	mm	mm	f steel 1300 ● (mm/r)	11026... Ident. No.	
4.4	47	80	0.06	324	●
4.5	47	80	0.06	326	●
4.6	47	80	0.06	329	●
4.7	47	80	0.06	332	●
4.8	52	86	0.06	335	●
4.9	52	86	0.06	337	●
5	52	86	0.06	341	●
5.1	52	86	0.07	344	●
5.2	52	86	0.07	349	●
5.3	52	86	0.07	352	●
5.4	57	93	0.07	355	●
5.5	57	93	0.07	358	●
5.6	57	93	0.07	361	●
5.7	57	93	0.07	364	●
5.8	57	93	0.07	367	●
5.9	57	93	0.08	369	●
6	57	93	0.08	371	●
6.1	63	101	0.08	373	●
6.2	63	101	0.08	375	●
6.3	63	101	0.08	377	●
6.4	63	101	0.08	379	●
6.5	63	101	0.08	381	●
6.6	63	101	0.08	383	●
6.7	63	101	0.08	385	●
6.8	69	109	0.09	387	●
6.9	69	109	0.09	389	●
7	69	109	0.09	391	●
7.1	69	109	0.09	393	●
7.2	69	109	0.09	396	●
7.3	69	109	0.09	398	●
7.4	69	109	0.09	400	●
7.5	69	109	0.09	402	●
7.6	75	117	0.1	405	●
7.7	75	117	0.1	407	●

Cutting material				HSSE Co8	
			Surface	Uncoated	
mm	mm	mm	f steel 1300 ● (mm/r)	11026... Ident. No.	
7.8	75	117	0.1	409	●
7.9	75	117	0.1	411	●
8	75	117	0.1	414	●
8.1	75	117	0.1	416	●
8.2	75	117	0.1	418	●
8.3	75	117	0.1	420	●
8.4	75	117	0.1	423	●
8.5	75	117	0.11	425	●
8.6	81	125	0.11	427	●
8.7	81	125	0.11	429	●
8.8	81	125	0.11	432	●
8.9	81	125	0.11	434	●
9	81	125	0.11	436	●
9.1	81	125	0.11	438	●
9.2	81	125	0.11	441	●
9.3	81	125	0.11	443	●
9.4	81	125	0.11	445	●
9.5	81	125	0.12	447	●
9.6	87	133	0.12	450	●
9.7	87	133	0.12	452	●
9.8	87	133	0.12	454	●
9.9	87	133	0.12	456	●
10	87	133	0.12	459	●
10.1	87	133	0.12	460	●
10.2	87	133	0.12	461	●
10.5	87	133	0.13	466	●
11	94	142	0.13	473	●
11.5	94	142	0.14	480	●
11.8	94	142	0.14	485	●
12	101	151	0.14	488	●
12.1	101	151	0.14	489	●
12.5	101	151	0.15	494	●
13	101	151	0.15	500	●

Prod. Gr. 112

Twist drill bit type TLP
For universal use up to 1,300 N/mm²

Application:
Series and single-part production on conventional and CNC machines in the steel, (stainless steel), non-ferrous metals, cast iron and special alloy material groups up to a strength of 1,300 N/mm².

Advantage:
- Deep-hole profile with large chip spaces for optimised chip removal at greater drilling depths without venting
- Large chip space volume for excellent chip removal

Typ TLP

ATORN Twist drill type TLP HSS/HSSE (DIN 338)
With deep-hole profile for long-chipping materials

HSS | HSSE | TiAlN | Typ TLP | 130° | HA

No. 11021

No. 11027

No. 11033

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Application:
No. 11021: Geometry with deep-hole profile for application up to a strength of 1000 N/mm².
No. 11027–11033: Geometry with deep-hole profile for application up to a strength of 1300 N/mm².

Execution:
- Twist drill with deep-hole profile

Advantage:
- Deep-hole profile for optimised chip removal at greater drilling depths without venting
- effective removal of chips thanks to large chipping spaces
- **No. 11033:** TiAlN coating for increased service life demands

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

Notes:
No. 11021–11027: Chamfer-nitrated >2.36

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11021	30	20		10		40	60	45	35	40	30	20		20					
11027	30	20	10	15	10	50	70	45	35	40	30	20	10	30	10	10	10		
11033	40	20	10	10	20	60	80	60	45	40	30	30	10	30	10	10	10		

			Cutting material	HSS		HSSE		HSSE	
			Surface	Uncoated		Uncoated		TiAlN	
mm	mm	mm	f steel 700 ● (mm/r)	11021... Ident. No.		11027... Ident. No.		11033... Ident. No.	
1	12	34	0.03	081	●	081	●	081	●
1.1	14	36	0.03	091	●	091	●	091	●
1.2	16	38	0.03	101	●	101	●	101	●
1.3	16	38	0.03	111	●	111	●	111	●
1.35	16	38	0.03	114	●	116	●	-	-
1.4	18	40	0.03	121	●	121	●	121	●
1.5	18	40	0.03	131	●	131	●	131	●
1.55	18	40	0.03	136	●	136	●	-	-
1.6	20	43	0.03	141	●	141	●	141	●
1.65	20	43	0.03	-	-	146	●	-	-
1.7	20	43	0.03	151	●	151	●	151	●
1.8	22	46	0.03	161	●	161	●	161	●
1.9	22	46	0.03	171	●	171	●	171	●
2	24	49	0.03	181	●	181	●	181	●
2.1	24	49	0.03	192	●	192	●	192	●
2.2	27	53	0.04	202	●	202	●	202	●
2.3	27	53	0.04	210	●	210	●	210	●
2.4	30	57	0.04	220	●	220	●	220	●
2.5	30	57	0.04	230	●	230	●	230	●
2.6	30	57	0.04	240	●	240	●	240	●
2.65	30	57	0.04	-	-	245	●	-	-
2.7	33	61	0.04	250	●	250	●	250	●
2.8	33	61	0.04	260	●	260	●	260	●
2.9	33	61	0.04	270	●	270	●	270	●
3	33	61	0.04	280	●	280	●	280	●
3.1	36	65	0.04	282	●	282	●	282	●
3.2	36	65	0.04	286	●	286	●	286	●
3.25	36	65	0.05	287	●	287	●	287	●
3.3	36	65	0.05	289	●	289	●	289	●
3.4	39	70	0.05	291	●	291	●	291	●
3.45	39	70	0.05	292	●	292	●	-	-
3.5	39	70	0.05	293	●	293	●	293	●
3.6	39	70	0.05	296	●	296	●	296	●
3.7	39	70	0.06	299	●	299	●	299	●

			Cutting material	HSS		HSSE		HSSE	
			Surface	Uncoated		Uncoated		TiAlN	
mm	mm	mm	f steel 700 ● (mm/r)	11021... Ident. No.		11027... Ident. No.		11033... Ident. No.	
3.8	43	75	0.06	302	●	302	●	302	●
3.9	43	75	0.06	305	●	305	●	305	●
4	43	75	0.06	310	●	310	●	310	●
4.1	43	75	0.06	314	●	314	●	314	●
4.2	43	75	0.07	316	●	316	●	316	●
4.3	47	80	0.07	319	●	319	●	319	●
4.4	47	80	0.07	324	●	324	●	324	●
4.5	47	80	0.07	326	●	326	●	326	●
4.6	47	80	0.08	329	●	329	●	329	●
4.65	47	80	0.08	330	●	331	●	330	●
4.7	47	80	0.08	332	●	332	●	332	●
4.8	52	86	0.08	335	●	335	●	335	●
4.9	52	86	0.08	337	●	337	●	337	●
5	52	86	0.08	341	●	341	●	341	●
5.1	52	86	0.09	344	●	344	●	344	●
5.2	52	86	0.09	349	●	349	●	349	●
5.3	52	86	0.09	352	●	352	●	352	●
5.4	57	93	0.09	355	●	355	●	355	●
5.5	57	93	0.1	358	●	358	●	358	●
5.55	57	93	0.1	359	●	-	-	359	●
5.6	57	93	0.1	361	●	361	●	361	●
5.7	57	93	0.1	364	●	364	●	364	●
5.8	57	93	0.1	367	●	367	●	367	●
5.9	57	93	0.1	369	●	369	●	369	●
6	57	93	0.11	371	●	371	●	371	●
6.1	63	101	0.11	373	●	373	●	373	●
6.2	63	101	0.11	375	●	375	●	375	●
6.3	63	101	0.11	377	●	377	●	377	●
6.35	63	101	0.11	378	●	378	●	-	-
6.4	63	101	0.12	379	●	379	●	379	●
6.5	63	101	0.12	381	●	381	●	381	●
6.6	63	101	0.12	383	●	383	●	383	●
6.7	63	101	0.12	385	●	385	●	385	●
6.8	69	109	0.12	387	●	387	●	387	●
6.9	69	109	0.13	389	●	389	●	389	●
7	69	109	0.13	391	●	391	●	391	●
7.1	69	109	0.13	393	●	393	●	393	●
7.2	69	109	0.13	396	●	396	●	396	●
7.3	69	109	0.14	398	●	398	●	398	●
7.4	69	109	0.14	400	●	400	●	400	●
7.5	69	109	0.14	402	●	402	●	402	●
7.6	75	117	0.14	405	●	405	●	405	●
7.7	75	117	0.14	407	●	407	●	407	●
7.8	75	117	0.15	409	●	409	●	409	●
7.9	75	117	0.15	411	●	411	●	411	●
8	75	117	0.15	414	●	414	●	414	●
8.1	75	117	0.15	416	●	416	●	416	●
8.2	75	117	0.15	418	●	418	●	418	●
8.3	75	117	0.15	420	●	420	●	420	●
8.4	75	117	0.15	423	●	423	●	423	●
8.5	75	117	0.15	425	●	425	●	425	●
8.6	81	125	0.15	427	●	427	●	427	●
8.7	81	125	0.15	429	●	429	●	429	●
8.8	81	125	0.16	432	●	432	●	432	●
8.9	81	125	0.16	434	●	434	●	434	●
9	81	125	0.16	436	●	436	●	436	●
9.1	81	125	0.16	438	●	438	●	438	●
9.2	81	125	0.16	441	●	441	●	441	●
9.3	81	125	0.16	443	●	443	●	443	●
9.4	81	125	0.16	445	●	445	●	445	●
9.5	81	125	0.16	447	●	447	●	447	●
9.6	87	133	0.16	450	●	450	●	450	●
9.7	87	133	0.16	452	●	452	●	452	●
9.8	87	133	0.16	454	●	454	●	454	●
9.9	87	133	0.16	456	●	456	●	456	●
10	87	133	0.16	459	●	459	●	459	●
10.2	87	133	0.16	461	●	461	●	461	●
10.5	87	133	0.17	466	●	466	●	466	●
11	94	142	0.17	473	●	473	●	473	●
11.2	94	142	0.17	476	●	476	●	476	●
11.5	94	142	0.17	480	●	480	●	480	●
12	101	151	0.18	488	●	488	●	488	●
15	114	169	0.19	528	●	528	●	528	●
16	114	169	0.19	560	●	543	●	-	-

Prod. Gr. 110

ATORN Twist drill bit set HSSE (DIN 338)

in case

HSSE | TiN | Typ TLP | 118° | 130° | HA

Application:
Special geometry with deep-hole profile for long-chipping materials, for use with the material groups of steel, (stainless steel), non-ferrous metals, cast iron and special alloys up to a strength of 1300 N/mm².

Execution:
- Twist drill with deep-hole profile

Advantage:
- special cutting geometry for long-chipping materials: excellent chip removal due to large chip space. Deep-hole profile to optimise chip removal at greater drilling depths without venting
- TiN coating for increased requirements in service life
- Robust and user-friendly plastic box ensures reliable protection and good accessibility

Ident. No. 061

		Surface	TiN	
		Cutting material	HSSE	
		Type	TLP	
Included in delivery	Pitch of drill Ø	Number of pieces in assortment/set (PCS)	11049... Ident. No.	
1.0-5.9 mm	0.1 mm	50	011	●
6.0-10.0 mm	0.1 mm	41	021	●
1.0-10.0 mm	0.5 mm	19	051	●
1.0-10.5 mm	0.5 mm + core-hole drill	24	061	●
1.0-13.0 mm	0.5 mm	25	071	●

Prod. Gr. 112

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	20	10	10	10	50	45	40	35	40	30	20	10	30	6	6	6		

ATORN Twist drill type TLP HSS/HSSE (DIN 340)

With deep-hole profile for long-chipping materials

HSS | HSSE | TiAlN | TiN | Typ TLP | 130° | HA

No. 11055

No. 11057

No. 11060

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Application:
No. 11055: Geometry with deep-hole profile for application up to a strength of 1000 N/mm².
No. 11057–11060: Geometry with deep-hole profile for application up to a strength of 1300 N/mm².

Execution:
- Twist drill with deep-hole profile

Advantage:
- Deep-hole profile to optimise chip removal at greater drilling depths without venting

- **No. 11055 030–11055 230, 11060 030–11060 451:** effective removal of chips thanks to large chipping spaces
- **No. 11057:** Effective chip evacuation thanks to large chip rooms
- **No. 11060:** TiAlN coating for increased service life requirements

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

Notes:
No. 11057–11060: Chamfer-nitrated >2.36

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11055	30	20				40	60	45	35	40	30	20	10	20					
11057; 11060	40	20	10	12	10	50	70	45	35	40	30	20	10	25	6	6	6		

				Cutting material	HSS		HSSE		HSSE	
				Surface	TiN		TiAlN		Uncoated	
mm	mm	mm	f steel 700 ● (mm/r)		11055... Ident. No.		11060... Ident. No.		11057... Ident. No.	
1	33	56	0.03		030	●	030	●	030	●
1.1	37	60	0.03		031	●	031	●	031	●
1.2	41	65	0.03		033	●	333	●	333	●
1.3	41	65	0.03		035	●	335	●	335	●
1.4	45	70	0.03		037	●	337	●	337	●
1.5	45	70	0.03		039	●	039	●	039	●
1.6	50	76	0.03		042	●	042	●	042	●
1.7	50	76	0.03		044	●	344	●	344	●
1.8	53	80	0.03		046	●	046	●	046	●
1.9	53	80	0.03		048	●	048	●	048	●
2	56	85	0.03		051	●	051	●	051	●
2.1	56	85	0.03		053	●	353	●	353	●
2.2	59	90	0.04		055	●	355	●	355	●
2.3	59	90	0.04		057	●	357	●	357	●
2.4	62	95	0.04		060	●	360	●	360	●
2.5	62	95	0.04		062	●	062	●	062	●
2.6	62	95	0.04		064	●	364	●	364	●
2.7	66	100	0.04		066	●	366	●	366	●
2.8	66	100	0.04		069	●	369	●	369	●

			Cutting material	HSS		HSSE		HSSE	
			Surface	TiN		TiAlN		Uncoated	
mm	mm	mm	f steel 700 ● (mm/r)	11055... Ident. No.		11060... Ident. No.		11057... Ident. No.	
2.9	66	100	0.04	071	●	071	●	071	●
3	66	100	0.04	073	●	073	●	073	●
3.1	69	106	0.04	075	●	375	●	375	●
3.2	69	106	0.04	078	●	078	●	078	●
3.3	69	106	0.05	080	●	080	●	080	●
3.4	73	112	0.05	082	●	382	●	382	●
3.5	73	112	0.05	084	●	084	●	084	●
3.6	73	112	0.05	087	●	387	●	387	●
3.7	73	112	0.06	089	●	089	●	089	●
3.8	78	119	0.06	091	●	391	●	391	●
3.9	78	119	0.06	093	●	093	●	093	●
4	78	119	0.06	096	●	096	●	096	●
4.1	78	119	0.06	098	●	398	●	398	●
4.2	78	119	0.07	100	●	100	●	100	●
4.3	82	126	0.07	102	●	402	●	402	●
4.4	82	126	0.07	105	●	405	●	405	●
4.5	82	126	0.07	107	●	107	●	107	●
4.6	82	126	0.08	109	●	109	●	109	●
4.7	82	126	0.08	111	●	411	●	411	●
4.8	87	132	0.08	114	●	114	●	114	●
4.9	87	132	0.08	116	●	416	●	416	●
5	87	132	0.08	118	●	118	●	118	●
5.1	87	132	0.09	119	●	419	●	419	●
5.2	87	132	0.09	121	●	421	●	421	●
5.3	87	132	0.09	123	●	423	●	423	●
5.4	91	139	0.09	124	●	424	●	424	●
5.5	91	139	0.1	125	●	125	●	125	●
5.6	91	139	0.1	127	●	427	●	427	●
5.7	91	139	0.1	128	●	428	●	428	●
5.8	91	139	0.1	130	●	130	●	130	●
5.9	91	139	0.1	131	●	431	●	431	●
6	91	139	0.11	133	●	133	●	133	●
6.1	97	148	0.11	134	●	434	●	434	●
6.2	97	148	0.11	135	●	435	●	435	●
6.3	97	148	0.11	137	●	436	●	436	●
6.35	97	148	0.11	138	●	-	-	-	-
6.4	97	148	0.12	139	●	437	●	437	●
6.5	97	148	0.12	140	●	140	●	140	●
6.6	97	148	0.12	141	●	438	●	438	●
6.7	97	148	0.12	142	●	439	●	439	●
6.8	102	156	0.12	144	●	144	●	144	●
6.9	102	156	0.13	145	●	440	●	440	●
7	102	156	0.13	146	●	146	●	146	●
7.1	102	156	0.13	147	●	441	●	441	●
7.2	102	156	0.13	148	●	442	●	442	●
7.3	102	156	0.14	149	●	443	●	443	●
7.4	102	156	0.14	150	●	444	●	444	●
7.5	102	156	0.14	153	●	153	●	153	●
7.6	109	165	0.14	154	●	445	●	445	●
7.7	109	165	0.14	155	●	446	●	446	●
7.8	109	165	0.15	156	●	158	●	158	●
7.9	109	165	0.15	157	●	447	●	447	●
8	109	165	0.15	161	●	161	●	161	●
8.1	109	165	0.15	162	●	448	●	448	●
8.2	109	165	0.15	163	●	449	●	449	●
8.3	109	165	0.15	164	●	450	●	450	●
8.4	109	165	0.15	165	●	451	●	451	●
8.5	109	165	0.15	168	●	168	●	168	●
8.6	109	165	0.15	169	●	-	-	-	-
9	115	175	0.16	175	●	175	●	175	●
9.5	115	175	0.16	182	●	182	○	182	●
9.7	121	184	0.16	186	●	-	-	-	-
9.8	121	184	0.16	187	●	187	●	187	●
10	121	184	0.16	190	●	190	●	190	●
10.2	121	184	0.16	192	●	192	○	192	●
10.5	121	184	0.16	197	●	197	●	197	●
11	128	197	0.16	204	●	204	●	204	●
11.5	128	197	0.16	207	●	207	●	207	●
12	134	205	0.16	211	●	211	●	211	●
12.5	134	205	0.18	214	●	-	-	525	●
13	134	205	0.18	219	●	-	-	530	●
13.5	140	214	0.18	-	-	-	-	535	●
14	140	214	0.19	230	●	-	-	540	●
14.5	144	220	0.19	-	-	-	-	545	●
15	144	220	0.19	-	-	-	-	550	●
15.5	149	227	0.2	-	-	-	-	555	●
16	149	227	0.2	-	-	-	-	560	●

Prod. Gr. 112

ATORN Twist drill type TLP HSS (DIN 1869)

for universal use up to 1000 N/mm² in long-chipping materials

Application:
Geometry with deep-hole profile for application up to a strength of 1000 N/mm².

Execution:
- Twist drill with deep-hole profile

Advantage:
- Deep-hole profile to optimise chip removal at greater drilling depths without venting
- effective removal of chips thanks to large chipping spaces

Delivery:
Packing unit: drill bit dia. 1.0-6.0 mm = 10 units (price per unit)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	25	10				**40**	50	**45**	35	**40**	30	10		**20**					

			Cutting material	HSS	
			Surface	Uncoated	
mm	mm	mm	f steel 700 ● (mm/r)	11061... Ident. No.	
2	85	125	0.05	020	●
2.5	95	140	0.05	025	●
3	100	150	0.06	030	●
3	130	190	0.06	035	●
3.5	115	165	0.07	040	●
4	120	175	0.09	050	●
4	150	220	0.09	055	●
4	190	280	0.09	060	●
4.5	125	185	0.1	065	●
5	135	195	0.12	080	●
5	170	245	0.12	085	●
5	210	315	0.12	090	●
5.5	140	205	0.13	095	●
6	140	205	0.14	110	●
6	180	260	0.14	115	●
6	225	330	0.14	120	●
6.5	150	215	0.16	122	●
7	155	225	0.17	135	●
7	200	290	0.17	140	●
8	165	240	0.2	165	●
8	210	305	0.2	170	●
8	265	390	0.2	175	●
8.5	165	240	0.21	180	●
9	175	250	0.21	195	●
10	185	265	0.22	225	●
10	235	340	0.22	230	●
10	295	430	0.22	235	●

Prod. Gr. 1AA

Twist drill bit type VA
For use in stainless steel and special alloys

Application:
Series and single-part production on conventional and CNC machines in the stainless steel, special alloy and (steel) material groups up to a strength of 1,300 N/mm².

Advantage:
- Special geometry with aggressive cutting edge design and free geometry for very smooth cutting
- Long service life due to increased cobalt content

Typ VA

ATORN Twist drill bit type VA HSSE (DIN 1897)
for use in stainless steel and special alloys

HSSE | TiAlN plus | Typ VA | 130° | HA

Application:
For use in stainless steel, special alloys up to a strength of 1,300 N/mm².

Execution:
- Twist drill bit with stainless steel geometry

Advantage:
- Special geometry with aggressive cutting edge design for very smooth cutting
- TiAlNplus coating for maximum service life

Delivery:
Packing unit: Drill bit dia. 1.0-6.0 mm = 10 units (price per unit)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	35	25	15	15	25	55	75	75	50	45	35				10	12	12		

Cutting material				HSSE	
			Surface	TiAlN plus	
mm	mm	mm	f steinl. st. ● (mm/r)	11023... Ident. No.	
1	6	26	0.03	600	●
1.1	7	28	0.03	601	●
1.2	8	30	0.03	602	●
1.3	8	30	0.03	603	●
1.4	9	32	0.03	604	●
1.5	9	32	0.03	605	●
1.6	10	34	0.03	606	●
1.7	10	34	0.03	607	●
1.8	11	36	0.03	608	●
1.9	11	36	0.03	609	●
2	12	38	0.03	610	●
2.1	12	38	0.03	611	●
2.2	13	40	0.04	612	●
2.3	13	40	0.04	613	●
2.4	14	43	0.04	614	●
2.5	14	43	0.04	615	●
2.6	14	43	0.04	616	●
2.7	16	46	0.04	617	●
2.8	16	46	0.04	618	●
2.9	16	46	0.04	619	●
3	16	46	0.04	620	●
3.1	18	49	0.04	621	●
3.2	18	49	0.04	622	●
3.3	18	49	0.04	623	●
3.4	20	52	0.05	624	●
3.5	20	52	0.05	625	●
3.6	20	52	0.05	626	●
3.7	20	52	0.05	627	●
3.8	22	55	0.05	628	●
3.9	22	55	0.05	629	●
4	22	55	0.05	630	●
4.1	22	55	0.05	631	●
4.2	22	55	0.05	632	●
4.3	24	58	0.06	633	●

Cutting material				HSSE	
			Surface	TiAlN plus	
mm	mm	mm	f steinl. st. ● (mm/r)	11023... Ident. No.	
4.4	24	58	0.06	634	●
4.5	24	58	0.06	635	●
4.6	24	58	0.06	636	●
4.7	24	58	0.06	637	●
4.8	26	62	0.06	638	●
4.9	26	62	0.06	639	●
5	26	62	0.06	640	●
5.1	26	62	0.07	641	●
5.2	26	62	0.07	642	●
5.3	26	62	0.07	643	●
5.4	28	66	0.07	644	●
5.5	28	66	0.07	645	●
5.6	28	66	0.07	646	●
5.7	28	66	0.07	647	●
5.8	28	66	0.07	648	●
5.9	28	66	0.08	649	●
6	28	66	0.08	650	●
6.1	31	70	0.08	651	●
6.2	31	70	0.08	652	●
6.3	31	70	0.08	653	●
6.4	31	70	0.08	654	●
6.5	31	70	0.08	655	●
6.6	31	70	0.08	656	●
6.7	31	70	0.08	657	●
6.8	34	74	0.09	658	●
6.9	34	74	0.09	659	●
7	34	74	0.09	660	●
7.1	34	74	0.09	661	●
7.2	34	74	0.09	662	●
7.3	34	74	0.09	663	●
7.4	34	74	0.09	664	●
7.5	34	74	0.09	665	●
7.6	37	79	0.1	666	●
7.7	37	79	0.1	667	●

Cutting material				HSSE	
			Surface	TiAlN plus	
mm	mm	mm	f steinl. st. ● (mm/r)	11023... Ident. No.	
7.8	37	79	0.1	668	●
7.9	37	79	0.1	669	●
8	37	79	0.1	670	●
8.1	37	79	0.1	671	●
8.2	37	79	0.1	672	●
8.3	37	79	0.1	673	●
8.4	37	79	0.1	674	●
8.5	37	79	0.1	675	●
8.6	40	84	0.11	676	●
8.7	40	84	0.11	677	●
8.8	40	84	0.11	678	●
8.9	40	84	0.11	679	●
9	40	84	0.11	680	●
9.1	40	84	0.11	681	●
9.2	40	84	0.11	682	●
9.3	40	84	0.11	683	●
9.4	40	84	0.11	684	●
9.5	40	84	0.12	685	●
9.6	43	89	0.12	686	●
9.7	43	89	0.12	687	●
9.8	43	89	0.12	688	●
9.9	43	89	0.12	689	●
10	43	89	0.12	690	●
10.2	43	89	0.12	691	●
10.3	43	89	0.13	692	●
10.5	43	89	0.13	693	●
11	47	95	0.13	694	●
11.5	47	95	0.14	695	●
11.8	47	95	0.14	696	●
12	51	102	0.14	697	●
12.1	51	102	0.14	698	●
12.5	51	102	0.15	699	●
13	51	102	0.15	700	●

Prod. Gr. 112

ATORN Twist drill type VA HSSE (DIN 338)

For use in stainless steel and special alloys

No. 11021

No. 11029

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Application:

No. 11021: For use in stainless steel, special alloys up to a strength of 1,300 N/mm².

No. 11029: For use in stainless steel, special alloys up to a strength of 1300 N/mm².

Execution:

- Twist drill bit with stainless steel geometry

Advantage:

- Special geometry with aggressive cutting edge design for very smooth cutting
- **No. 11021:** TiAlNplus coating for maximum service life

Delivery:

No. 11021: Packing unit: Drill bit dia. 1.0-6.0 mm = 10 each (price per unit)

No. 11029: Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11029	30	20	10	10	20	50	70	70	45	40	30				10	10	10		
11021600-705	35	25	15	15	25	55	75	75	50	45	35				10	12	12		

Cutting material				HSSE		HSSE	
Surface				Uncoated		-	
Surface of the head				-		TiAlN plus	
mm	mm	mm	f steinl. st. ● (mm/r)	11029... Ident. No.		11021... Ident. No.	
0.4	5	20	0.02	021	●	-	-
0.5	6	22	0.02	031	●	-	-
0.6	7	24	0.02	041	●	-	-
0.7	9	28	0.03	051	●	-	-
0.8	10	30	0.03	061	●	-	-
0.9	11	32	0.03	071	●	-	-
1	12	34	0.03	081	●	600	●
1.1	14	36	0.03	091	●	601	●
1.2	16	38	0.03	101	●	602	●
1.3	16	38	0.03	111	●	603	●
1.4	18	40	0.03	121	●	604	●
1.45	18	40	0.03	125	●	-	-
1.5	18	40	0.03	131	●	605	●
1.6	20	43	0.03	141	●	606	●
1.7	20	43	0.03	151	●	607	●
1.8	22	46	0.03	161	●	608	●
1.9	22	46	0.03	171	●	609	●
2	24	49	0.03	181	●	610	●
2.1	24	49	0.03	192	●	611	●
2.2	27	53	0.04	202	●	612	●
2.3	27	53	0.04	210	●	613	●
2.4	30	57	0.04	220	●	614	●
2.5	30	57	0.04	230	●	615	●
2.6	30	57	0.04	240	●	616	●
2.7	33	61	0.04	250	●	617	●
2.8	33	61	0.04	260	●	618	●
2.9	33	61	0.04	270	●	619	●
3	33	61	0.04	280	●	620	●
3.1	36	65	0.04	282	●	621	●
3.17	36	65	0.04	285	●	-	-
3.2	36	65	0.04	286	●	622	●
3.25	36	65	0.04	287	●	-	-
3.26	36	65	0.04	288	○	-	-
3.3	36	65	0.04	289	●	623	●
3.4	39	70	0.05	291	●	624	●
3.5	39	70	0.05	293	●	625	●
3.6	39	70	0.05	296	●	626	●
3.7	39	70	0.05	299	●	627	●
3.8	43	75	0.05	302	●	628	●
3.9	43	75	0.05	305	●	629	●
3.97	43	75	0.05	306	●	-	-
4	43	75	0.05	310	●	630	●
4.1	43	75	0.05	314	●	631	●
4.2	43	75	0.05	316	●	632	●
4.3	47	80	0.06	319	●	633	●
4.4	47	80	0.06	324	●	634	●
4.5	47	80	0.06	326	●	635	●
4.6	47	80	0.06	329	●	636	●
4.65	47	80	0.06	330	●	-	-
4.7	47	80	0.06	332	●	637	●
4.8	52	86	0.06	335	●	638	●
4.9	52	86	0.06	337	●	639	●
5	52	86	0.06	341	●	640	●

Cutting material				HSSE		HSSE	
Surface				Uncoated		-	
Surface of the head				-		TiAlN plus	
mm	mm	mm	f steinl. st. ● (mm/r)	11029... Ident. No.		11021... Ident. No.	
5.1	52	86	0.07	344	●	641	●
5.2	52	86	0.07	349	●	642	●
5.3	52	86	0.07	352	●	643	●
5.4	57	93	0.07	355	●	644	●
5.5	57	93	0.07	358	●	645	●
5.55	57	93	0.07	359	●	-	-
5.6	57	93	0.07	361	●	646	●
5.7	57	93	0.07	364	●	647	●
5.8	57	93	0.07	367	●	648	●
5.9	57	93	0.08	369	●	649	●
6	57	93	0.08	371	●	650	●
6.1	63	101	0.08	373	●	651	●
6.2	63	101	0.08	375	●	652	●
6.3	63	101	0.08	377	●	653	●
6.35	63	101	0.08	378	●	-	-
6.4	63	101	0.08	379	●	654	●
6.5	63	101	0.08	381	●	655	●
6.6	63	101	0.08	383	●	656	●
6.7	63	101	0.08	385	●	657	●
6.8	69	109	0.09	387	●	658	●
6.9	69	109	0.09	389	●	659	●
7	69	109	0.09	391	●	660	●
7.1	69	109	0.09	393	●	661	●
7.2	69	109	0.09	396	●	662	●
7.3	69	109	0.09	398	●	663	●
7.4	69	109	0.09	400	●	664	●
7.5	69	109	0.09	402	●	665	●
7.6	75	117	0.1	405	●	666	●
7.7	75	117	0.1	407	●	667	●
7.8	75	117	0.1	409	●	668	●
7.9	75	117	0.1	411	●	669	●
8	75	117	0.1	414	●	670	●
8.1	75	117	0.1	416	●	671	●
8.2	75	117	0.1	418	●	672	●
8.3	75	117	0.1	420	●	673	●
8.4	75	117	0.1	423	●	674	●
8.5	75	117	0.11	425	●	675	●
8.6	81	125	0.11	427	●	676	●
8.7	81	125	0.11	429	●	677	●
8.8	81	125	0.11	432	●	678	●
8.9	81	125	0.11	434	●	679	●
9	81	125	0.11	436	●	680	●
9.1	81	125	0.11	438	●	681	●
9.2	81	125	0.11	441	●	682	●
9.3	81	125	0.11	443	●	683	●
9.4	81	125	0.11	445	●	684	●
9.5	81	125	0.12	447	●	685	●
9.6	87	133	0.12	450	●	686	●
9.7	87	133	0.12	452	●	687	●
9.8	87	133	0.12	454	●	688	●
9.9	87	133	0.12	456	●	689	●
10	87	133	0.12	459	●	690	●
10.2	87	133	0.12	461	●	691	●

			Cutting material	HSSE		HSSE	
			Surface	Uncoated		-	
			Surface of the head	-		TiAlN plus	
mm	mm	mm	f steinl. st. ● (mm/r)	11029... Ident. No.		11021... Ident. No.	
10.3	87	133	0.13	463	●	-	-
10.5	87	133	0.13	466	●	692	●
11	94	142	0.13	473	●	693	●
11.2	94	142	0.13	476	●	694	●
11.5	94	142	0.14	480	●	695	●
11.8	94	142	0.14	485	●	696	●
12	101	151	0.14	488	●	697	●
12.2	101	151	0.14	490	●	-	-
12.5	101	151	0.15	494	●	698	●

			Cutting material	HSSE		HSSE	
			Surface	Uncoated		-	
			Surface of the head	-		TiAlN plus	
mm	mm	mm	f steinl. st. ● (mm/r)	11029... Ident. No.		11021... Ident. No.	
12.7	101	151	0.15	496	●	-	-
13	101	151	0.15	500	●	699	●
13.5	108	160	0.15	507	●	700	●
14	108	160	0.15	514	●	701	●
14.5	114	169	0.15	521	●	702	●
15	114	169	0.17	528	●	703	●
15.5	120	178	0.17	536	●	704	●
16	120	178	0.17	543	●	705	●

Prod. Gr. 112

ORION® Twist drill bit type VA HSSE (DIN 338)

For use in stainless steel and special alloys

Application:
For use in stainless steel, special alloys up to a strength of 1300 N/mm².

Execution:
- twist drill with stainless steel profile

Advantage:
- Special geometry with aggressive cutter design and free geometry for very smooth cutting

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	10	20	50	70	70	45	40	30				10	10	10		

			Cutting material	HSSE	
			Surface	Uncoated	
mm	mm	mm	f steinl. st. ● (mm/r)	11028... Ident. No.	
1	12	34	0.03	081	●
1.1	14	36	0.03	091	●
1.2	16	38	0.03	101	●
1.4	18	40	0.03	121	●
1.5	18	40	0.03	131	●
1.6	20	43	0.03	141	●
1.7	20	43	0.03	151	●
1.8	22	46	0.03	161	●
1.9	22	46	0.03	171	●
2	24	49	0.03	181	●
2.1	24	49	0.03	192	●
2.2	27	53	0.04	202	●
2.3	27	53	0.04	210	●
2.4	30	57	0.04	220	●
2.5	30	57	0.04	230	●
2.6	30	57	0.04	240	●
2.7	33	61	0.04	250	●
2.8	33	61	0.04	260	●
2.9	33	61	0.04	270	●
3	33	61	0.04	280	●
3.1	36	65	0.04	282	●
3.2	36	65	0.04	286	●
3.3	36	65	0.04	289	●
3.4	39	70	0.05	291	●
3.5	39	70	0.05	293	●
3.6	39	70	0.05	296	●
3.7	39	70	0.05	299	●
3.8	43	75	0.05	302	●
3.9	43	75	0.05	305	●
4	43	75	0.05	310	●
4.1	43	75	0.05	314	●
4.2	43	75	0.05	316	●
4.3	47	80	0.06	319	●
4.4	47	80	0.06	324	●
4.5	47	80	0.06	326	●
4.6	47	80	0.06	329	●
4.7	47	80	0.06	332	●
4.8	52	86	0.06	335	●
4.9	52	86	0.06	337	●
5	52	86	0.06	341	●
5.1	52	86	0.07	344	●

			Cutting material	HSSE	
			Surface	Uncoated	
mm	mm	mm	f steinl. st. ● (mm/r)	11028... Ident. No.	
5.2	52	86	0.07	349	●
5.3	52	86	0.07	352	●
5.4	57	93	0.07	355	●
5.5	57	93	0.07	358	●
5.6	57	93	0.07	361	●
5.7	57	93	0.07	364	●
5.8	57	93	0.07	367	●
5.9	57	93	0.08	369	●
6	57	93	0.08	371	●
6.1	63	101	0.08	373	●
6.2	63	101	0.08	375	●
6.3	63	101	0.08	377	●
6.4	63	101	0.08	379	●
6.5	63	101	0.08	381	●
6.6	63	101	0.08	383	●
6.7	63	101	0.08	385	●
6.8	69	109	0.09	387	●
6.9	69	109	0.09	389	●
7	69	109	0.09	391	●
7.1	69	109	0.09	393	●
7.2	69	109	0.09	396	●
7.3	69	109	0.09	398	●
7.4	69	109	0.09	400	●
7.5	69	109	0.09	402	●
7.6	75	117	0.09	405	●
7.7	75	117	0.09	407	●
7.8	75	117	0.1	409	●
7.9	75	117	0.1	411	●
8	75	117	0.1	414	●
8.1	75	117	0.1	416	●
8.3	75	117	0.1	420	●
8.4	75	117	0.1	423	●
8.5	75	117	0.11	425	●
8.6	81	125	0.11	427	●
8.7	81	125	0.11	429	●
8.8	81	125	0.11	432	●
8.9	81	125	0.11	434	●
9	81	125	0.11	436	●
9.1	81	125	0.11	438	●
9.2	81	125	0.11	441	●
9.3	81	125	0.11	443	●

Cutting material				HSSE	
Surface				Uncoated	
mm	mm	mm	f steinl. st. ● (mm/r)	11028... Ident. No.	
9.4	81	125	0.11	445	●
9.5	81	125	0.12	447	●
9.7	87	133	0.12	452	●
9.8	87	133	0.12	454	●
9.9	87	133	0.12	456	●
10	87	133	0.12	459	●
10.2	87	133	0.12	461	●

Cutting material				HSSE	
Surface				Uncoated	
mm	mm	mm	f steinl. st. ● (mm/r)	11028... Ident. No.	
10.5	87	133	0.13	466	●
11	94	142	0.13	473	●
11.5	94	142	0.14	480	●
12	101	151	0.14	488	●
12.5	101	151	0.15	494	●
13	101	151	0.15	500	●

Prod. Gr. 102

ATORN Twist drill type VA HSSE, uncoated (DIN 340)

For application in stainless steel and special alloys

Application:
For use in stainless steel, special alloys up to a strength of 1300 N/mm².

Advantage:
- Special geometry with aggressive cutting edge design for very smooth cutting

Execution:
- Twist drill bit with stainless steel geometry

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	15	10	50	70	45	35	40	30				7	6	6		

Cutting material				HSSE	
Surface				Uncoated	
mm	mm	mm	f steinl. st. ● (mm/r)	11058... Ident. No.	
1.1	37	60	0.03	031	●
1.2	41	65	0.03	033	●
1.3	41	65	0.03	035	●
1.4	45	70	0.03	037	●
1.5	45	70	0.03	039	●
1.6	50	76	0.03	042	●
1.7	50	76	0.03	044	●
1.8	53	80	0.03	046	●
1.9	53	80	0.03	048	●
2	56	85	0.03	051	●
2.1	56	85	0.03	053	●
2.2	59	90	0.04	055	●
2.3	59	90	0.04	057	●
2.4	62	95	0.04	060	●
2.5	62	95	0.04	062	●
2.6	62	95	0.04	064	●
2.7	66	100	0.04	066	●
2.8	66	100	0.04	069	●
2.9	66	100	0.04	071	●
3	66	100	0.04	073	●
3.1	69	106	0.04	075	●
3.2	69	106	0.04	078	●
3.3	69	106	0.04	080	●
3.4	73	112	0.05	082	●
3.5	73	112	0.05	084	●
3.6	73	112	0.05	087	●
3.7	73	112	0.05	089	●
3.8	78	119	0.05	091	●
3.9	78	119	0.05	093	●
4	78	119	0.05	096	●
4.1	78	119	0.05	098	●
4.2	78	119	0.05	100	●
4.3	82	126	0.06	102	●
4.4	82	126	0.06	105	●
4.5	82	126	0.06	107	●
4.7	82	126	0.06	111	●

Cutting material				HSSE	
Surface				Uncoated	
mm	mm	mm	f steinl. st. ● (mm/r)	11058... Ident. No.	
4.8	87	132	0.06	114	●
4.9	87	132	0.06	116	●
5	87	132	0.06	118	●
5.1	87	132	0.07	119	●
5.2	87	132	0.07	121	●
5.3	87	132	0.07	123	●
5.4	91	139	0.07	124	●
5.5	91	139	0.07	125	●
5.6	91	139	0.07	127	●
5.7	91	139	0.07	128	●
5.8	91	139	0.07	130	●
5.9	91	139	0.08	131	●
6	91	139	0.08	133	●
6.1	97	148	0.08	134	●
6.2	97	148	0.08	135	●
6.3	97	148	0.08	137	●
6.4	97	148	0.08	139	●
6.5	97	148	0.08	140	●
6.6	97	148	0.08	141	●
6.7	97	148	0.08	142	●
6.8	102	156	0.09	144	●
7	102	156	0.09	146	●
7.5	102	156	0.09	153	●
7.7	109	165	0.1	156	●
8	109	165	0.1	161	●
8.1	109	165	0.1	162	●
8.4	109	165	0.1	167	●
8.5	109	165	0.11	168	●
9	115	175	0.11	175	●
9.5	115	175	0.12	182	●
9.8	121	184	0.12	187	●
10	121	184	0.12	190	●
10.2	121	184	0.12	192	●
10.5	121	184	0.13	197	●
12	134	205	0.14	211	●

Prod. Gr. 110

Twist drill bit type X
For universal use up to 1,300 N/mm²

Application:
Series and single-part production on conventional and CNC machines in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1,300 N/mm².

Advantage:
- Very high wear and heat resistance due to high-quality HSSE-PM cutting material
- High cutting edge stability owing to special point thinning and chip angle adjustment
- Very long service life in higher-alloyed steels and materials

ATORN Twist drill type X HSSE-PM TIN (DIN 338)
for universal use up to 1300 N/mm²

Application:
Universal use in all material groups up to a strength of 1300 N/mm2.

Execution:
- Twist drill with special point thinning

Advantage:
- high wear resistance and increased heat resistance
- high cutting edge stability owing to special point thinning and cutting angle adjustment
- ideal for machining higher-alloyed and higher-strength steels and materials

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	50	35	15	12	10	80	90	80	50	50	45	40	15	40	12	12	12		

			Cutting material	HSSE-PM	
			Surface	TiN	
mm	mm	mm	f steel 1000 ● (mm/r)	11025... Ident. No.	
1	12	34	0.03	081	●
1.1	14	36	0.03	091	●
1.2	16	38	0.03	101	●
1.3	16	38	0.03	111	●
1.4	18	40	0.03	121	●
1.5	18	40	0.03	131	●
1.6	20	43	0.03	141	●
1.7	20	43	0.03	151	●
1.8	22	46	0.03	161	●
1.9	22	46	0.03	171	●
2	24	49	0.03	181	●
2.1	24	49	0.03	192	●
2.2	27	53	0.04	202	●
2.3	27	53	0.04	210	●
2.4	30	57	0.04	220	●
2.5	30	57	0.04	230	●
2.6	30	57	0.04	240	●
2.7	33	61	0.04	250	●
2.8	33	61	0.04	260	●
2.9	33	61	0.04	270	●
3	33	61	0.04	280	●
3.1	36	65	0.04	282	●
3.2	36	65	0.04	286	●
3.3	36	65	0.05	289	●
3.4	39	70	0.05	291	●
3.5	39	70	0.05	293	●
3.6	39	70	0.05	296	●
3.7	39	70	0.06	299	●
3.8	43	75	0.06	302	●
3.9	43	75	0.06	305	●
4	43	75	0.06	310	●
4.1	43	75	0.06	314	●
4.2	43	75	0.07	316	●
4.3	47	80	0.07	319	●
4.4	47	80	0.07	324	●
4.5	47	80	0.07	326	●
4.6	47	80	0.08	329	●

			Cutting material	HSSE-PM	
			Surface	TiN	
mm	mm	mm	f steel 1000 ● (mm/r)	11025... Ident. No.	
4.7	47	80	0.08	332	●
4.8	52	86	0.08	335	●
4.9	52	86	0.08	337	●
5	52	86	0.08	341	●
5.1	52	86	0.09	344	●
5.2	52	86	0.09	349	●
5.3	52	86	0.09	352	●
5.4	57	93	0.09	355	●
5.5	57	93	0.1	358	●
5.6	57	93	0.1	361	●
5.7	57	93	0.1	364	●
5.8	57	93	0.1	367	●
5.9	57	93	0.1	369	●
6	57	93	0.11	371	●
6.1	63	101	0.11	373	●
6.2	63	101	0.11	375	●
6.3	63	101	0.11	377	●
6.4	63	101	0.12	379	●
6.5	63	101	0.12	381	●
6.6	63	101	0.12	383	●
6.7	63	101	0.12	385	●
6.8	69	109	0.12	387	●
6.9	69	109	0.13	389	●
7	69	109	0.13	391	●
7.1	69	109	0.13	393	●
7.2	69	109	0.13	396	●
7.3	69	109	0.14	398	●
7.4	69	109	0.14	400	●
7.5	69	109	0.14	402	●
7.6	75	117	0.14	405	●
7.7	75	117	0.14	407	●
7.8	75	117	0.15	409	●
7.9	75	117	0.15	411	●
8	75	117	0.15	414	●
8.1	75	117	0.15	416	●
8.2	75	117	0.15	418	●
8.3	75	117	0.15	420	●

			Cutting material	HSSE-PM	
			Surface	TiN	
mm	mm	mm	f steel 1000 ● (mm/r)	11025... Ident. No.	
8.4	75	117	0.15	423	●
8.5	75	117	0.15	425	●
8.8	81	125	0.16	432	●
9	81	125	0.16	436	●
9.3	81	125	0.16	443	●
9.5	81	125	0.16	447	●
9.8	87	133	0.16	454	●
10	87	133	0.16	459	●
10.2	87	133	0.16	461	●
10.3	87	133	0.16	463	●

			Cutting material	HSSE-PM	
			Surface	TiN	
mm	mm	mm	f steel 1000 ● (mm/r)	11025... Ident. No.	
10.5	87	133	0.17	466	●
11	94	142	0.17	473	●
11.5	94	142	0.17	480	●
12	101	151	0.18	488	●
12.3	101	151	0.18	492	●
12.5	101	151	0.18	494	●
12.7	101	151	0.18	496	○
13	101	151	0.18	500	●
13.5	108	160	0.18	507	●
14	108	160	0.19	514	●

Prod. Gr. 1AG

Twist drill bit type UNI/VA HSSE V3
For high-strength and stainless steel machining

Application:
Problem solver on conventional machines without internal cooling in the following material groups: steel, stainless steel and high-strength materials.

Advantage:
- Special geometry combined with cutting material HSSE-V3 makes the drill bit an absolute problem solver
- Very high cutting speeds can be achieved
- Extremely long service life in high-alloyed steels and stainless steels
- For low-performance machines without internal cooling in stainless steel

TiAlN

Typ VA

ATORN Twist drill type UNI/VA HSSE V3 TiAlN
for universal use up to 1300 N/mm²

HSSE V3 | TiAlN | Typ VA | 120° | 130° | HA

Application:
Universal use in all material groups up to a strength of 1300 N/mm²

Execution:
- Twist drill with unified shaft
- Diameter 2.00 mm–4.00 mm = tip angle 130°
- Diameter 4.10 mm–20.0 mm = tip angle 120°
- 2 drill heels
- 38° to 40° spiral angle
- Straight main cutting edge

Advantage:
- Drilling without centring
- Problem solver in low-performance machines without internal cooling in high-strength steels and stainless steels
- Extremely hard, low-friction and temperature-resistant TiAlN coating for longer life
- Very high feed rates can be achieved

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	55	35	25	20	15	55	85	70	45	40	30	40		40	10	10	10		

			Cutting material	HSSE V3	
			Surface	TiAlN	
mm	mm	mm	f steel 1000 ● (mm/r)	11036... Ident. No.	
2	24	50	0.07	346	●
2.1	24	50	0.07	347	●
2.2	27	53	0.07	348	○
2.3	27	53	0.07	349	○
2.4	30	57	0.07	350	●
2.5	30	57	0.07	351	●
2.6	30	57	0.07	352	●
2.7	33	61	0.07	353	●
2.8	33	61	0.07	354	●
2.9	33	61	0.07	355	●
3	33	61	0.11	356	●
3.1	36	65	0.11	357	●
3.2	36	65	0.11	358	●
3.3	36	65	0.11	359	●
3.4	39	70	0.11	360	●
3.5	39	70	0.11	361	●
3.6	39	70	0.11	362	○
3.7	39	70	0.11	363	●
3.8	43	75	0.11	364	●

			Cutting material	HSSE V3	
			Surface	TiAlN	
mm	mm	mm	f steel 1000 ● (mm/r)	11036... Ident. No.	
3.9	43	75	0.11	365	●
4	43	75	0.14	366	●
4.1	43	75	0.14	367	●
4.2	43	75	0.14	368	●
4.3	47	80	0.14	369	●
4.4	47	80	0.14	370	●
4.5	47	80	0.14	371	●
4.6	47	80	0.14	372	●
4.7	47	80	0.14	373	●
4.8	52	86	0.14	374	●
4.9	52	86	0.14	375	●
5	52	86	0.16	376	●
5.1	52	86	0.16	377	●
5.2	52	86	0.16	378	●
5.3	52	86	0.16	379	○
5.4	57	93	0.16	380	●
5.5	57	93	0.16	381	●
5.6	57	93	0.16	382	○
5.7	57	93	0.16	383	●

			Cutting material	HSSE V3	
			Surface	TiAlN	
mm	mm	mm	f steel 1000 ● (mm/r)	11036... Ident. No.	
5.8	57	93	0.16	384	●
5.9	57	93	0.16	385	●
6	57	93	0.18	386	●
6.1	63	101	0.18	387	●
6.2	63	101	0.18	388	○
6.3	63	101	0.18	389	●
6.4	63	101	0.18	390	●
6.5	63	101	0.18	391	●
6.6	63	101	0.18	392	●
6.7	63	101	0.18	393	●
6.8	69	109	0.18	394	●
6.9	69	109	0.18	395	●
7	69	109	0.18	396	●
7.1	69	109	0.18	397	●
7.2	69	109	0.18	398	●
7.3	69	109	0.18	399	●
7.4	69	109	0.18	400	●
7.5	69	109	0.18	401	●
7.6	75	117	0.18	402	●
7.7	75	117	0.18	403	●
7.8	75	117	0.18	404	●
7.9	75	117	0.18	405	●
8	75	117	0.21	406	●
8.1	75	117	0.21	407	●
8.2	75	117	0.21	408	●
8.3	75	117	0.21	409	●
8.4	75	117	0.21	410	●
8.5	75	117	0.21	411	●
8.6	81	125	0.21	412	●
8.7	81	125	0.21	413	●
8.8	81	125	0.21	414	●
8.9	81	125	0.21	415	●
9	81	125	0.21	416	●
9.1	81	125	0.21	417	●
9.2	81	125	0.21	418	●
9.3	81	125	0.21	419	○
9.4	81	125	0.21	420	●
9.5	81	125	0.21	421	●
9.6	87	133	0.21	422	●
9.7	87	133	0.21	423	●
9.8	87	133	0.21	424	●
9.9	87	133	0.21	425	●
10	87	133	0.28	426	●
10.1	87	133	0.28	427	●

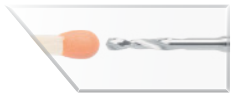
			Cutting material	HSSE V3	
			Surface	TiAlN	
mm	mm	mm	f steel 1000 ● (mm/r)	11036... Ident. No.	
10.2	87	133	0.28	428	●
10.3	87	133	0.28	429	●
10.4	87	133	0.28	430	●
10.5	87	133	0.28	431	●
10.6	87	133	0.28	432	●
10.7	94	142	0.28	433	●
10.8	94	142	0.28	434	●
10.9	94	142	0.28	435	●
11	94	142	0.28	436	●
11.1	94	142	0.28	437	○
11.2	94	142	0.28	438	○
11.3	94	142	0.28	439	●
11.4	94	142	0.28	440	●
11.5	94	142	0.28	441	●
11.6	94	142	0.28	442	○
11.7	94	142	0.28	443	○
11.8	94	142	0.28	444	●
11.9	101	151	0.28	445	○
12	101	151	0.32	446	●
12.1	101	151	0.32	447	●
12.2	101	151	0.32	448	○
12.3	101	151	0.32	449	●
12.4	101	151	0.32	450	○
12.5	101	151	0.32	451	○
12.6	101	151	0.32	452	○
12.7	101	151	0.32	453	○
12.8	101	151	0.32	454	○
12.9	101	151	0.32	455	●
13	101	151	0.32	456	●
13.5	108	160	0.07	457	●
14	108	160	0.07	458	●
14.5	114	169	0.07	459	○
15	114	169	0.07	460	●
15.5	120	178	0.07	461	●
16	120	178	0.07	462	●
16.5	125	184	0.07	463	●
17	125	184	0.11	464	○
17.5	130	191	0.11	465	●
18	130	191	0.11	466	○
18.5	135	198	0.11	467	●
19	135	198	0.11	468	○
19.5	140	205	0.11	469	●
20	140	205	0.11	470	○

Prod. Gr. 112

Micro twist drill bit HSSE-PM
For universal use up to 1,300 N/mm²

Application:
For machining micro holes up to a strength of 1,300 N/mm².

Advantage:
- High-quality HSSE-PM cutting material ensures maximum toughness and is therefore less sensitive to breakage
- Diameter of 0.05 mm-1.50 mm
- Cost-effective alternative to the solid carbide range



Typ N

ATORN HSSE-PM micro drill (DIN 1899)
for universal use up to 1300 N/mm²

HSSE-PM | Typ N | 118° | HA

Application:
Standard geometry for universal use up to a strength of 1300 N/mm².

Execution:
- profile-ground
- Ø=0.05-0.8 mm shaft diameter = 1.0 mm
- Ø=0.85–1.50 mm shaft diameter = 1.5 mm

Advantage:
- excellent all-round properties and precise cutting pattern
- HSSE-PM cutting material ensures a long service life with a high degree of resilience at the same time

Delivery:
Packaging unit = 10 pieces (price per piece)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	10	10	50	60	50	45	40	30	30	10	30	7	6	6		

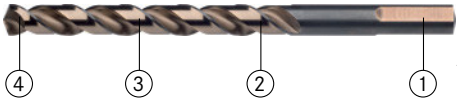
			Cutting material	HSSE-PM	
			Surface	Uncoated	
mm	mm	mm	f steel 1000 ● (mm/r)	11054... Ident. No.	
0.05	0.4	25	0.006	005	●
0.08	0.5	25	0.006	008	●
0.1	0.7	25	0.006	010	●
0.15	1	25	0.007	015	●
0.2	1.8	25	0.008	020	●
0.25	2.2	25	0.009	025	●
0.3	2.2	25	0.01	030	●
0.35	2.8	25	0.011	035	●
0.4	3.6	25	0.012	040	●
0.45	3.6	25	0.013	045	●
0.5	4	25	0.014	050	●
0.55	4.5	25	0.015	055	●
0.6	4.5	25	0.016	060	●
0.65	5	25	0.017	065	●
0.7	5.6	25	0.018	070	●
0.75	5.6	25	0.019	075	●
0.8	6.3	25	0.022	080	●
0.85	6.3	25	0.025	085	●
0.9	7.1	25	0.028	090	●
0.95	7.1	25	0.031	095	●
1	8	25	0.034	100	●
1.1	9	25	0.037	110	○
1.2	10	25	0.04	120	●
1.3	10	25	0.043	130	●
1.4	11.2	25	0.046	140	●
1.5	12.5	25	0.049	150	●

Prod. Gr. 112

Multi-twist drill bit
Straight shank with 3-face grinding

Application:
The multi-twist drill bit was specially developed for mobile use on cordless drill drivers (plates up to 5 mm) and drills.

Advantage:
- 3-face grinding on the shank provides optimum power transmission and retention in drill chuck. Slippage is a thing of the past. Less effort when loosening or tightening in drill chuck.
- 40° helix angle ensures reliable chip removal during universal use. Higher cutting speeds with increased stability and accuracy.
- Special coating in connection with relief grinding provides for maximum adhesion of the lubricant and reliable chip removal.
- In the case of hand-held applications with a cordless drill driver in particular, the 135° tip angle provides for a very high precision of the bore hole, reduced cutting forces (extension of the battery life) and optimum centring precision, thanks to the innovative centre grinding.



ATORN Multi-twist drills (DIN 338)
for universal use up to 1,300 N/mm² on portable drills

HSSE | UNI | 135°

Application:
Multi-spiral drill for portable use on cordless drill screwdrivers and drilling machines engineered up to a plate thickness of 5 mm.

Execution:
- Twist drill with special geometry for mobile use

Advantage:
- Three-faced polished section on the shank ensures optimum force transmission and fastening in drill chuck (no slipping through)
- 135° tip angle ensures very high degree of precision of the bore hole, in particular with hand-held applications in the cordless drill screwdriver thanks to the innovative centre cutting, reduced cutting forces (longer battery life) and optimum centring precision
- Special coating in conjunction with relief grinding ensures maximum adhesion of the lubricant and reliable chip removal

Delivery:
Packaging unit: drill Ø 1.0-6.0 mm = 10 pieces (price per piece)

Notes:
drill Ø <4.00 mm without three-faced polished section

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	10	10	50	60	50	45	40	30	20	15	30	10	10	10		

Cutting material				HSSE	
			Surface	Uncoated	
mm	mm	mm	f steinl. st. ● (mm/r)	11032... Ident. No.	
2	24	49	0.03	020	●
2.5	30	57	0.04	025	●
3	33	61	0.04	030	●
3.2	36	65	0.04	032	●
3.3	36	65	0.04	033	●
3.5	39	70	0.05	035	●
4	43	75	0.05	040	●
4.2	43	75	0.05	042	●
4.5	47	80	0.06	045	●
5	52	86	0.06	050	●
5.5	57	93	0.07	055	●
6	57	93	0.08	060	●
6.5	63	101	0.08	065	●
6.8	69	109	0.09	068	●

Cutting material				HSSE	
			Surface	Uncoated	
mm	mm	mm	f steinl. st. ● (mm/r)	11032... Ident. No.	
7	69	109	0.09	070	●
7.5	69	109	0.09	075	●
8	75	117	0.1	080	●
8.5	75	117	0.11	085	●
9	81	125	0.11	090	●
9.5	81	125	0.12	095	●
10	87	133	0.12	100	●
10.2	87	133	0.12	102	●
10.5	87	133	0.13	105	●
11	94	142	0.13	110	●
11.5	94	142	0.14	115	●
12	101	151	0.14	120	●
12.5	101	151	0.15	125	●
13	101	151	0.15	130	●

Prod. Gr. 112

ATORN Multi twist drill set (DIN 338)

for universal use up to 1,300 N/mm² on portable drills

HSSE | UNI | 135° | HA

Application:
Multi-spiral drill for portable use on cordless drill screwdrivers and drilling machines engineered up to a plate thickness of 5 mm.

Execution:
- twist drill with special geometry for mobile use

Advantage:
- Three-faced polished section on the shank ensures optimum force transmission and fastening in drill chuck (no slipping through)
- 135° tip angle ensures very high degree of precision of the bore hole, in particular with hand-held applications in the cordless drill screwdriver thanks to the innovative centre cutting, reduced cutting forces (longer battery life) and optimum centring precision
- special coating in connection with relief grinding ensures maximum lubricant adhesion and safe chip removal

Notes:
Drill Ø <4.00 mm without three-faced polished section

		Surface	Uncoated	
		Cutting material	HSSE	
		Type	UNI	
Included in delivery	Pitch of drill Ø	Number of pieces in assortment/set (PCS)	11032... Ident. No.	
2.0-8.0 mm	1 mm	6	001	●
1.0-10.0 mm	0.5 mm	19	002	●
1.0-13.0 mm	0.5 mm	25	003	●

Prod. Gr. 112

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	10	10	50	60	50	45	40	30	20	15	30	10	10	10		

Step Drill twist drill bit

For universal use up to 1,300 N/mm² in hand-held drills

Application:
The Step Drill has been developed for use in a wide variety of materials, ranging from metals, plastics and acrylic glass to wood.
There are no limits to its use, with typical areas of application including sheet metals, flat materials, metal or plastic profiles, round materials, pipes, steel supports, wood and even plastic panels. It can even be used to drill out rivets.

Advantages:
- Circular holes
- Burr-free hole exit
- No centring required
- No snagging of the drill bit in the material
- Minimal force
- Does not spin in the drill chuck due to 3-flat shank
- Multiple main cutting edges create short chips
- Maximum flexibility

Typ STEP

ATORN Step Drill twist drill bit (DIN 338)

for universal use up to 1,300 N/mm² in hand-held drills

HSSE | Typ STEP | 118° | HA

Application:
for use in hand-held drills, designed for use in a large number of applications and for machining a wide range of materials

Execution:
- Brand new tip design with stepped geometry and up to six steps
- HSSE variant with 5 % cobalt
- Tempered with purple finish

Advantage:
- Very little force needs to be applied
- Circular and burr-free bore holes
- Outstanding centring and drilling
- 3-flat shank ensures perfect power transmission

Delivery:
Packing unit: Drill bit dia. 1.0-6.0 mm = 10 units (price per unit)

Notes:
Dia. 1-2 mm: without 3-flat shank, no steps; dia. 2.5-3.5 mm: without 3-flat shank, with steps; from dia. 4.0 mm: with 3-flat shank, with steps

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	34	24	11	15	13	52	60	52	60	52	60	25		31	10	10	10		

Cutting material			HSSE		
Surface			Violet tempered		
mm	mm	mm	f steel 1000 ● (mm/r)	11049... Ident. No.	
1	12	34	0.016	100	●
1.5	18	40	0.022	110	●
2	24	49	0.050	120	●
2.5	30	57	0.063	130	●
3	33	61	0.080	140	●
3.2	36	65	0.081	150	●
3.3	36	65	0.083	160	●
3.5	39	70	0.090	170	●
4	43	75	0.100	180	●
4.1	43	75	0.100	190	●
4.2	43	75	0.100	200	●
4.5	47	80	0.100	210	●
4.9	52	86	0.100	220	●
5	52	86	0.100	230	●
5.1	52	86	0.110	240	●
5.2	52	86	0.110	250	●
5.5	57	93	0.110	260	●

Cutting material			HSSE		
Surface			Violet tempered		
mm	mm	mm	f steel 1000 ● (mm/r)	11049... Ident. No.	
6	57	93	0.110	270	●
6.5	63	101	0.125	280	●
6.8	69	109	0.125	290	●
7	69	109	0.125	300	●
7.5	69	109	0.125	310	●
8	75	117	0.160	320	●
8.5	75	117	0.160	330	●
9	81	125	0.160	340	●
9.5	81	125	0.160	350	●
10	87	133	0.200	360	●
10.2	87	133	0.200	370	●
10.5	87	133	0.200	380	●
11	94	142	0.200	390	●
11.5	94	142	0.200	400	●
12	101	151	0.200	410	●
12.5	101	151	0.200	420	●
13	101	151	0.200	430	●

Prod. Gr. 112

ATORN Step Drill twist drill bit (DIN 338)

for universal use up to 1,300 N/mm² in hand-held drills

HSSE | Typ STEP | 118°

Application:
For use in hand-held drills, designed for use in a large number of applications and for machining a wide range of materials

Execution:
- Brand new tip design with stepped geometry and up to six steps
- HSSE variant with 5 % cobalt
- Tempered with purple finish

Advantage:
- Very little force needs to be applied
- Circular and burr-free bore holes
- Outstanding centring and drilling
- 3-flat shank ensures perfect power transmission

Notes:
Dia. 1-2 mm: without 3-flat shank, no steps; dia. 2.5-3.5 mm: without 3-flat shank, with steps; from dia. 4.0 mm: with 3-flat shank, with steps

Ident. No. 440, 460

Ident. No. 450, 470

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	34	24	11	15	13	52	60	52	60	52	60	25		31	10	10	10		

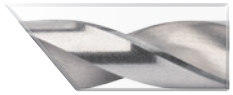
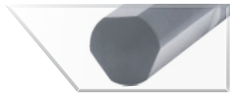
Surface			Violet tempered
Cutting material			HSSE
Type			STEP
Included in delivery	Pitch of drill Ø	Number of pieces in assortment/set (PCS)	11049... Ident. No.	
1.0-10.0 mm	0.5 mm	19	440	●
1.0-13.0 mm	0.5 mm	25	450	●
1.0-10.5 mm	0.5 mm + core-hole drill	24	460	●
1.0-13.0 mm	0.5 mm + core-hole drill	29	470	●

Prod. Gr. 112

Step Drill twist drill bit
For universal use up to 1,000 N/mm² in hand-held drills

Application:
The Step Drill has been developed for use in a wide variety of materials, ranging from metals, plastics and acrylic glass to wood.
There are no limits to its use, with typical areas of application including sheet metals, flat materials, metal or plastic profiles, round materials, pipes, steel supports, wood and even plastic panels. It can even be used to drill out rivets.

Advantages:
- Circular holes
- Burr-free hole exit
- No centring required
- The drill bit does not cut in the material
- Minimal force
- Does not spin in the drill chuck due to 3-flat shank
- Multiple main cutting edges create short chips
- Maximum flexibility

ATORN Step Drill twist drill bit (DIN 338)
for universal use up to 1000 N/mm² in hand-held drills

No. 11046

No. 11048

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Application:
for use in hand-held drills, designed for use in a large number of applications and for machining a wide range of materials

Execution:
- Brand new tip design with stepped geometry and up to six steps
- HSS variant
- **No. 11046:** Vaporised
- **No. 11048:** TiN coating on head

Advantage:
- Very little force needs to be applied
- Circular and burr-free bore holes
- Outstanding centring and drilling
- 3-flat shank ensures perfect power transmission

Delivery:
Packing unit: Drill bit dia. 1.0-6.0 mm = 10 units (price per unit)

Notes:
Dia. 1-2 mm: without 3-flat shank, no steps; dia. 2.5-3.5 mm: without 3-flat shank, with steps; from dia. 4.0 mm: with 3-flat shank, with steps

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11046100-430	30	21				46	54	46	54	46	54	22		27					
11048100-430	34	24				52	60	52	60	52	60	25		31					

Cutting material				HSS		HSS	
Surface				Plain		Vaporised	
Surface of the head				TiN			
mm	mm	mm	f steel 700 ● (mm/r)	11048... Ident. No.		11046... Ident. No.	
1	12	34	0.016	100	●	100	●
1.5	18	40	0.022	110	●	110	●
2	24	49	0.050	120	●	120	●
2.5	30	57	0.063	130	●	130	●
3	33	61	0.080	140	●	140	●
3.2	36	65	0.081	150	●	150	●
3.3	36	65	0.083	160	●	160	●
3.5	39	70	0.090	170	●	170	●
4	43	75	0.100	180	●	180	●
4.1	43	75	0.100	190	●	190	●
4.2	43	75	0.100	200	●	200	●
4.5	47	80	0.100	210	●	210	●
4.9	52	86	0.100	220	●	220	●
5	52	86	0.100	230	●	230	●
5.1	52	86	0.110	240	●	240	●
5.2	52	86	0.110	250	●	250	●
5.5	57	93	0.110	260	●	260	●

Cutting material				HSS		HSS	
Surface				Plain		Vaporised	
Surface of the head				TiN			
mm	mm	mm	f steel 700 ● (mm/r)	11048... Ident. No.		11046... Ident. No.	
6	57	93	0.110	270	●	270	●
6.5	63	101	0.125	280	●	280	●
6.8	69	109	0.125	290	●	290	●
7	69	109	0.125	300	●	300	●
7.5	69	109	0.125	310	●	310	●
8	75	117	0.160	320	●	320	●
8.5	75	117	0.160	330	●	330	●
9	81	125	0.160	340	●	340	●
9.5	81	125	0.160	350	●	350	●
10	87	133	0.200	360	●	360	●
10.2	87	133	0.200	370	●	370	●
10.5	87	133	0.200	380	●	380	●
11	94	142	0.200	390	●	390	●
11.5	94	142	0.200	400	●	400	●
12	101	151	0.200	410	●	410	●
12.5	101	151	0.200	420	●	420	●
13	101	151	0.200	430	●	430	●

Prod. Gr. 112

ATORN Step Drill twist drill bit (DIN 338)

for universal use up to 1000 N/mm² in hand-held drills

HSS | Typ STEP | 118°

Application:
For use in hand-held drills, designed for use in a large number of applications and for machining a wide range of materials

Execution:
- Brand new tip design with stepped geometry and up to six steps
- HSS variant
- **No. 11046:** Vaporised
- **No. 11048:** TiN coating on head

Advantage:
- Very little force needs to be applied
- Circular and burr-free bore holes
- Outstanding centring and drilling
- 3-flat shank ensures perfect power transmission

Notes:
Dia. 1-2 mm: without 3-flat shank, no steps; dia. 2.5-3.5 mm: without 3-flat shank, with steps; from dia. 4.0 mm: with 3-flat shank, with steps

No. 11046 440, 11046 460

No. 11048 440, 11048 460

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11046440-470	30	21				46	60	46	60	46	60	22		27					
11048440-470	30	24				52	60	52	60	52	60	25		31					

			Surface	Plain		Vaporised	
			Surface of the head	TiN			
			Cutting material	HSS		HSS	
			Type	STEP		STEP	
Included in delivery	Pitch of drill Ø	Number of pieces in assortment/set (PCS)		11048... Ident. No.		11046... Ident. No.	
1.0-10.0 mm	0.5 mm	19		440	●	440	●
1.0-13.0 mm	0.5 mm	25		450	●	450	●
1.0-10.5 mm	0.5 mm + core-hole drill	24		460	●	460	●
1.0-13.0 mm	0.5 mm + core-hole drill	29		470	●	470	●

Prod. Gr. 112

ATORN Step drill bit type N HSS with offset shank

HSS | Typ STEP | 118°

Application:
Standard geometry for universal use up to 1,000 N/mm².

Execution:
- Twist drill bit with universal standard geometry

Advantage:
- Excellent all-round properties and precise cutting behaviour
- Steam treatment ensures favourable adherence of cutting fluid
- Diameter-independent straight shank of uniform length for clamping and tooling advantages

Technical data:
- Shank diameter: 12.7 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	21				46	54	46	54	46	54	22		27					

				Surface	Vaporised	
				Cutting material	HSS	
mm	mm	mm	f steel 700 ● (mm/r)	11046... Ident. No.		
13.5	61	107	0.250	500	●	
14	61	107	0.250	505	●	
14.5	65	111	0.250	510	●	
15	65	111	0.250	515	●	
15.5	69	115	0.250	520	●	
16	69	115	0.250	525	●	
16.5	73	119	0.315	530	●	

				Surface	Vaporised	
				Cutting material	HSS	
mm	mm	mm	f steel 700 ● (mm/r)	11046... Ident. No.		
17	73	119	0.315	535	●	
17.5	77	123	0.315	540	●	
18	77	123	0.315	545	●	
18.5	81	127	0.315	550	●	
19	81	127	0.315	555	●	
19.5	85	131	0.315	560	●	
20	85	131	0.315	565	●	

Prod. Gr. 112

ATORN ORION® Twist drill type N HSS with offset shank

for universal use up to 1000 N/mm²

HSS | Typ N | 118°

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- Steam treatment ensures favourable adherence of coolant
- Diameter-independent straight shank of uniform length for clamping and tool advantages
- **No. 11068:** Inexpensive tool, very good value for money

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	**20**	10	**10**	8	**40**	60	**50**	30	**30**	20	20	10	**20**	4				

				ORION®		ATORN®	
mm	mm	mm	Shank Ø (mm)	f steel 700 ● (mm/r)	11068... Ident. No.		11067... Ident. No.	
13.5	76	152	12.7	0.26	**135**	●	**135**	●
14	76	152	12.7	0.26	**140**	●	**140**	●
14.5	76	152	12.7	0.27	**145**	●	**145**	●
15	76	152	12.7	0.27	**150**	●	**150**	●
15.5	76	152	12.7	0.28	**155**	●	**155**	●
16	76	152	12.7	0.28	**160**	●	**160**	●
16.5	76	152	12.7	0.28	**165**	●	**165**	●
17	76	152	12.7	0.29	**170**	●	**170**	●
17.5	76	152	12.7	0.29	**175**	●	**175**	●
18	76	152	12.7	0.3	**180**	●	**180**	●
18.5	76	152	12.7	0.3	**185**	●	**185**	●
19	76	152	12.7	0.3	**190**	●	**190**	●
19.5	76	152	12.7	0.31	**195**	●	**195**	●
20	76	152	12.7	0.31	**200**	●	**200**	●
21	76	152	12.7	0.32	**210**	●	**210**	●
22	76	152	12.7	0.33	**220**	●	**220**	●
23	76	152	12.7	0.33	**230**	●	**230**	●
24	76	152	12.7	0.34	**240**	●	**240**	●
25	76	152	12.7	0.35	**250**	●	**250**	●

ATORN® = Prod. Gr. 1AA
ORION = Prod. Gr. 1AP

ATORN Twist drill set, type N HSS with offset shank

for universal use up to 1000 N/mm²

Application:
Standard geometry for universal use up to a strength of 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- Steam treatment ensures favourable adherence of coolant
- Diameter-independent straight shank of uniform length for clamping and tooling advantages

Ident. No. 900

Ident. No. 910

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	**20**	10	**10**	8	**40**	60	**50**	30	**30**	20	20	10	**20**	4				

Composition of set	Pitch of drill Ø	Number of pieces in assortment/set (PCS)	11067... Ident. No.	
Ø 13.5-20 mm	0.5 mm	14	**900**	●
Ø 14-25 mm	1 mm	12	**910**	●

Prod. Gr. 1AA

Twist drill bit with soldered carbide cutting edge

Application:
Series and single-part production on conventional and CNC machines.

Advantage:
- Polished chip spaces provide good chip removal
- K20 carbide cutting edge provides long service life
- A problem solver when high elasticity and high wear resistance are required
- Excellent value for money

HM | Typ N

ORION® Twist drill type N with CC cutting plate (DIN 8037)

for universal use up to 1500 N/mm²

HM | 4xD | Typ N | 118°

Application:
Universal use in all material groups up to a strength of 1500 N/mm².

Execution:
- Twist drill with universal standard geometry, soldered cemented carbide insert (K20) and driving lug on the clamp shank

Advantage:
- Cemented carbide insert, K20, for a long service life
- polished chipping spaces ensure good chip removal
- cost-effective tool for broad range of applications

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	70	60	40	40	25	130	180	120	100	100	85			80	20	20	20	10	

mm	mm	mm	f steel 1300 ● (mm/r)	11160... Ident. No.	
1.50	18	45	0.02	015	●
2.00	18	45	0.03	020	●
2.50	18	45	0.03	025	●
3.00	20	50	0.04	030	●
3.50	25	56	0.04	035	●
4.00	25	56	0.05	040	●
4.50	28	63	0.05	045	●
5.00	28	63	0.05	050	●
5.50	32	71	0.06	055	●
6.00	32	71	0.06	060	●
6.50	32	71	0.07	065	●
7.00	40	80	0.07	070	●
7.50	40	80	0.08	075	●
8.00	40	80	0.08	080	●
8.50	50	90	0.09	085	●
9.00	50	90	0.1	090	●
9.50	50	90	0.1	095	●
10.00	56	100	0.11	100	●
10.50	56	100	0.12	105	●
11.00	56	100	0.13	110	●
11.50	63	112	0.13	115	●
12.00	63	112	0.14	120	●
13.00	63	112	0.15	130	●
14.00	71	125	0.16	140	●
15.00	71	125	0.17	150	●
16.00	80	140	0.18	160	●
17.00	80	140	0.19	170	○
18.00	90	160	0.2	180	●
20.00	90	160	0.21	200	○

Prod. Gr. 140

ORION® Twist drill set type N CC cutting plate (DIN 8037)

For universal use up to 1500 N/mm² and for machining hard materials up to 63HRC

HM | 4xD | Typ H | Typ N | 118°

Application:

No. 11160: Universal use in all material groups up to a strength of 1500 N/mm2.

No. 11162: Hard machining up to 63 HRC.

Execution:

- Twist drill with universal standard geometry, soldered cemented carbide insert (K20) and driving lug on the clamp shank

Advantage:

- Cemented carbide insert, K20, for a long service life
- Polished chip chamber for good chip removal
- Rugged steel case protects the tool from damage while allowing user-friendly access
- **No. 11160:** low-cost tool for broad range of applications
- **No. 11162:** long service life in hardened steel

Included in delivery	Pitch of drill Ø	Number of pieces in assortment/set (PCS)	11160... Ident. No.		11162... Ident. No.	
3,0-10,0	1 mm	8	900	●	900	●

Prod. Gr. 140

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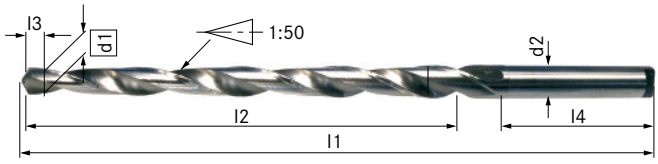
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11160900	70	60	40	40	25	130	180	120	100	100	85			80	20	20	20	10	
11162900																		15	10

ORION® Taper pin drill HSS 1 : 50 (DIN 1898)

for universal use up to 1000 N/mm²

HSS | 118°



Application:

For taper pin holes, taper 1 : 50. For manufacturing tapered bores for taper pins in line with DIN 1 and DIN EN 22339 in one step. Driver in line with DIN 1809.

Execution:

- profile-ground

Advantage:

- Special, high-precision geometry for outstanding centring and positional accuracy

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	10		70	80	45	40	40	40	30	○	15					

Cutting edge Ø (mm)	Min. cutting edge Ø (mm)	Max. cutting edge Ø (mm)	l2 (mm)	l1 (mm)	l3 (mm)	d2 (mm)	f steel 700 ● (mm/r)	11120... Ident. No.	
1.50	1.4	2.08	34	64	5	2.0	0.02	015	●
2.00	1.9	2.86	48	86	5	3.15	0.02	020	●
3.00	2.90	4.06	58	100	5	4	0.03	030	●
4.00	3.90	5.26	68	112	5	5	0.03	040	●
5.00	4.90	6.36	73	122	5	6.3	0.04	050	●
6.00	5.90	8.00	105	160	5	8	0.05	060	●
8.00	7.9	10.80	145	207	5	10	0.06	080	●
10.00	9.9	13.40	175	245	5	10	0.07	100	●
12.00	11.80	16.00	210	290	10	16	0.08	120	●

Prod. Gr. 102

ATORN HSS core drill (DIN 344)

For universal use up to 1000 N/mm²

HSS | Z 3

Application:
For core drilling pre-drilled, pre-cast or punched holes.

Execution:
- 3-blade design

Advantage:
- stable grinding combined with the three blades ensure that any mis-alignments and run-out of the pre-made holes are corrected

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	22	20	10	6	4	40	50	40	35	30	25	40		20					

Cutting edge Ø (mm)	Cutting edge length (mm)	Length (mm)	f steel 700 ● (mm/r)	11410... Ident. No.	
4.8	74	108	0.05	048	●
5	74	108	0.05	050	●
5.8	80	116	0.05	058	●
6	80	116	0.06	060	●
6.8	93	133	0.06	068	●
7	93	133	0.06	070	○
7.8	100	142	0.07	078	●
8	100	142	0.07	080	●
8.8	107	151	0.07	088	●
9	107	151	0.08	090	○
9.8	116	162	0.08	098	●
10	116	162	0.08	100	●
11	125	173	0.08	110	○
11.75	134	184	0.08	117	●
12	134	184	0.08	120	●

Prod. Gr. 1BH

ATORN ORION® Twist drill type N HSS (DIN 345)

for universal use up to 1000 N/mm²

HSS | Typ N | 118° | MK

No. 11070

No. 11071

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Steam treatment ensures favourable adherence of coolant

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20		10		50	45	40	35	40	30	20	10	25					

					ATORN		ORION	
				Cutting material	HSS		HSS	
				Surface	Vaporised		Vaporised	
mm	mm	mm		f steel 700 ● (mm/r)	11070... Ident. No.		11071... Ident. No.	
5	52	133	MK 1	0.11	031	●	-	-
6	57	138	MK 1	0.12	046	●	-	-
7	69	150	MK 1	0.12	059	●	-	-
8	75	156	MK 1	0.12	074	●	-	-
8.5	75	156	MK 1	0.13	081	●	-	-
9	81	162	MK 1	0.13	088	●	-	-
9.5	81	162	MK 1	0.14	095	●	-	-
10	87	168	MK 1	0.22	103	●	103	●
10.2	87	168	MK 1	0.22	105	●	-	-
10.5	87	168	MK 1	0.23	110	●	110	●
11	94	175	MK 1	0.23	117	●	117	●
11.5	94	175	MK 1	0.24	124	●	124	●
11.75	94	175	MK 1	0.24	128	●	128	●
11.8	94	175	MK 1	0.24	129	●	-	-
12	101	182	MK 1	0.24	132	●	132	●
12.1	101	182	MK 1	0.24	133	●	-	-
12.2	101	182	MK 1	0.24	134	●	-	-
12.5	101	182	MK 1	0.25	138	●	138	●

					ATORN		ORION	
				Cutting material	HSS		HSS	
				Surface	Vaporised		Vaporised	
mm	mm	mm		f steel 700 ● (mm/r)	11070... Ident. No.		11071... Ident. No.	
12.75	101	182	MK 1	0.25	141	●	-	-
13	101	182	MK 1	0.25	144	●	144	●
13.25	108	189	MK 1	0.25	-	-	147	●
13.5	108	189	MK 1	0.26	151	●	151	●
13.75	108	189	MK 1	0.26	154	●	154	●
14	108	189	MK 1	0.26	158	●	158	●
14.25	114	212	MK 2	0.26	161	●	161	●
14.5	114	212	MK 2	0.27	165	●	165	●
14.75	114	212	MK 2	0.27	169	●	169	●
15	114	212	MK 2	0.27	172	●	172	●
15.25	120	218	MK 2	0.27	176	●	176	●
15.5	120	218	MK 2	0.28	180	●	180	●
15.75	120	218	MK 2	0.28	183	●	183	●
16	120	218	MK 2	0.28	187	●	187	●
16.25	125	223	MK 2	0.28	190	●	190	●
16.5	125	223	MK 2	0.28	194	●	194	●
16.75	125	223	MK 2	0.29	198	●	198	●
17	125	223	MK 2	0.29	201	●	201	●
17.25	130	228	MK 2	0.29	205	●	205	●
17.5	130	228	MK 2	0.29	209	●	209	●
17.75	130	228	MK 2	0.29	212	●	212	●
18	130	228	MK 2	0.3	216	●	216	●
18.25	135	233	MK 2	0.3	-	-	219	●
18.5	135	233	MK 2	0.3	223	●	223	●
18.75	135	233	MK 2	0.3	227	●	227	●
19	135	233	MK 2	0.3	230	●	230	●
19.25	140	238	MK 2	0.31	-	-	234	●
19.5	140	238	MK 2	0.31	238	●	238	●
19.75	140	238	MK 2	0.31	241	●	241	●
20	140	238	MK 2	0.31	245	●	245	●
20.25	145	243	MK 2	0.31	-	-	249	●
20.5	145	243	MK 2	0.32	252	●	252	●
20.75	145	243	MK 2	0.32	-	-	256	●
21	145	243	MK 2	0.32	259	●	259	●
21.25	150	248	MK 2	0.32	-	-	263	●
21.5	150	248	MK 2	0.32	267	●	267	●
21.75	150	248	MK 2	0.33	270	●	270	●
22	150	248	MK 2	0.33	274	●	274	●
22.25	150	248	MK 2	0.33	-	-	278	●
22.5	155	253	MK 2	0.33	281	●	281	●
22.75	155	253	MK 2	0.33	-	-	285	●
23	155	253	MK 2	0.33	288	●	288	●
23.25	155	276	MK 3	0.34	-	-	290	●
23.5	155	276	MK 3	0.34	292	●	292	●
23.75	160	281	MK 3	0.34	-	-	293	●
24	160	281	MK 3	0.34	295	●	295	●
24.25	160	281	MK 3	0.34	-	-	297	●
24.5	160	281	MK 3	0.35	298	●	298	●
24.75	160	281	MK 3	0.35	300	●	300	●
25	160	281	MK 3	0.35	301	●	301	●
25.25	165	286	MK 3	0.35	-	-	302	●
25.4	165	286	MK 3	0.35	303	●	-	-
25.5	165	286	MK 3	0.35	304	●	304	●
25.75	165	286	MK 3	0.35	-	-	305	●
26	165	286	MK 3	0.35	307	●	307	●
26.25	165	286	MK 3	0.36	-	-	309	●
26.5	165	286	MK 3	0.36	310	●	310	●
26.75	170	291	MK 3	0.36	-	-	312	●
27	170	291	MK 3	0.36	314	●	314	●
27.5	170	291	MK 3	0.36	317	●	317	●
27.75	170	291	MK 3	0.36	-	-	318	●
28	170	291	MK 3	0.36	320	●	320	●
28.5	175	296	MK 3	0.37	323	●	323	●
28.75	175	296	MK 3	0.37	-	-	325	●
29	175	296	MK 3	0.37	327	●	327	●
29.5	175	296	MK 3	0.37	330	●	330	●
29.75	175	296	MK 3	0.37	-	-	331	●
30	175	296	MK 3	0.37	333	●	333	●
30.5	180	301	MK 3	0.37	336	●	336	●
30.75	180	301	MK 3	0.37	338	●	-	-
31	180	301	MK 3	0.38	340	●	340	●
31.5	180	301	MK 3	0.38	-	-	343	●
32	185	334	MK 4	0.38	345	●	345	●
32.5	185	334	MK 4	0.38	347	●	-	-
33	185	334	MK 4	0.38	350	●	350	●

					ATORN		ORION	
				Cutting material	HSS		HSS	
				Surface	Vaporised		Vaporised	
mm	mm	mm		f steel 700 ● (mm/r)	11070... Ident. No.		11071... Ident. No.	
33.5	185	334	MK 4	0.39	-	-	352	●
34	190	339	MK 4	0.39	354	●	354	●
34.5	190	339	MK 4	0.39	-	-	356	●
35	190	339	MK 4	0.39	359	●	359	●
35.5	190	339	MK 4	0.4	-	-	361	●
36	195	344	MK 4	0.4	363	●	363	●
36.5	195	344	MK 4	0.4	-	-	365	●
37	195	344	MK 4	0.4	-	-	368	●
37.5	195	344	MK 4	0.4	369	●	370	●
38	200	349	MK 4	0.41	372	●	372	●
38.5	200	349	MK 4	0.41	-	-	374	●
39	200	349	MK 4	0.41	376	●	376	●
39.5	200	349	MK 4	0.41	378	●	378	●
40	200	349	MK 4	0.41	380	●	380	●
41	205	354	MK 4	0.42	-	-	385	●
42	205	354	MK 4	0.42	389	●	389	●
43	210	359	MK 4	0.43	394	●	394	●
44	210	359	MK 4	0.43	-	-	398	●
45	210	359	MK 4	0.44	403	●	403	●
46	215	364	MK 4	0.44	-	-	407	●
47	215	364	MK 4	0.44	-	-	412	●
48	220	369	MK 4	0.45	413	●	416	●
49	220	369	MK 4	0.45	-	-	421	●
50	220	369	MK 4	0.46	425	●	425	●
52	230	417	MK 5	0.48	430	●	-	-
54	230	417	MK 5	0.48	442	●	-	-
55	230	417	MK 5	0.48	444	●	444	●
60	235	460	MK 5	0.5	460	●	460	●
65	235	460	MK 5	0.5	471	●	-	-

ATORN = Prod. Gr. 1AA
ORION = Prod. Gr. 1AP

ATORN Twist drill type VA HSSE, uncoated (DIN 345)

For use in stainless steel and special alloys

HSSE | Typ VA | 130° | MK

Application:
For use in stainless steel, special alloys up to a strength of 1300 N/mm².

Advantage:
- Special geometry with aggressive cutter design and free geometry for very smooth cutting

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Execution:
- twist drill with stainless steel profile

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	10	20	50	70	70	45	40	30			20	10	10	10		

					Cutting material	HSSE	
					Surface	Uncoated	
mm	mm	mm			f steel 700 ● (mm/r)	11074... Ident. No.	
11	94	175	MK 1		0.23	117	●
11.5	94	175	MK 1		0.24	124	●
12	101	182	MK 1		0.24	132	●
12.5	101	182	MK 1		0.25	138	●
13	101	182	MK 1		0.25	144	●
13.5	108	189	MK 1		0.26	151	●
14	108	189	MK 1		0.26	158	●
14.5	114	212	MK 2		0.27	165	●
15	114	212	MK 2		0.27	172	●
15.5	120	218	MK 2		0.28	180	●
16	120	218	MK 2		0.28	187	●
16.5	125	223	MK 2		0.28	194	●
17	125	223	MK 2		0.29	201	●

				Cutting material	HSSE	
				Surface	Uncoated	
mm	mm	mm		f steel 700 ● (mm/r)	11074... Ident. No.	
17.5	130	228	MK 2	0.29	209	●
18	130	228	MK 2	0.3	216	●
18.5	135	233	MK 2	0.3	223	●
19	135	233	MK 2	0.3	230	●
19.5	140	238	MK 2	0.31	238	●
20	140	238	MK 2	0.31	245	●
20.5	145	243	MK 2	0.32	252	●
21	145	243	MK 2	0.32	259	●
21.5	150	248	MK 2	0.32	267	●
22	150	248	MK 2	0.33	274	●
22.5	155	253	MK 2	0.33	281	●
23	155	253	MK 2	0.33	288	●

Prod. Gr. 112

ATORN Twist drill type N HSS, steam-treated, long (DIN 341)

for universal use up to 1000 N/mm²

Application:
Standard geometry for universal use up to 1000 N/mm².

Execution:
- Twist drill with universal standard geometry

Advantage:
- excellent all-round properties and precise cutting pattern
- universal use: minimises tool costs and improves flexibility
- Steam treatment ensures favourable adherence of coolant

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	22	14				40	50	45	30	30	20	10		20	5				

Cutting material				HSS		
Surface				Vaporised		
mm	mm	mm		f steel 700 ● (mm/r)	11084... Ident. No.	
14	142	223	MK 1	0.26	140	●
14	220	325	MK 1	0.26	141	●
14	275	410	MK 1	0.26	142	●
15	147	245	MK 2	0.27	150	●
15	220	340	MK 2	0.27	151	●
15	275	425	MK 2	0.27	152	●
16	153	251	MK 2	0.28	160	●
16	230	355	MK 2	0.28	161	●
16	295	445	MK 2	0.28	162	●
17	159	257	MK 2	0.29	170	●
17	230	355	MK 2	0.29	171	●
18	165	263	MK 2	0.3	180	●

Cutting material				HSS		
Surface				Vaporised		
mm	mm	mm		f steel 700 ● (mm/r)	11084... Ident. No.	
18	245	370	MK 2	0.3	181	●
18	310	465	MK 2	0.3	182	●
20	177	275	MK 2	0.31	200	●
20	260	385	MK 2	0.31	201	●
21	184	282	MK 2	0.32	210	●
21	260	385	MK 2	0.32	211	●
22	270	405	MK 2	0.33	221	●
24	206	327	MK 3	0.34	240	●
24	290	440	MK 3	0.34	241	●
25	206	327	MK 3	0.35	250	●
25	290	440	MK 3	0.35	251	●
25	365	555	MK 3	0.35	252	●

Prod. Gr. 112

ATORN Twist drill type TLP HSS, uncoated, long (DIN 341)

For universal use up to 1300 N/mm² in long-chipping materials

Application:
Geometry with deep-hole profile for application up to a strength of 1000 N/mm².

Execution:
- Twist drill with deep-hole profile

Advantage:
- Deep-hole profile for optimised chip removal at greater drilling depths without venting
- effective removal of chips thanks to large chipping spaces

Notes:
chamfer nitrated < Ø16; steam treated > Ø16

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20				40	60	45	35	40	30	20	10	20					

Cutting material				HSS		
Surface				Uncoated		
mm	mm	mm		f steel 1000 ● (mm/r)	11085... Ident. No.	
8	100	181	MK 1	0.15	080	●
8	165	265	MK 1	0.15	081	●
8	210	330	MK 1	0.15	082	●
8	420	500	MK 1	0.15	083	●
9	107	188	MK 1	0.16	090	●
9	175	275	MK 1	0.16	091	●
9	220	345	MK 1	0.16	092	●
9	420	500	MK 1	0.16	093	●
10	116	197	MK 1	0.16	100	●
10	185	285	MK 1	0.16	101	●
10	235	360	MK 1	0.16	102	●
10	420	500	MK 1	0.16	103	●
11	125	206	MK 1	0.17	110	●
11	195	300	MK 1	0.17	111	●
11	420	500	MK 1	0.17	113	○
12	134	215	MK 1	0.18	120	●
12	205	310	MK 1	0.18	121	●
12	260	395	MK 1	0.18	122	●
12	420	500	MK 1	0.18	123	●

Cutting material				HSS		
Surface				Uncoated		
mm	mm	mm		f steel 1000 ● (mm/r)	11085... Ident. No.	
13	134	215	MK 1	0.18	130	●
13	205	310	MK 1	0.18	131	●
13	260	395	MK 1	0.18	132	●
14	142	223	MK 1	0.19	140	●
14	220	325	MK 1	0.19	141	●
14	275	410	MK 1	0.19	142	●
14	420	500	MK 1	0.19	143	●
14	500	600	MK 1	0.19	144	●
14	650	750	MK 1	0.19	145	●
15	147	245	MK 2	0.19	150	●
15	220	340	MK 2	0.19	151	●
15	275	425	MK 2	0.19	152	●
15	500	600	MK 2	0.19	154	●
15	650	750	MK 2	0.19	155	●
15	850	1000	MK 2	0.19	156	●
16	153	251	MK 2	0.2	160	●
16	230	355	MK 2	0.2	161	●
16	295	445	MK 2	0.2	162	●
16	400	500	MK 2	0.2	163	●

				Cutting material	HSS	
				Surface	Uncoated	
mm	mm	mm		f steel 1000 ● (mm/r)	11085... Ident. No.	
16	500	600	MK 2	0.2	164	●
17	159	257	MK 2	0.21	170	●
17	230	355	MK 2	0.21	171	●
18	165	263	MK 2	0.21	180	●
18	245	370	MK 2	0.21	181	●
18	310	465	MK 2	0.21	182	●
18	400	500	MK 2	0.21	183	●
18	500	600	MK 2	0.21	184	●
18	650	750	MK 2	0.21	185	●
20	177	275	MK 2	0.22	200	●
20	260	385	MK 2	0.22	201	●
20	325	490	MK 2	0.22	202	●

				Cutting material	HSS	
				Surface	Uncoated	
mm	mm	mm		f steel 1000 ● (mm/r)	11085... Ident. No.	
20	400	500	MK 2	0.22	203	●
20	500	600	MK 2	0.22	204	●
21	184	282	MK 2	0.23	210	●
21	260	385	MK 2	0.23	211	●
21	500	600	MK 2	0.23	214	●
22	270	405	MK 2	0.23	221	●
22	500	600	MK 2	0.23	224	●
24	290	440	MK 3	0.24	241	○
24	475	600	MK 3	0.24	244	●
25	206	327	MK 3	0.25	250	●
25	475	600	MK 3	0.25	254	●

Prod. Gr. 112

ORION® Twist drill type N with cutting plate (DIN 8041)

for universal use up to 1500 N/mm²

Application:

Universal use in all material groups up to a strength of 1500 N/mm².

Execution:

- Twist drill with universal standard geometry and soldered cemented carbide insert (K20)

Advantage:

- Cemented carbide K20 insert ensures long service life
- polished chipping spaces ensure good chip removal
- cost-effective tool for broad range of applications

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	70	60	40	40	25	130	180	120	100	100	85			80	20	20	20	8	

mm	mm	mm	11163... Ident. No.	
13	56	146	130	●
14	63	168	140	●
15	63	168	150	●
16	70	175	160	●
17	70	175	170	●
18	80	185	180	●
19	80	185	190	●

mm	mm	mm	11163... Ident. No.	
20	90	215	200	●
22	90	215	220	●
23	100	225	230	●
24	100	225	240	○
25	100	225	250	●
26	110	260	260	●
30	125	275	300	●

Prod. Gr. 140

Stepped drill bit for thread cutting (core hole and countersink)

Application:
Series and single-part production on conventional and CNC machines.

Advantage:
- High profitability as core hole and 90°counterbore are produced in one single work step
- Precise alignment of drill diameter and countersink diameter

ATORN Stepped drill bit, short, type N HSSE

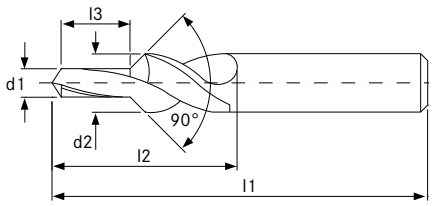
For thread core hole with countersink

HSSE | Typ N | 118° | HA

Application:
Countersink and thread core holes are manufactured in one machining step. Sturdy short design in particular for using in NC machines and automatic machines.

Execution:
- profile-ground

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- Special geometry for outstanding centring and positional accuracy



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	35	**25**	10	**10**	8	**40**	50	**40**	35	**20**	15			**20**	10				

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shank Ø (mm)	f steel 1000 ● (mm/r)	11117... Ident. No.	
M3	2.5	3.4	8	15	52	3.4	0.04	**003**	●
M4	3.3	4.5	11	19	58	4.5	0.05	**004**	●
M5	4.2	5.5	13	23	66	5.5	0.07	**005**	●
M6	5	6.6	16	27	70	6.6	0.08	**006**	●
M8	6.8	9	20	35	84	9	0.1	**008**	●
M10	8.5	11	24	44	95	11	0.12	**010**	●
M12	10.2	14	29	49	107	14	0.14	**012**	●

Prod. Gr. 112

ATORN HSS stepped drill bit short type N

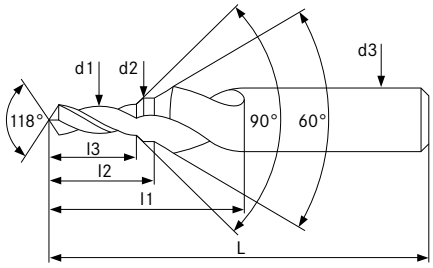
For core hole centrings

HSS | Typ N | 118° | HA | HB

Application:
Drilling of thread core holes in accordance with DIN 332-2, form D/DR. Simultaneous, precisely aligned insertion of centre hole, inlet for screw tap and thread core hole.

Execution:
- profile-ground

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20				**40**	50	**40**	35	**20**	15			**20**					

								Tool holding device	HA parallel shank		HB parallel shank	
Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l1 (mm)	l2 (mm)	L (mm)	d3 (mm)	f steel 700 ● (mm/r)	11121... Ident. No.		11122... Ident. No.	
M4	3.3	4.3	11	23	12.6	63	8	0.04	004	●	004	○
M5	4.2	5.3	13	27	15.1	67	10	0.05	005	●	005	●
M6	5	6.4	16	33	18.9	71	12.5	0.07	006	●	006	●
M8	6.8	8.4	19	41	23	88	14	0.08	008	●	008	●
M10	8.5	10.5	23	47	27.7	90	16	0.1	010	●	010	●
M12	10.2	13	28	59	34.5	105	22	0.12	012	●	012	●
M16	14	17	35	67	41.3	132	25	0.16	-	-	016	●
M20	17.5	21	38	77	48.3	145	31.5	0.18	-	-	020	○

Prod. Gr. 112

Stepped drill bit for 90° countersunk screw heads

Application:
Series and single-part production on conventional and CNC machines.

Advantage:
- High profitability as drill hole and 90° counterbore are produced in one single work step.
- Precise alignment of drill diameter and countersink diameter

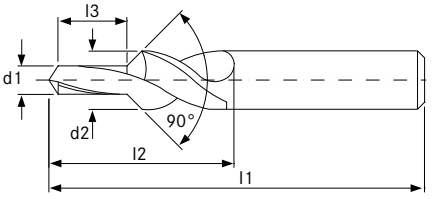
ATORN HSSE stepped drill bit short type N, fine quality grade

For 90° countersunk screws

Application:
For through holes in accordance with DIN/ISO 273 and countersinking in accordance with DIN 74 for countersunk screws in accordance with ISO 2009-2010 and DIN 963-964. Sturdy short design in particular for using in NC machines and automatic machines.

Execution:
- profile-ground

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- Special geometry for outstanding centring and positional accuracy



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	35	25	10	10	8	40	50	40	35	20	15			20	10				

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shank Ø (mm)	f steel 1000 ● (mm/r)	11119... Ident. No.	
M2	2.2	4.6	6	11	45	4.6	0.04	002	●
M3	3.2	6.5	9	15	45	6.5	0.05	003	●
M4	4.3	8.6	11	19	50	8.6	0.07	004	●
M5	5.3	10.4	13	23	55	10.4	0.08	005	●
M6	6.4	12.4	15	27	63	12.4	0.1	006	●
M8	8.4	16.4	19	35	100	12.5	0.12	008	●
M10	10.5	20.4	23	44	110	12.5	0.14	010	●

Prod. Gr. 112

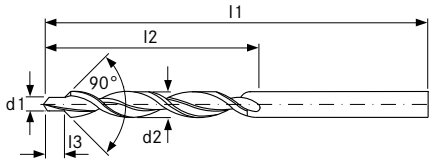
ORION® HSS Subland stepped drill bit type N, fine quality grade (DIN 8374)

For 90° countersunk screws

Application:
For through holes in accordance with DIN EN 20273 and screw head countersinking 90°.

Execution:
- Drill and countersink step with independent chip grooves and drill heels; regrinding does not affect the profile

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20				**40**	50	**40**	35	**20**	15			**20**					

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shank Ø (mm)	f steel 1000 ● (mm/r)	11100... Ident. No.	
M3	3.2	6	9	57	93	6	0.15	003	●
M4	4.3	8	11	75	117	8	0.18	004	●
M5	5.3	10	13	87	133	10	0.2	005	●
M6	6.4	11.5	15	94	142	11.5	0.21	006	●
M8	8.4	15	19	114	169	15	0.23	008	●

Prod. Gr. 1AR

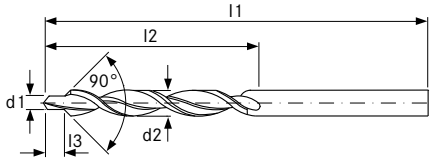
ORION® HSS Subland stepped drill bit type N, medium quality grade (DIN 8374)

For 90° countersunk screws

Application:
For through holes in accordance with DIN EN 20273 and 90° countersunk screw heads, form A and B, in accordance with DIN 74. For screws in accordance with DIN 963 and 964.

Execution:
- Drill and countersink step with independent chip grooves and drill heels; regrinding does not affect the profile

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20				**40**	50	**40**	35	**20**	15			**20**					

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shank Ø (mm)	f steel 700 ● (mm/r)	11101... Ident. No.	
M3	3.4	6.6	9	63	101	6.6	0.05	003	●
M4	4.5	9	11	81	125	9	0.07	004	●
M5	5.5	11	13	94	142	11	0.08	005	●
M6	6.6	13	15	101	151	13	0.09	006	●
M8	9	17.2	19	130	191	17.2	0.1	008	●

Prod. Gr. 1AR

Stepped drill bit for 180° countersunk screw heads

Application:
Series and single-part production on conventional and CNC machines.

Advantage:
- High profitability as drill hole and 180° counterbore are produced in one single work step
- Precise alignment of drill diameter and countersink diameter

ATORN HSSE step drills type N, medium quality grade

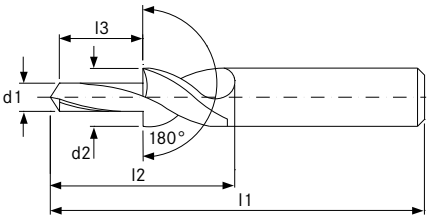
For 180° cylinder head screws

HSSE | Typ N | 118° | HA

Application:
According to DIN/ISO 273 and countersinking according to DIN 74, for cylinder head screws according to DIN 912, 6912, 7984 and ISO 1207. Hole and countersink produced in one machining step.

Execution:
- profile-ground

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- Special geometry for outstanding centring and positional accuracy



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	35	25	10	10	8	40	50	40	35	20	15			20	10				

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shank Ø (mm)	f steel 1000 ● (mm/r)	11118... Ident. No.	
M3	3.4	6	9	15	45	6	0.04	003	●
M4	4.5	8	11	19	50	8	0.05	004	●
M5	5.5	10	13	23	55	10	0.07	005	●
M6	6.6	11	15	26	63	11	0.08	006	●
M8	9	15	19	34	100	12.5	0.1	008	●
M10	11	18	23	41	110	12.5	0.12	010	●
M12	14	20	28	46	110	12.5	0.14	012	●

Prod. Gr. 112

ORION® HSS Subland stepped drill bit type N, medium quality grade (DIN 8376)

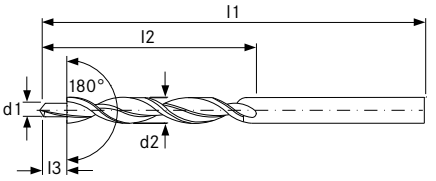
For 180° cylinder head screws

HSS | Typ N | 118° | HA

Application:
For through holes in accordance with DIN EN 20273 and screw head countersinking 180° in accordance with DIN 974-1, series 1. For screws in accordance with DIN 6912, 7984, 34821, DIN EN ISO 1207, 4762, 14579, 14580

Execution:
- Drill and countersink step with independent chip grooves and drill heels; regrinding does not affect the profile

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20				40	50	40	35	20	15			20					

Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Shank Ø (mm)	f steel 700 ● (mm/r)	11112... Ident. No.	
M3	3.4	6	9	57	93	6	0.03	003	●
M4	4.5	8	11	75	117	8	0.04	004	●
M5	5.5	10	13	87	133	10	0.05	005	●
M6	6.6	11	15	94	142	11	0.07	006	●
M8	9	15	19	114	169	15	0.08	008	●
M10	11	18	23	130	191	18	0.1	010	●

Prod. Gr. 1AR

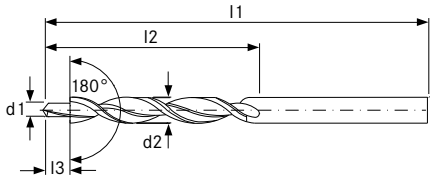
ORION® HSS Subland stepped drill bit type N, medium quality grade (DIN 8377)

For 180° cylinder head screws

Application:
For through holes in accordance with DIN EN 20273 and screw head countersinking 180° in accordance with DIN 974-1, series 1. For screws in accordance with DIN 6912, 7984, 34821, DIN EN ISO 1207, 4762, 14579, 14580

Execution:
- Drill and countersink step with independent chip grooves and drill heels; regrinding does not affect the profile

Advantage:
- precise alignment of drill diameter and countersink diameter, lower process costs
- universal use, therefore tool costs are reduced to a minimum and user flexibility is increased



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20				40	50	40	35	20	15			20					

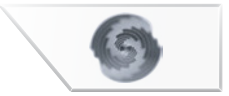
Suitable for screw thread	d1 (mm)	d2 (mm)	l3 (mm)	l2 (mm)	l1 (mm)	Morse taper size	f steel 700 ● (mm/r)	11115... Ident. No.	
M6	6.6	11	15	94	175	MK 1	0.1	006	●
M8	9	15	19	114	212	MK 2	0.12	008	●
M10	11	18	23	130	228	MK 2	0.13	010	●
M12	13.5	20	27	140	238	MK 2	0.16	012	●
M16	17.5	26	35	165	286	MK 3	0.18	016	●

Prod. Gr. 1AR

Stepped drill bit with STEP tip

Application:
Ideal for processing sheet metal up to a thickness of 4 mm

Advantage:
- Time savings of up to 75 % when drilling
- Extremely fast and effortless
- Easy and quiet drilling, without jamming in the material
- No spinning in the drill chuck
- Significantly longer service life



TiAlN plus

Typ STEP

ATORN HSS spiral stepped drill bit with STEP tip

for universal use up to 1,000 N/mm²

HSS | TiAlN plus

Application:
Ideal for processing sheet metal up to a thickness of 4 mm

Execution:
- With STEP stepped tip
- Spiral design
- With 3-flat shank

- **Ident. No. 450–480:** TiAlN-coated

Advantage:
- Time savings of up to 75 % when drilling
- Extremely fast and effortless
- Easy and quiet drilling, nojamming in the material
- No spinning in the drill chuck
- Significantly longer service life

Ident. No. 400–430

Ident. No. 450–480

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11405400-430	●	●		○	○	●	●	●	●	●	●	●		●					
11405450-480	●	●		●	●	●	●	●	●	●	●	●		●					

Type	Step Ø	Step length (mm)	Length (mm)	Surface: Uncoated 11405... Ident. No.		TiAlN plus 11405... Ident. No.	
0.9	5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm	4	66	400	●	450	●
1	6 mm | 8 mm | 10 mm | 12 mm | 14 mm | 16 mm | 18 mm | 20 mm	4	70	410	●	460	●
2	8 mm | 10 mm | 12 mm | 14 mm | 16 mm | 18 mm | 20 mm | 22 mm | 24 mm | 26 mm | 28 mm | 30 mm	4	94.5	420	●	470	●
3	9 mm | 13 mm | 16 mm | 19 mm | 21 mm | 23 mm | 26 mm | 29 mm | 32 mm | 35 mm | 38 mm	4	101	430	●	480	●

Prod. Gr. 114

ATORN HSS spiral stepped drill bit set with STEP tip

for universal use up to 1,000 N/mm²

HSS | TiAlN plus

Application:
Ideal for processing sheet metal up to a thickness of 4 mm

Execution:
- With STEP stepped tip
- Spiral design
- With 3-flat shank
- **Ident. No. 490:** TiAlN-coated

Advantage:
- Time savings of up to 75 % when drilling
- Extremely fast and effortless
- No spinning in the drill chuck
- Significantly longer service life
- **Ident. No. 440:** Easy and quiet drilling, nojamming in the material
- **Ident. No. 490:** Easy and quiet drilling,nojamming in the material

Ident. No. 440

Ident. No. 490

Included in delivery	Number of pieces in assortment/ set (PCS)	Surface: Uncoated 11405... Ident. No.		TiAlN plus 11405... Ident. No.	
0.9/1/2	3	440	●	490	●

Prod. Gr. 114

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11405440	●	●		○	○	●	●	●	●	●	●	●		●					
11405490	●	●	○	●	●	●	●	●	●	●	●	●		●					

ATORN ORION® Multi-step drill HSS, straight groove

For universal use up to 1000 N/mm²

HSS | TiN

Application:
For drilling and simultaneous deburring in steel, stainless steel, non-ferrous metals and cast iron.

Execution:
- Profile-ground and straight

Advantage:
- High variability: A wide range of bores can be covered with just one tool
- **Ident. No. 100, 150, 200, 250, 300, 350:** 3-facet shank ensures good torque transfer in the chuck

Ident. No. 100–105, 200–205, 300–305

Ident. No. 150–155, 250–255, 350–355

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11407100-300; 11407105-305	●	●	○	○		●	●	●	●	●	●	●	●	●					
11407150-350; 11407155-355	●	●	●	●	○	●	●	●	●	●	●	●	●	●	○				

Type	Step Ø	Step length (mm)	Length (mm)	Shank Ø (mm)	Surface: Uncoated 11407... Ident. No.		Surface: TiN 11407... Ident. No.	
1	4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm	5	79	6	100 105	● ●	150 155	● ●
2	6 mm | 8 mm | 10 mm | 12 mm | 14 mm | 16 mm | 18 mm | 20 mm	4.5	71	9	200 205	● ●	250 255	● ●
3	6 mm | 8 mm | 10 mm | 12 mm | 14 mm | 16 mm | 18 mm | 20 mm | 22 mm | 24 mm | 26 mm | 28 mm | 30 mm	4	85	12	300 305	● ●	350 355	● ●

ORION = Prod. Gr. 103
ATORN® = Prod. Gr. 114

ATORN ORION® Multi-step drill set HSS, straight groove

For universal use up to 1000 N/mm²

HSS | TiN

Application:
For drilling and simultaneous deburring up to a diameter of 30 mm and a material thickness of 5 mm in steel, stainless steel, non-ferrous metals and cast iron.

Execution:
- Profile-ground and straight

Advantage:
- High variability: A wide range of bores can be covered with just one tool
- **Ident. No. 800, 900:** 3-facet shank ensures good torque transfer in the chuck

Ident. No. 800

Ident. No. 900

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11407800; 11407805	●	●	○	○		●	●	●	●	●	●	●	●	●					
11407900; 11407905	●	●	●	●	○	●	●	●	●	●	●	●	●	●	○				

Included in delivery	Number of pieces in assortment/set (PCS)	ATORN Surface: Uncoated 11407... Ident. No.		ORION Surface: Uncoated 11407... Ident. No.		ATORN Surface: TiN 11407... Ident. No.		ORION Surface: TiN 11407... Ident. No.	
Types 1/2/3	3	800	●	805	●	900	●	905	●

ORION = Prod. Gr. 103
ATORN® = Prod. Gr. 114

ATORN Multi-step drill HSS, straight groove with interchangeable bit

For universal use up to 1000 N/mm² in general tool construction

HSS | TiN

Application:
For drilling and simultaneous deburring of holes up to a diameter of 58 mm and a material thickness of up to 4 mm in steel, non-ferrous metals and cast iron. Tool diameters are geared towards meeting the demands of general tool construction.

Execution:
- Stepped drill bit, profile-ground, with straight cutting edge

Advantage:
- High variability: A wide range of bores can be covered with just one tool
- 3-facet shank ensures good torque transfer in the chuck
- User-friendly tool changing: Bit easily replaced in case of wear

No. 11408

No. 11409

				Surface		Uncoated		TiN	
Type	Step Ø	Step length (mm)	Length (mm)	11408... Ident. No.		11409... Ident. No.			
A1	9 mm | 12 mm | 15 mm | 18 mm | 21 mm | 24 mm | 27 mm | 30 mm | 33 mm | 36 mm	4	85	010	●	010	●		
A2	25 mm | 28 mm | 31 mm | 34 mm | 37 mm | 40 mm | 43 mm | 46 mm | 49 mm | 52 mm | 55 mm | 58 mm	4	85	015	●	015	●		

Prod. Gr. 114

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11408010-015	●	●	○	○		●	●	●	●	●	●	●	●	●					
11409010-015	●	●	●	●	○	●	●	●	●	●	●	●	●	●	○				

ATORN Multi-step drill HSS, straight groove with interchangeable bit

For the electrical industry

HSS | TiN

Application:
For drilling through holes for reinforced pipe thread in steel, stainless steel, non-ferrous metals and cast iron.

Execution:
- Stepped drill bit, profile-ground, with spiral cutting edge

Advantage:
- High variability: A wide range of bores can be covered with just one tool
- 3-facet shank ensures good torque transfer in the chuck
- User-friendly tool changing: Bit easily replaced in case of wear

No. 11408

No. 11409 025

				Surface		Uncoated		TiN	
Type	Step Ø	Step length (mm)	Length (mm)	11408... Ident. No.		11409... Ident. No.			
E1 through hole	12.5 mm (PG7) | 15.2 mm (PG9) | 18.6 mm (PG11) | 20.4 mm (PG13.5) | 22.5 mm (PG16) | 28.3 mm (PG21)	4	85	020	●	020	●		
E2 core hole	11.4 mm (PG7) | 14 mm (PG9) | 17.25 mm (PG11) | 19 mm (PG13.5) | 21.25 mm (PG16) | 26.75 mm (PG21)	6	92	030	●	025	●		

Prod. Gr. 114

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11408020; 11408030	●	●	○	○		●	●	●	●	●	●	●	●	●					
11409020; 11409025	●	●	●	●	○	●	●	●	●	●	●	●	●	●	○				

ATORN Multi-step drill HSS, spiral groove with interchangeable bit

For universal use up to 1000 N/mm² in electrical industry MF thread

HSS | TiN

No. 11408

No. 11409

Application:
For drilling through holes and core holes for metric fine thread up to a material thickness of 4 mm in steel, stainless steel, non-ferrous metals and cast iron.

Execution:
- **No. 11408:** Stepped drill bit HSS, uncoated and profile-ground with spiral cutting edge for highest requirements in terms of dimensional accuracy and process reliability
- **No. 11409:** Stepped drill bit HSS TiN, profile-ground and spiral cutting edge for highest requirements in terms of dimensional accuracy and process reliability

Advantage:
- High variability: A wide range of bores can be covered with just one tool
- 3-facet shank ensures good torque transfer in the chuck
- User-friendly tool changing: Bit easily replaced in case of wear

			Surface	Plasma-nitrated		TiN	
Type	Step Ø	Step length (mm)	Length (mm)	11408... Ident. No.		11409... Ident. No.	
E 3 S	10.5/12.5 mm (M12 x 1.5) | 14.5/16.5 mm (M16 x 1.5) | 18.5/20.5 mm (M20 x 1.5) | 23.5/25.5 mm (M25 x 1.5) | 30.5/32.5 mm (M32 x 1.5) | 38.5/40.5 mm (M40 x 1.5)	4	110	040	●	040	●

Prod. Gr. 114

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11408040	●	●	○	○		●	●	●	●	●	●	●	●	●					
11409040	●	●	●	●	○	●	●	●	●	●	●	●	●	●	○				

ATORN Interchangeable bit HSS for multi-step drill

No. 11408-11409

HSS | TiN

No. 11408
Spare drills

No. 11409
Replacement drill bits

Application:
For use in stepped drill bit

Execution:
- For use in stepped drill bit 11408 010-040 and 11409 010-040
- **No. 11408:** Replacement bit HSS, uncoated with 118° tip angle and profile-ground, twisted tip for highest requirements in terms of dimensional accuracy and process reliability
- **No. 11409:** Replacement bit HSS-TiN, with 118° tip angle and profile-ground, twisted tip for highest requirements in terms of dimensional accuracy and process reliability

Advantage:
- Twisted design ensures smooth cutting behaviour
- User-friendly tool changing: Bit easily replaced in case of wear

Technical data:
- Type: Interchangeable drill bit for step drills

	Surface	Uncoated		TiN	
		11408... Ident. No.		11409... Ident. No.	
		110	●	110	●

Prod. Gr. 114

Conical drill bits

Application:
Conical drill bits are used to widen pre-drilled, pre-punched or pre-cast holes. They are mainly used for drilling in sheet metal

ORION® Conical drill bit HSS (DIN 344)

for universal use up to 1000 N/mm²

HSS | TiN

Application:
For producing bores in thin sheets made from steel, non-ferrous metals and cast iron. Also suitable for all plastics, for hard paper and plywood, as well as all materials of similar structure and strength

Execution:
- Profile-ground to meet the highest requirements for dimensional accuracy and process reliability

Advantage:
- Innovative cutting geometry: All bores are burr and chatter free
- User-friendly regrinding: Drills can be reground repeatedly
- No deformations even with the thinnest material thicknesses

No. 11400

No. 11401

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11400	●	●	○	○		●	●	●	●	●	●	●	●	●					
11401	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○		

Type			0	1	2	3	4	8
Min./max. cutting edge Ø			3-14 mm	5-20 mm	16-30.5 mm	26-40 mm	36-50 mm	4-30 mm
Shank Ø (mm)			6	8	9	12	12	10
Length (mm)			62	64	71	92	117	102
	Surface							
11400...	Uncoated	Ident. No.	005 ●	010 ●	020 ●	030 ●	040 ●	080 ●
11401...	TiN	Ident. No.	005 ●	010 ●	020 ●	030 ●	040 ●	080 ●

Prod. Gr. 103

ORION® Conical drill bit set HSS

for universal use up to 1000 N/mm²

HSS | TiN

Application:
For producing bores in thin sheets made from steel, non-ferrous metals and cast iron. Also suitable for all plastics, for hard paper and plywood, as well as all materials of similar structure and strength.

Execution:
- Profile-ground to meet the highest requirements for dimensional accuracy and process reliability

Advantage:
- Innovative cutting geometry: All bores are burr and chatter free
- User-friendly regrinding: Drills can be reground repeatedly
- No deformations even with the thinnest material thicknesses
- Robust metal box protects the tool from damage

		Surface	Uncoated		TiN	
Included in delivery	Number of pieces in assortment/ set (PCS)		11403... Ident. No.		11404... Ident. No.	
Types 0/1/2	3		010	●	010	●

Prod. Gr. 103

No. 11404

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11403	●	●	○	○		●	●	●	●	●	●	●	●	●					
11404	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○		

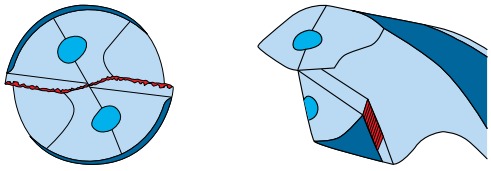
troubleshooting for solid carbide/HSSE drills

flank wear

flank wear is the preferred type of wear, if it is even.

problem
- cutting speed too high
- oil content in coolant too low
- cooling inadequate
- concentricity error

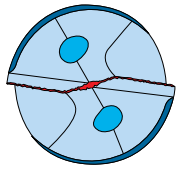
counter-measures
- reduce cutting speed
- increase oil content in coolant
- increase coolant quantity
- check concentricity



flank wear on chisel edge

problem
- cutting speed too low
- feed rate too high
- concentricity error

counter-measure
- reduce cutting speed
- reduce feed rate
- check concentricity



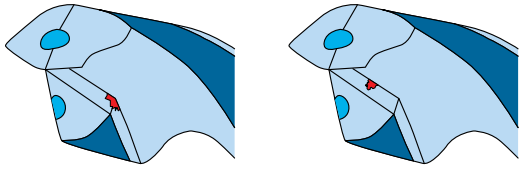
the hole quality decreases, since the self-centring capability is no longer guaranteed.

chipping

chipping occurs mainly when machining pre-drilled holes, when the tip angle of the pilot hole is smaller.

problem
- tip angles do not match each other
- unstable conditions
- concentricity error
- cooling inadequate

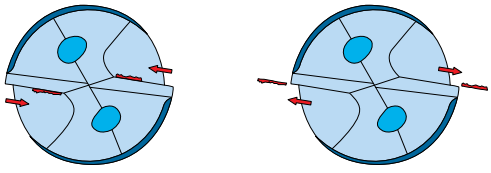
counter-measure
- check tip angles
- check clamping
- check concentricity
- increase cooling



built-up edges

problem
- cutting speed too high/too low
- oil content in coolant too low

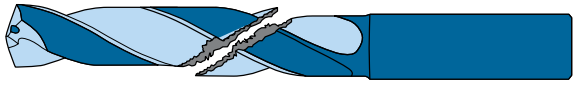
counter-measure
- increase cutting speed so that the build-up edge moves to the middle
- reduce cutting speed so that the built-up edge moves to the exterior or is avoided
- increase oil content in coolant



drill breakage

problem
- cutting speed too low
- unstable conditions
- concentricity error
- feed rate too high
- chips building up

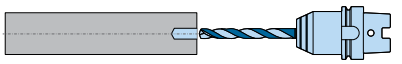
counter-measure
- increase cutting speed
- check clamping
- check concentricity
- reduce feed rate
- increase cooling



process description, deep hole drilling

drilling the pilot bore hole

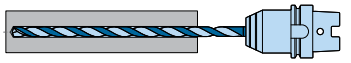
- in order to get an accurate pitch, we recommend centring with our NC spotting drill no 11169.
- for the pilot hole, we recommend our no. 11181.
- these are 0.02 mm larger in diameter than the corresponding deep-hole drills and have a tip angle of 140°.
- the pilot hole should be at least 3xD in depth, to a maximum of 5xD.



entering the pilot bore hole with the deep hole drill

deep hole drilling up to 30xD

- please enter the pilot hole at low rotation speed (n = 300 rpm) and a low feed rate (Vf = 1000 mm/min), 1-2 mm before reaching the hole base, stop the feed. then increase the rotation speed continuously until reaching the final speed. allow sufficient idling time to ensure that the cooling pump has built up enough pressure.

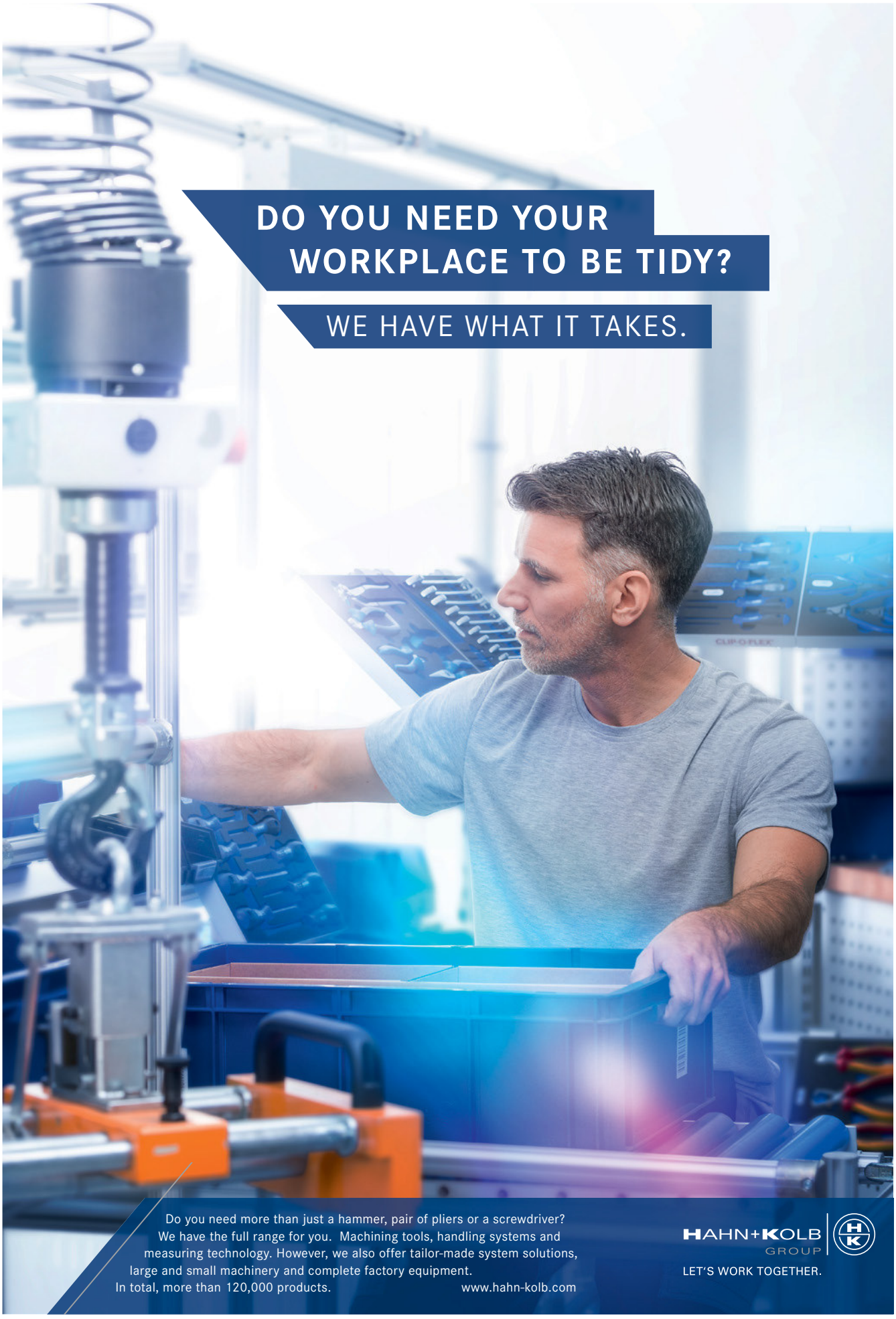


deep hole drilling

- carry out deep hole drilling with the recommended cutting values, do not remove chips.
- for cross-drilled holes or exiting, reduce the feed by 50 %.

extending the deep hole drill

- retract the deep hole drill by about 1-2 mm from the base of the hole
- reduce the rotation speed to (n = 300 rpm) and travel out of the hole with a low feed rate of (Vf = 1000 mm/min). Cooling must be switched off during this process.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ORION indexable insert drill bit

Application:

- High-performance drilling in the diameter range from 8.00 mm to 40.00 mm
- At drilling depths 3xD/5xD/7xD
- Replacing the cutting edges in the machine tool is simple. This reduces ancillary and production costs.
- The tool body is supplied with clamping screws
- Universal geometry for steel, cast iron and non-ferrous metals
- Low cutting forces and excellent self-centring capability

Advantage:

- High-quality support material made from high-strength, heat-resistant powder metal, ensures precise alignment and dimensional accuracy of drilling even in difficult cutting conditions
- High-precision h6 shank tolerance
- Polished chip grooves for reliable chip removal even with long-chipping materials
- No need for subsequent grinding
- Indexable insert is easy to replace in the machine tool

	Min./max. cutting edge diameter	Max. drilling depth (D)	Bore type	Coolant supply		page
11213080-400	8-40 mm	3xD	Normal bore, Stud hole bore	Internal		128-129
11215080-400	8-40 mm	5xD	Normal bore, Stud hole bore	Internal		129-130
11217080-400	8-40 mm	7xD	Normal bore, Stud hole bore	Internal		131-132

ATORN indexable insert drill

Application:

- High-performance drills with indexable inserts, drilling depth 3xD-5xD
- For universal use up to 1300 N/mm² in diameter range of 14.00 mm - 44.00 mm
- Best surfaces and bore hole quality
- Four easily selectable cutting material types for machining steel, stainless steel, cast iron as well as superalloys and titanium

Advantage:

- Optimum service life through 4 usable cutting edges per reversible tip
- Trouble-free application for cross-drilled holes, inclined inlet and outlet bores, chain bores, convex entry surface and bores in half cylinder
- Same reversible tip can be used as centre tip and peripheral tip
- Adjustment up to 0.4 mm from the centre, making it possible to cover different diameter ranges

	Min./max. cutting edge diameter	Max. drilling depth (D)	Bore type	Coolant supply		page
11234140-440	14-44 mm	3xD	Bore from the center, Entry 45 ° edge, Half bore, Chain bore, Convex entry, L-Bore, Normal bore, Cross bore, Stud hole bore, Slanted exit, Slanted entry, T-Bore	Internal		134-135
11235140-435	14-44 mm	4xD	Bore from the center, Entry 45 ° edge, Half bore, Chain bore, Convex entry, L-Bore, Normal bore, Cross bore, Stud hole bore, Slanted exit, Slanted entry, T-Bore	Internal		135-136
11236140-435	14-44 mm	5xD	Bore from the center, Entry 45 ° edge, Half bore, Chain bore, Convex entry, L-Bore, Normal bore, Cross bore, Stud hole bore, Slanted exit, Slanted entry, T-Bore	Internal		137-138

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- High-performance drilling in the diameter range from 8.00 mm to 40.00 mm
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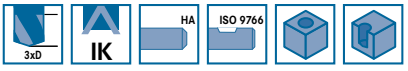
- The tool body is supplied with clamping screws
- Universal geometry for steel, cast iron and non-ferrous metals
- Low cutting forces and excellent self-centring capability

Advantage:
- High-quality support material made from high-strength, heat-resistant powder metal, ensures precise alignment and dimensional accuracy of drilling even in difficult cutting conditions
- High-precision h6 shank tolerance
- Polished chip grooves for reliable chip removal even with long-chipping materials
- No need for subsequent grinding
- Indexable insert is easy to replace in the machine tool

ORION® Indexable insert drill 3xD

For universal use up to 1,300 N/mm²



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Application:
high-performance drilling in the diameter range 8.00–40.00 mm and at drilling depths of 3xD for universal use of 1300 N/mm².

Execution:
- Carrier material made of high-quality HSSE-PM in **diameter range = 8–11.5 mm with straight shank HA diameter range = 12–40 mm with straight shank HB**

Advantage:
- high-quality backing material made from high-strength and heat-resistant powder metal, ensures perfectly aligned and dimensionally accurate drilling even under difficult cutting conditions
- polished chipping spaces ensure problem-free, reliable chip removal, even with long-chipping materials
- wide assortment: 3xD, 5xD, 7xD continuous in the diameter range of 8.00–40.00 mm

Notes:
Tightening torque for head and clamping screw with
cutting diameter 8–13.9 mm = 0.6 Nm
cutting diameter 14–17.9 mm = 0.9 Nm
cutting diameter 18–23.9 mm = 1.5 Nm
cutting diameter 24–29.9 mm = 3.5 Nm
cutting diameter 30–40 mm = 4.0 Nm

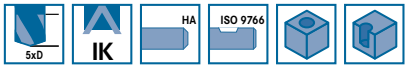
							Indexable insert drill 3xD		Head screw for ORION indexable insert drill		Clamping screw for ORION indexable insert drill	
					Coolant supply		Internal					
					Max. drilling depth (D)		3xD					
mm	Suitable for min. cutting Ø (mm)	Suitable for max. cutting Ø (mm)	h6 mm	mm	mm	Cantilever length (mm)	**11213...** Ident. No.		**11296...** Ident. No.		**11295...** Ident. No.	
8	8	8.4	10	87	32	42	080	○	080	○	-	-
8.5	8.5	8.9	10	89	34	44	085	○	080	○	-	-
9	9	9.4	10	92	36	47	090	○	090	○	-	-
9.5	9.5	9.9	12	97	37	47	095	○	090	○	-	-
10	10	10.4	12	99	40	51	100	○	100	○	-	-
10.5	10.5	10.9	12	102	42	54	105	○	100	○	-	-
11	11	11.4	12	104	44	56	110	○	100	○	-	-
11.5	11.5	11.9	12	107	46	59	115	○	100	○	-	-
12	12	12.4	16	109	48	61	120	○	120	○	125	●
12.5	12.5	12.9	16	111	45	63	125	○	120	○	125	●
13	13	13.4	16	114	52	66	130	○	120	○	125	●
13.5	13.5	13.9	16	116	54	68	135	○	120	○	125	●
14	14	14.4	16	119	56	71	140	●	140	●	125	●
14.5	14.5	14.9	20	123	58	73	145	○	140	●	125	●
15	15	15.4	20	127	60	77	150	○	140	●	125	●
15.5	15.5	15.9	20	130	62	80	155	○	140	●	125	●
16	16	16.4	20	132	64	82	160	○	160	○	125	●
16.5	16.5	16.9	20	135	66	85	165	○	160	○	125	●
17	17	17.4	20	137	68	87	170	○	160	○	125	●
17.5	17.5	17.9	20	139	70	89	175	○	160	○	125	●
18	18	18.4	20	142	72	92	180	○	180	●	125	●
18.5	18.5	18.9	20	144	74	94	185	○	180	●	125	●
19	19	19.4	20	147	76	97	190	○	180	●	125	●
19.5	19.5	19.9	20	149	78	99	195	○	180	●	125	●
20	20	20.4	25	157	80	101	200	○	200	●	130	●
20.5	20.5	20.9	25	160	82	104	205	○	200	●	130	●
21	21	21.4	25	162	84	106	210	○	200	●	130	●
21.5	21.5	21.9	25	165	86	109	215	○	200	●	130	●
22	22	22.4	25	167	88	111	220	●	220	○	130	●
22.5	22.5	22.9	25	169	90	113	225	○	220	○	130	●
23	23	23.4	25	172	92	116	230	○	220	○	130	●
23.5	23.5	23.9	25	174	94	118	235	○	220	○	130	●

							Indexable insert drill 3xD		Head screw for ORION indexable insert drill		Clamping screw for ORION indexable insert drill	
						Coolant supply	Internal					
						Max. drilling depth (D)	3xD					
mm	Suitable for min. cutting Ø (mm)	Suitable for max. cutting Ø (mm)	h6 mm	mm	mm	Cantilever length (mm)	11213... Ident. No.		11296... Ident. No.		11295... Ident. No.	
24	24	24.4	32	181	96	121	240	○	240	○	130	●
24.5	24.5	24.9	32	183	98	123	245	○	240	○	130	●
25	25	25.4	32	185	100	125	250	●	240	○	130	●
25.5	25.5	25.9	32	188	102	128	255	○	240	○	130	●
26	26	26.4	32	190	104	130	260	○	260	○	130	●
26.5	26.5	26.9	32	193	106	133	265	○	260	○	130	●
27	27	27.4	32	195	108	135	270	○	260	○	140	○
27.5	27.5	27.9	32	197	110	137	275	○	260	○	140	○
28	28	28.4	32	200	112	140	280	○	280	○	140	○
28.5	28.5	28.9	32	202	114	142	285	○	280	○	140	○
29	29	29.4	32	205	116	145	290	○	280	○	140	○
29.5	29.5	29.9	32	207	118	147	295	○	280	○	140	○
30	30	30.4	32	209	120	149	300	○	300	○	140	○
30.5	30.5	30.9	32	212	122	152	305	○	300	○	140	○
31	31	31.4	32	214	124	154	310	○	300	○	150	○
31.5	31.5	31.9	32	217	126	157	315	○	300	○	150	○
32	32	32.4	32	219	128	159	320	○	320	○	150	○
32.5	32.5	32.9	32	221	130	161	325	○	320	○	150	○
33	33	33.4	32	224	132	164	330	○	320	○	150	○
33.5	33.5	33.9	32	226	134	166	335	○	320	○	150	○
34	34	34.4	40	239	136	169	340	○	320	○	150	○
34.5	34.5	34.9	40	241	138	171	345	○	320	○	150	○
35	35	35.4	40	243	140	173	350	○	320	○	150	○
35.5	35.5	35.9	40	246	142	176	355	○	320	○	150	○
36	36	36.4	40	248	144	178	360	○	360	○	150	○
36.5	36.5	36.9	40	251	146	181	365	○	360	○	150	○
37	37	37.4	40	253	148	183	370	○	360	○	150	○
37.5	37.5	37.9	40	255	150	185	375	○	360	○	150	○
38	38	38.4	40	258	152	188	380	○	360	○	150	○
38.5	38.5	38.9	40	260	154	196	385	○	360	○	150	○
39	39	39.4	40	263	156	193	390	○	360	○	150	○
39.5	39.5	39.9	40	265	158	195	395	○	360	○	150	○
40	40	40.4	40	267	160	197	400	○	380	○	160	○

Prod. Gr. 119

ORION® Indexable insert drill 5xD

For universal use up to 1,300 N/mm²



Application:

high-performance drilling in the diameter range 8.00–40.00 mm and at drilling depths of 5xD for universal use of 1300 N/mm².

Execution:

- Carrier material made of high-quality HSSE-PM in **diameter range = 8–11.5 mm with straight shank HA diameter range = 12–40 mm with straight shank HB**

Advantage:

- High-quality backing material made from high-strength and heat-resistant powder metal ensures perfectly aligned and dimensionally accurate drilling even under difficult cutting conditions
- polished chipping spaces ensure problem-free, reliable chip removal, even with long-chipping materials
- wide assortment: 3xD, 5xD, 7xD continuous in the diameter range of 8.00–40.00 mm

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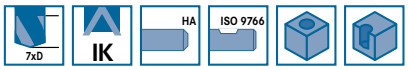
							Indexable insert drill 5xD		Head screw for ORION indexable insert drill		Clamping screw for ORION indexable insert drill	
						Coolant supply	Internal					
						Max. drilling depth (D)	5xD					
mm	Suitable for min. cutting Ø (mm)	Suitable for max. cutting Ø (mm)	h6 mm	mm	mm	Cantilever length (mm)	11215... Ident. No.		11296... Ident. No.		11295... Ident. No.	
8	8	8.4	10	103	48	58	080	○	080	○	-	-
8.5	8.5	8.9	10	106	51	61	085	○	080	○	-	-
9	9	9.4	10	110	54	65	090	○	090	○	-	-
9.5	9.5	9.9	12	116	57	68	095	○	090	○	-	-
10	10	10.4	12	119	60	71	100	○	100	○	-	-
10.5	10.5	10.9	12	123	63	75	105	○	100	○	-	-
11	11	11.4	12	126	66	78	110	○	100	○	-	-
11.5	11.5	11.9	12	130	69	82	115	○	100	○	-	-
12	12	12.4	16	133	72	85	120	○	120	○	125	●
12.5	12.5	12.9	16	136	75	88	125	○	120	○	125	●
13	13	13.4	16	140	78	92	130	○	120	○	125	●
13.5	13.5	13.9	16	143	81	95	135	○	120	○	125	●
14	14	14.4	16	147	84	99	140	○	140	●	125	●
14.5	14.5	14.9	20	152	87	102	145	○	140	●	125	●

							Indexable insert drill 5xD		Head screw for ORION indexable insert drill		Clamping screw for ORION indexable insert drill	
					Coolant supply		Internal					
					Max. drilling depth (D)		5xD					
mm	Suitable for min. cutting Ø (mm)	Suitable for max. cutting Ø (mm)	h6 mm	mm	mm	Cantilever length (mm)	11215... Ident. No.		11296... Ident. No.		11295... Ident. No.	
15	15	15.4	20	157	90	107	150	○	140	●	125	●
15.5	15.5	15.9	20	161	93	111	155	○	140	●	125	●
16	16	16.4	20	164	96	114	160	○	160	○	125	●
16.5	16.5	16.9	20	168	99	118	165	○	160	○	125	●
17	17	17.4	20	171	102	121	170	○	160	○	125	●
17.5	17.5	17.9	20	174	105	124	175	○	160	○	125	●
18	18	18.4	20	178	108	128	180	○	180	●	125	●
18.5	18.5	18.9	20	181	111	131	185	○	180	●	125	●
19	19	19.4	20	185	114	135	190	○	180	●	125	●
19.5	19.5	19.9	20	188	117	138	195	○	180	●	125	●
20	20	20.4	25	197	120	141	200	○	200	●	130	●
20.5	20.5	20.9	25	201	123	145	205	●	200	●	130	●
21	21	21.4	25	204	126	148	210	○	200	●	130	●
21.5	21.5	21.9	25	208	129	152	215	○	200	●	130	●
22	22	22.4	25	211	132	155	220	○	220	○	130	●
22.5	22.5	22.9	25	214	135	158	225	○	220	○	130	●
23	23	23.4	25	218	138	162	230	○	220	○	130	●
23.5	23.5	23.9	25	221	141	168	235	○	220	○	130	●
24	24	24.4	32	229	144	169	240	○	240	○	130	●
24.5	24.5	24.9	32	232	147	172	245	○	240	○	130	●
25	25	25.4	32	235	150	175	250	○	240	○	130	●
25.5	25.5	25.9	32	239	153	179	255	○	240	○	130	●
26	26	26.4	32	242	156	182	260	○	260	○	130	●
26.5	26.5	26.9	32	246	159	186	265	○	260	○	130	●
27	27	27.4	32	249	162	189	270	○	260	○	140	○
27.5	27.5	27.9	32	252	165	192	275	○	260	○	140	○
28	28	28.4	32	256	168	196	280	○	280	○	140	○
28.5	28.5	28.9	32	259	171	199	285	○	280	○	140	○
29	29	29.4	32	263	174	203	290	○	280	○	140	○
29.5	29.5	29.9	32	266	177	206	295	○	280	○	140	○
30	30	30.4	32	269	180	209	300	○	300	○	140	○
30.5	30.5	30.9	32	273	183	213	305	○	300	○	140	○
31	31	31.4	32	276	186	216	310	○	300	○	150	○
31.5	31.5	31.9	32	280	189	220	315	○	300	○	150	○
32	32	32.4	32	283	192	223	320	○	320	○	150	○
32.5	32.5	32.9	32	286	195	226	325	○	320	○	150	○
33	33	33.4	32	290	198	230	330	○	320	○	150	○
33.5	33.5	33.9	32	293	201	233	335	○	320	○	150	○
34	34	34.4	40	307	204	237	340	○	320	○	150	○
34.5	34.5	34.9	40	310	207	240	345	○	320	○	150	○
35	35	35.4	40	313	210	243	350	○	320	○	150	○
35.5	35.5	35.9	40	317	213	247	355	○	320	○	150	○
36	36	36.4	40	320	216	250	360	○	360	○	150	○
36.5	36.5	36.9	40	324	219	254	365	○	360	○	150	○
37	37	37.4	40	327	222	257	370	○	360	○	150	○
37.5	37.5	37.9	40	330	225	260	375	○	360	○	150	○
38	38	38.4	40	334	228	264	380	○	360	○	150	○
38.5	38.5	38.9	40	337	231	267	385	○	360	○	150	○
39	39	39.4	40	341	234	271	390	○	360	○	150	○
39.5	39.5	39.9	40	344	237	274	395	○	360	○	150	○
40	40	40.4	40	347	240	277	400	○	380	○	160	○

Prod. Gr. 119

ORION® Indexable insert drill 7xD

For universal use up to 1,300 N/mm²



Application:

high-performance drilling in the diameter range 8.00–40.00 mm and at drilling depths of 7xD for universal use of 1300 N/mm².

Execution:

- Carrier material made of high-quality HSSE-PM in **diameter range = 8–11.5 mm with straight shank HA diameter range = 12–40 mm with straight shank HB**

Advantage:

- high-quality backing material made from high-strength and heat-resistant powder metal, ensures perfectly aligned and dimensionally accurate drilling even under difficult cutting conditions
- polished chipping spaces ensure problem-free, reliable chip removal, even with long-chipping materials
- wide assortment: 3xD, 5xD, 7xD continuous in the diameter range of 8.00–40.00 mm

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							Indexable insert drill 7xD		Head screw for ORION indexable insert drill		Clamping screw for ORION indexable insert drill	
						Coolant supply	Internal					
						Max. drilling depth (D)	7xD					
mm	Suitable for min. cutting Ø (mm)	Suitable for max. cutting Ø (mm)	h6 mm	mm	mm	Cantilever length (mm)	11217... Ident. No.		11296... Ident. No.		11295... Ident. No.	
8	8	8.4	10	119	64	74	080	○	080	○	-	-
8.5	8.5	8.9	10	123	68	78	085	○	080	○	-	-
9	9	9.4	10	128	72	83	090	○	090	○	-	-
9.5	9.5	9.9	12	135	76	87	095	○	090	○	-	-
10	10	10.4	12	139	80	91	100	○	100	○	-	-
10.5	10.5	10.9	12	144	84	96	105	○	100	○	-	-
11	11	11.4	12	148	88	100	110	○	100	○	-	-
11.5	11.5	11.9	12	153	92	105	115	○	100	○	-	-
12	12	12.4	16	157	96	109	120	○	120	○	125	●
12.5	12.5	12.9	16	161	100	113	125	○	120	○	125	●
13	13	13.4	16	166	104	118	130	○	120	○	125	●
13.5	13.5	13.9	16	170	108	122	135	○	120	○	125	●
14	14	14.4	16	175	112	127	140	○	140	●	125	●
14.5	14.5	14.9	20	181	116	131	145	○	140	●	125	●
15	15	15.4	20	187	120	137	150	○	140	●	125	●
15.5	15.5	15.9	20	192	124	142	155	○	140	●	125	●
16	16	16.4	20	196	128	146	160	○	160	○	125	●
16.5	16.5	16.9	20	201	132	151	165	○	160	○	125	●
17	17	17.4	20	205	136	155	170	○	160	○	125	●
17.5	17.5	17.9	20	209	140	159	175	○	160	○	125	●
18	18	18.4	20	214	193	164	180	○	180	●	125	●
18.5	18.5	18.9	20	218	148	168	185	○	180	●	125	●
19	19	19.4	20	223	152	173	190	○	180	●	125	●
19.5	19.5	19.9	20	227	156	177	195	○	180	●	125	●
20	20	20.4	25	237	160	181	200	○	200	●	130	●
20.5	20.5	20.9	25	242	164	186	205	○	200	●	130	●
21	21	21.4	25	246	168	190	210	○	200	●	130	●
21.5	21.5	21.9	25	251	172	195	215	○	200	●	130	●
22	22	22.4	25	255	176	199	220	○	220	○	130	●
22.5	22.5	22.9	25	259	180	203	225	○	220	○	130	●
23	23	23.4	25	264	184	208	230	○	220	○	130	●
23.5	23.5	23.9	25	268	188	212	235	○	220	○	130	●
24	24	24.4	32	277	192	217	240	○	240	○	130	●
24.5	24.5	24.9	32	281	196	221	245	○	240	○	130	●
25	25	25.4	32	285	200	225	250	○	240	○	130	●
25.5	25.5	25.9	32	290	204	230	255	○	240	○	130	●
26	26	26.4	32	294	208	234	260	○	260	○	130	●
26.5	26.5	26.9	32	299	212	239	265	○	260	○	130	●
27	27	27.4	32	303	216	243	270	○	260	○	140	○
27.5	27.5	27.9	32	307	220	247	275	○	260	○	140	○
28	28	28.4	32	312	224	252	280	○	280	○	140	○
28.5	28.5	28.9	32	316	228	256	285	○	280	○	140	○
29	29	29.4	32	321	232	261	290	○	280	○	140	○
29.5	29.5	29.9	32	325	236	265	295	○	280	○	140	○
30	30	30.4	32	329	240	269	300	○	300	○	140	○
30.5	30.5	30.9	32	334	244	274	305	○	300	○	140	○
31	31	31.4	32	338	248	278	310	○	300	○	150	○
31.5	31.5	31.9	32	343	252	283	315	○	300	○	150	○
32	32	32.4	32	347	256	287	320	○	320	○	150	○
32.5	32.5	32.9	32	351	260	291	325	○	320	○	150	○
33	33	33.4	32	356	264	296	330	○	320	○	150	○
33.5	33.5	33.9	32	360	268	300	335	○	320	○	150	○
34	34	34.4	40	375	272	305	340	○	320	○	150	○
34.5	34.5	34.9	40	379	276	309	345	○	320	○	150	○
35	35	35.4	40	383	280	313	350	○	320	○	150	○
35.5	35.5	35.9	40	388	284	318	355	○	320	○	150	○
36	36	36.4	40	392	288	321	360	○	360	○	150	○

							Indexable insert drill 7xD		Head screw for ORION indexable insert drill		Clamping screw for ORION indexable insert drill	
						Coolant supply	Internal					
						Max. drilling depth (D)	7xD					
mm	Suitable for min. cutting Ø (mm)	Suitable for max. cutting Ø (mm)	h6 mm	mm	mm	Cantilever length (mm)	11217... Ident. No.		11296... Ident. No.		11295... Ident. No.	
36.5	36.5	36.9	40	397	292	327	365	○	360	○	150	○
37	37	37.4	40	401	296	331	370	○	360	○	150	○
37.5	37.5	37.9	40	405	300	335	375	○	360	○	150	○
38	38	38.4	40	410	304	340	380	○	360	○	150	○
38.5	38.5	38.9	40	414	308	344	385	○	360	○	150	○
39	39	39.4	40	419	312	349	390	○	360	○	150	○
39.5	39.5	39.9	40	423	316	353	395	○	360	○	150	○
40	40	40.4	40	427	320	357	400	○	380	○	160	○

Prod. Gr. 119

ORION® Solid carbide TiAlN cutting insert for indexable insert drill no. 11213-11217

For universal use up to 1,300 N/mm²

VHM | TiAlN | 130°

Application:
High-performance drilling in conjunction with indexable insert drill no. 11213-11217, for universal application of 1300 N/mm².

Execution:
- Precision-ground indexable insert, tip angle 130°

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	95	80	65	50	40	200	250	230	180	160	130			95	35	30	30		

Cutting material	SC	
Surface	TiAlN	
Angle of the tip (Degree)	130	
Cutting edge Ø (mm)	11220... Ident. No.	
8	080	○
8.1	081	○
8.2	082	○
8.3	083	○
8.4	084	○
8.5	085	○
8.6	086	○
8.7	087	○
8.8	088	○
8.9	089	○
9	090	○
9.1	091	○
9.2	092	○
9.3	093	○
9.4	094	○
9.5	095	○
9.6	096	○
9.7	097	○
9.8	098	○
9.9	099	○
10	100	●
10.1	101	○
10.2	102	●
10.3	103	○
10.4	104	○
10.5	105	○
10.6	106	○
10.7	107	○
10.8	108	○
10.9	109	○
11	110	○

Cutting material	SC	
Surface	TiAlN	
Angle of the tip (Degree)	130	
Cutting edge Ø (mm)	11220... Ident. No.	
11.1	111	○
11.2	112	○
11.3	113	○
11.4	114	○
11.5	115	○
11.6	116	○
11.7	117	○
11.8	118	○
11.9	119	○
12	120	●
12.1	121	○
12.2	122	○
12.3	123	○
12.4	124	○
12.5	125	○
12.6	126	○
12.7	127	○
12.8	128	○
12.9	129	○
13	130	●
13.1	131	○
13.2	132	○
13.3	133	○
13.4	134	○
13.5	135	○
13.6	136	○
13.7	137	○
13.8	138	○
13.9	139	○
14	140	●
14.1	141	●

Cutting material	SC	
Surface	TiAlN	
Angle of the tip (Degree)	130	
Cutting edge Ø (mm)	11220... Ident. No.	
14.2	142	○
14.3	143	○
14.4	144	○
14.5	145	●
14.6	146	○
14.7	147	○
14.8	148	●
14.9	149	○
15	150	○
15.1	151	●
15.2	152	○
15.3	153	●
15.4	154	○
15.5	155	●
15.6	156	●
15.7	157	○
15.8	158	○
15.9	159	○
16	160	●
16.1	161	○
16.2	162	○
16.3	163	○
16.4	164	○
16.5	165	●
16.6	166	○
16.7	167	○
16.8	168	○
16.9	169	○
17	170	●
17.1	171	○
17.2	172	○

Cutting material	SC	
Surface	TiAlN	
Angle of the tip (Degree)	130	
Cutting edge Ø (mm)	11220... Ident. No.	
17.3	173	○
17.4	174	○
17.5	175	●
17.6	176	○
17.7	177	○
17.8	178	○
17.9	179	○
18	180	●
18.1	181	○
18.2	182	○
18.3	183	○
18.4	184	○
18.5	185	○
18.6	186	○
18.7	187	○
18.8	188	○
18.9	189	○
19	190	●
19.1	191	○
19.2	192	○
19.3	193	○
19.4	194	○
19.5	195	●
19.6	196	○
19.7	197	○
19.8	198	●
19.9	199	○
20	200	●
20.1	201	○
20.2	202	○
20.3	203	○

Cutting material	SC	
Surface	TiAlN	
Angle of the tip (Degree)	130	
Cutting edge Ø (mm)	11220... Ident. No.	
20.4	204	○
20.5	205	●
20.6	206	○
20.7	207	●
20.8	208	○
20.9	209	○
21	210	●
21.1	211	○
21.2	212	○
21.3	213	●
21.4	214	○
21.5	215	●
21.6	216	○
21.7	217	●
21.8	218	○
21.9	219	○
22	220	●
22.1	221	●
22.2	222	○
22.3	223	○
22.4	224	○
22.5	225	●
22.6	226	○
22.7	227	●
22.8	228	○
22.9	229	○
23	230	●
23.1	231	○
23.2	232	○
23.3	233	○
23.4	234	○
23.5	235	○
23.6	236	○
23.7	237	○
23.8	238	○
23.9	239	○
24	240	●
24.1	241	○
24.2	242	○
24.3	243	○
24.4	244	○
24.5	245	○
24.6	246	○
24.7	247	○
24.8	248	○
24.9	249	○
25	250	●
25.1	251	○
25.2	252	○
25.3	253	○

Cutting material	SC	
Surface	TiAlN	
Angle of the tip (Degree)	130	
Cutting edge Ø (mm)	11220... Ident. No.	
25.4	254	○
25.5	255	○
25.6	256	○
25.7	257	○
25.8	258	○
25.9	259	○
26	260	●
26.1	261	○
26.2	262	○
26.3	263	○
26.4	264	○
26.5	265	○
26.6	266	○
26.7	267	○
26.8	268	○
26.9	269	○
27	270	●
27.1	271	○
27.2	272	○
27.3	273	○
27.4	274	○
27.5	275	○
27.6	276	○
27.7	277	○
27.8	278	○
27.9	279	○
28	280	●
28.1	281	○
28.2	282	○
28.3	283	○
28.4	284	○
28.5	285	○
28.6	286	○
28.7	287	○
28.8	288	○
28.9	289	○
29	290	●
29.1	291	○
29.2	292	○
29.3	293	○
29.4	294	○
29.5	295	○
29.6	296	○
29.7	297	○
29.8	298	○
29.9	299	○
30	300	●
30.1	301	○
30.2	302	○
30.3	303	○

Cutting material	SC	
Surface	TiAlN	
Angle of the tip (Degree)	130	
Cutting edge Ø (mm)	11220... Ident. No.	
30.4	304	○
30.5	305	○
30.6	306	○
30.7	307	○
30.8	308	○
30.9	309	○
31	310	○
31.1	311	○
31.2	312	○
31.3	313	○
31.4	314	○
31.5	315	○
31.6	316	○
31.7	317	○
31.8	318	○
31.9	319	○
32	320	●
32.1	321	○
32.2	322	○
32.3	323	○
32.4	324	●
32.5	325	○
32.6	326	○
32.7	327	○
32.8	328	○
32.9	329	○
33	330	●
33.1	331	○
33.2	332	○
33.3	333	○
33.4	334	○
33.5	335	○
33.6	336	○
33.7	337	○
33.8	338	○
33.9	339	○
34	340	○
34.1	341	○
34.2	342	○
34.3	343	○
34.4	344	○
34.5	345	●
34.6	346	○
34.7	347	○
34.8	348	○
34.9	349	○
35	350	●
35.1	351	○
35.2	352	○
35.3	353	○

Cutting material	SC	
Surface	TiAlN	
Angle of the tip (Degree)	130	
Cutting edge Ø (mm)	11220... Ident. No.	
35.4	354	○
35.5	355	○
35.6	356	○
35.7	357	○
35.8	358	○
35.9	359	○
36	360	○
36.1	361	○
36.2	362	○
36.3	363	○
36.4	364	○
36.5	365	○
36.6	366	○
36.7	367	○
36.8	368	○
36.9	369	○
37	370	○
37.1	371	○
37.2	372	○
37.3	373	○
37.4	374	○
37.5	375	○
37.6	376	○
37.7	377	○
37.8	378	○
37.9	379	○
38	380	○
38.1	381	○
38.2	382	○
38.3	383	○
38.4	384	○
38.5	385	○
38.6	386	○
38.7	387	○
38.8	388	○
38.9	389	○
39	390	○
39.1	391	○
39.2	392	○
39.3	393	○
39.4	394	○
39.5	395	○
39.6	396	○
39.7	397	○
39.8	398	○
39.9	399	○
40	400	●

Prod. Gr. 1AJ

ATORN indexable insert drill

Application:
- High-performance drills with indexable inserts, drilling depth 3xD-5xD
- For universal use up to 1300 N/mm² in diameter range of 14.00 mm - 44.00 mm
- Best surfaces and bore hole quality
- Four easily selectable cutting material types for machining steel, stainless steel, cast iron as well as superalloys and titanium

Advantage:
- Optimum service life through 4 usable cutting edges per reversible tip
- Trouble-free application for cross-drilled holes, inclined inlet and outlet bores, chain bores, convex entry surface and bores in half cylinder
- Same reversible tip can be used as centre tip and peripheral tip
- Adjustment up to 0.4 mm from the centre, making it possible to cover different diameter ranges

ATORN indexable insert drill bit 3xD (DIN 6537)

For universal use up to 1,300 N/mm²

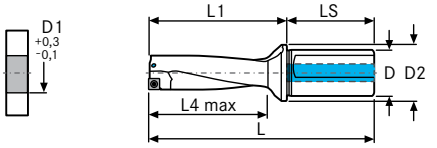
Application:
Broad range of applications in steel, stainless steel, cast iron and special alloys

Execution:
- Available tool lengths of 3xD/4xD/5xD
- Diameter range 14-44 mm

Advantage:
- Optimum service life through 4 usable cutting edges per reversible tip
- Same indexable insert can be used as centre insert and peripheral insert
- Optimal chip removal thanks to optimised coolant outlet
- Best surfaces and bore hole quality

Delivery:
The holder contains the clamping screws, supplied without spanner

Notes:
warning: when the drill passes completely through the workpiece, a disc is created. if the workpiece is rotating, the disc will be flung away! appropriate safety precautions are required!



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								ATORN indexable insert drill bit 3xD		ATORN clamping screws for indexable insert drills	
							Tool holding device	HB parallel shank			
							Coolant supply	Internal			
							Max. drilling depth (D)	3xD			
							Adjustment range (+/-)	+0,40			
D1 (mm)	D (mm)	D2 (mm)	L1 (mm)	LS (mm)	L (mm)	L4 max. (mm)	Suitable for indexable inserts type	11234... Ident. No.		11238... Ident. No.	
14	20	30	55	50	105	42	A	140	●	010	●
14.5	20	30	59	50	109	45	A	145	○	010	●
15	20	30	59	50	109	45	A	150	●	010	●
15.5	20	30	64	50	114	48	A	155	○	010	●
16	20	30	64	50	114	48	A	160	●	010	●
16.5	20	30	68	50	118	51	A	165	●	010	●
17	20	30	68	50	118	51	B	170	●	020	●
17.5	25	30	71	56	127	51	B	175	●	020	●
18	25	30	71	56	127	54	B	180	●	020	●
18.5	25	30	75	56	131	55.5	B	185	●	020	●
19	25	30	75	56	131	57	B	190	●	020	●
19.5	25	30	78	56	134	60	B	195	●	020	●
20	25	30	78	56	134	60	C	200	●	030	●
20.5	25	30	82	56	138	61.5	C	205	○	030	●
21	25	30	85	56	141	66	C	210	●	030	●
21.5	25	30	85	56	141	66	C	215	○	030	●
22	25	30	85	56	141	66	C	220	●	030	●
22.5	25	30	89	56	145	69	C	225	●	030	●
23	25	30	89	56	145	69	C	230	●	030	●
23.5	32	39	92	60	152	72	D	235	○	040	●
24	32	39	92	60	152	72	D	240	●	040	●
24.5	32	39	96	60	156	75	D	245	○	040	●
25	32	39	96	60	156	78	D	250	●	040	●

								ATORN indexable insert drill bit 3xD		ATORN clamping screws for indexable insert drills	
							Tool holding device	HB parallel shank			
							Coolant supply	Internal			
							Max. drilling depth (D)	3xD			
							Adjustment range (+/-)	+0,40			
D1 (mm)	D (mm)	D2 (mm)	L1 (mm)	LS (mm)	L (mm)	L4 max. (mm)	Suitable for indexable inserts type	11234... Ident. No.		11238... Ident. No.	
25.5	32	39	99	60	159	78	D	255	○	040	●
26	32	39	99	60	159	81	D	260	●	040	●
26.5	32	39	103	60	163	81	D	265	○	040	●
27	32	39	103	60	163	81	D	270	●	040	●
27.5	32	39	106	60	166	84	D	275	●	040	●
28	32	39	106	60	166	84	D	280	●	040	●
28.5	32	39	110	60	170	87	E	285	○	050	●
29	32	39	110	60	170	87	E	290	●	050	●
29.5	32	39	113	60	173	90	E	295	○	050	●
30	32	39	113	60	173	90	E	300	●	050	●
30.5	40	50	117	68	185	93	E	305	○	050	●
31	40	50	117	68	185	93	E	310	●	050	●
31.5	40	50	120	68	188	96	E	315	○	050	●
32	40	50	120	68	188	96	E	320	●	050	●
32.5	40	50	124	68	192	99	E	325	○	050	●
33	40	50	124	68	192	99	E	330	●	050	●
33.5	40	50	127	68	195	102	F	335	○	060	●
34	40	50	127	68	195	102	F	340	●	060	●
34.5	40	50	131	68	199	102	F	345	○	060	●
35	40	50	131	68	199	105	F	350	●	060	●
35.5	40	50	134	68	202	105	F	355	○	060	●
36	40	50	134	68	202	108	F	360	●	060	●
36.5	40	50	138	68	206	108	F	365	○	060	●
37	40	50	138	68	206	111	F	370	●	060	●
37.5	40	50	141	68	209	111	F	375	○	060	●
38	40	50	141	68	209	114	F	380	●	060	●
38.5	40	50	145	68	213	117	G	385	○	070	●
39	40	50	145	68	213	117	G	390	●	070	●
39.5	40	50	148	68	216	120	G	395	○	070	●
40	40	50	148	68	216	120	G	400	●	070	●
40.5	40	50	152	68	220	123	G	405	○	070	●
41	40	50	152	68	220	123	G	410	●	070	●
41.5	40	50	155	68	223	126	G	415	○	070	●
42	40	50	155	68	223	126	G	420	●	070	●
42.5	40	50	159	68	227	129	G	425	○	070	●
43	40	50	159	68	227	129	G	430	●	070	●
43.5	40	50	162	68	230	132	G	435	○	070	●
44	40	50	162	68	230	132	G	440	●	070	●

Prod. Gr. 1AI

ATORN indexable insert drill bit 4xD (DIN 6537)

For universal use up to 1,300 N/mm²

Application:

Broad range of applications in steel, stainless steel, cast iron and special alloys

Execution:

- Available tool lengths of 3xD/4xD/5xD
- Diameter range 14-44 mm

Advantage:

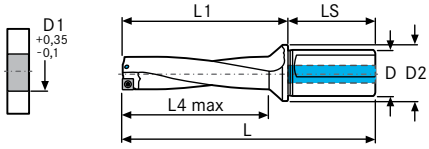
- Optimum service life through 4 usable cutting edges per reversible tip
- Same indexable insert can be used as centre insert and peripheral insert
- Optimal chip removal thanks to optimised coolant outlet
- Best surfaces and bore hole quality

Delivery:

The holder contains the clamping screws, supplied without spanner

Notes:

warning: when the drill passes completely through the workpiece, a disc is created. if the workpiece is rotating, the disc will be flung away! appropriate safety precautions are required!



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								ATORN indexable insert drill bit 4xD		ATORN clamping screws for indexable insert drills	
							Tool holding device	HB parallel shank			
							Coolant supply	Internal			
							Max. drilling depth (D)	4xD			
							Adjustment range (+/-)	+0,40			
D1 (mm)	D (mm)	D2 (mm)	L1 (mm)	LS (mm)	L (mm)	L4 max. (mm)	Suitable for indexable inserts type	11235... Ident. No.		11238... Ident. No.	
14	20	30	69	50	119	56	A	140	●	010	●
14.5	20	30	74	50	124	60	A	145	○	010	●

								ATORN indexable insert drill bit 4xD		ATORN clamping screws for indexable insert drills	
							Tool holding device	HB parallel shank			
							Coolant supply	Internal			
							Max. drilling depth (D)	4xD			
							Adjustment range (+/-)	+0,40			
D1 (mm)	D (mm)	D2 (mm)	L1 (mm)	LS (mm)	L (mm)	L4 max. (mm)	Suitable for indexable inserts type	11235... Ident. No.		11238... Ident. No.	
15	20	30	74	50	124	60	A	150	●	010	●
15.5	20	30	80	50	130	64	A	155	○	010	●
16	20	30	80	50	130	64	A	160	●	010	●
16.5	20	30	85	50	135	68	A	165	●	010	●
17	20	30	85	50	135	68	B	170	●	020	●
17.5	25	30	89	56	145	72	B	175	○	020	●
18	25	30	89	56	145	72	B	180	●	020	●
18.5	25	30	94	56	150	76	B	185	○	020	●
19	25	30	94	56	150	76	B	190	●	020	●
19.5	25	30	98	56	154	80	B	195	●	020	●
20	25	30	98	56	154	80	C	200	●	030	●
20.5	25	30	103	56	159	84	C	205	○	030	●
21	25	30	103	56	159	84	C	210	●	030	●
21.5	25	30	107	56	163	88	C	215	○	030	●
22	25	30	107	56	163	88	C	220	●	030	●
22.5	25	30	112	56	168	92	C	225	○	030	●
23	25	30	112	56	168	92	C	230	●	030	●
23.5	32	39	116	60	176	96	D	235	●	040	●
24	32	39	116	60	176	96	D	240	●	040	●
24.5	32	39	121	60	181	100	D	245	○	040	●
25	32	39	121	60	181	100	D	250	●	040	●
25.5	32	39	125	60	185	104	D	255	○	040	●
26	32	39	125	60	185	104	D	260	●	040	●
26.5	32	39	130	60	190	108	D	265	○	040	●
27	32	39	130	60	190	108	D	270	●	040	●
27.5	32	39	134	60	194	112	D	275	○	040	●
28	32	39	134	60	194	112	D	280	●	040	●
28.5	32	39	139	60	199	116	E	285	●	050	●
29	32	39	139	60	199	116	E	290	●	050	●
29.5	32	39	143	60	203	120	E	295	○	050	●
30	32	39	143	60	203	120	E	300	●	050	●
30.5	40	50	148	68	216	124	E	305	○	050	●
31	40	50	148	68	216	124	E	310	○	050	●
31.5	40	50	152	68	220	128	E	315	○	050	●
32	40	50	152	68	220	128	E	320	●	050	●
32.5	40	50	157	68	225	132	E	325	○	050	●
33	40	50	157	68	225	132	E	330	●	050	●
33.5	40	50	161	68	229	136	F	335	●	060	●
34	40	50	161	68	229	136	F	340	●	060	●
34.5	40	50	166	68	234	140	F	345	○	060	●
35	40	50	166	68	234	140	F	350	●	060	●
35.5	40	50	170	68	238	144	F	355	○	060	●
36	40	50	170	68	238	144	F	360	●	060	●
36.5	40	50	175	68	243	148	F	365	○	060	●
37	40	50	175	68	243	148	F	370	●	060	●
37.5	40	50	179	68	247	152	F	375	○	060	●
38	40	50	179	68	247	152	F	380	●	060	●
38.5	40	50	184	68	252	156	G	385	●	070	●
39	40	50	184	68	252	156	G	390	●	070	●
39.5	40	50	188	68	256	160	G	395	○	070	●
40	40	50	188	68	256	160	G	400	●	070	●
40.5	40	50	193	68	261	164	G	405	○	070	●
41	40	50	193	68	261	164	G	410	●	070	●
41.5	40	50	197	68	265	168	G	415	○	070	●
42	40	50	197	68	265	168	G	420	●	070	●
42.5	40	50	202	68	270	172	G	425	○	070	●
43	40	50	202	68	270	172	G	430	●	070	●
43.5	40	50	206	68	274	176	G	435	○	070	●
44	40	50	206	68	274	176	G	440	●	070	●

Prod. Gr. 1AI

ATORN indexable insert drill bit 5xD (DIN 6537)

For universal use up to 1,300 N/mm²

Application:

Broad range of applications in steel, stainless steel, cast iron and special alloys

Execution:

- Available tool lengths of 3xD/4xD/5xD
- Diameter range 14-44 mm

Advantage:

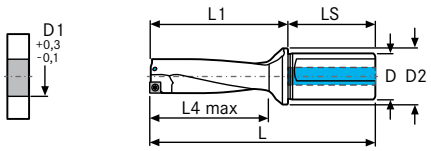
- Optimum service life through 4 usable cutting edges per reversible tip
- Same indexable insert can be used as centre insert and peripheral insert
- Optimal chip removal thanks to optimised coolant outlet
- Best surfaces and bore hole quality

Delivery:

The holder contains the clamping screws, supplied without spanner

Notes:

warning: when the drill passes completely through the workpiece, a disc is created. if the workpiece is rotating, the disc will be flung away! appropriate safety precautions are required!



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								ATORN indexable insert drill bit 5xD		ATORN clamping screws for indexable insert drills	
							Tool holding device	HB parallel shank			
							Coolant supply	Internal			
							Max. drilling depth (D)	5xD			
							Adjustment range (+/-)	+0,40			
D1 (mm)	D (mm)	D2 (mm)	L1 (mm)	LS (mm)	L (mm)	L4 max. (mm)	Suitable for indexable inserts type	11236... Ident. No.		11238... Ident. No.	
14	20	30	83	50	133	70	A	140	●	010	●
14.5	20	30	89	50	139	75	A	145	○	010	●
15	20	30	89	50	139	75	A	150	●	010	●
15.5	20	30	96	50	146	80	A	155	○	010	●
16	20	30	96	50	146	80	A	160	●	010	●
16.5	20	30	102	50	152	85	A	165	○	010	●
17	20	30	102	50	152	85	B	170	●	020	●
17.5	25	30	107	56	163	90	B	175	○	020	●
18	25	30	107	56	163	90	B	180	●	020	●
18.5	25	30	113	56	169	95	B	185	○	020	●
19	25	30	113	56	169	95	B	190	●	020	●
19.5	25	30	118	56	174	100	B	195	○	020	●
20	25	30	118	56	174	100	C	200	●	030	●
20.5	25	30	124	56	180	105	C	205	○	030	●
21	25	30	124	56	180	105	C	210	●	030	●
21.5	25	30	129	56	185	110	C	215	○	030	●
22	25	30	129	56	185	110	C	220	●	030	●
22.5	25	30	135	56	191	115	C	225	○	030	●
23	25	30	135	56	191	115	C	230	●	030	●
23.5	32	39	140	60	200	120	D	235	○	040	●
24	32	39	140	60	200	125	D	240	●	040	●
24.5	32	39	146	60	206	125	D	245	○	040	●
25	32	39	146	60	206	130	D	250	●	040	●
25.5	32	39	151	60	211	130	D	255	○	040	●
26	32	39	151	60	211	135	D	260	●	040	●
26.5	32	39	157	60	217	135	D	265	●	040	●
27	32	39	157	60	217	135	D	270	●	040	●
27.5	32	39	162	60	222	140	D	275	○	040	●
28	32	39	162	60	222	140	D	280	●	040	●
28.5	32	39	168	60	228	145	E	285	○	050	●
29	32	39	168	60	228	145	E	290	●	050	●
29.5	32	39	173	60	233	150	E	295	○	050	●
30	32	39	173	60	233	150	E	300	●	050	●
30.5	40	50	179	68	247	155	E	305	○	050	●
31	40	50	179	68	247	155	E	310	●	050	●
31.5	40	50	184	68	252	160	E	315	○	050	●
32	40	50	184	68	252	160	E	320	●	050	●
32.5	40	50	190	68	258	165	E	325	○	050	●
33	40	50	190	68	258	165	E	330	●	050	●
33.5	40	50	195	68	263	170	F	335	○	060	●
34	40	50	195	68	263	170	F	340	●	060	●
34.5	40	50	201	68	269	175	F	345	○	060	●
35	40	50	206	68	274	175	F	350	●	060	●
35.5	40	50	206	68	274	180	F	355	○	060	●
36	40	50	212	68	280	180	F	360	●	060	●
36.5	40	50	212	68	280	185	F	365	○	060	●
37	40	50	212	68	280	185	F	370	●	060	●
37.5	40	50	217	68	285	190	F	375	○	060	●
38	40	50	217	68	285	190	F	380	●	060	●
38.5	40	50	223	68	291	195	G	385	○	070	●
39	40	50	223	68	291	195	G	390	●	070	●
39.5	40	50	228	68	296	200	G	395	○	070	●
40	40	50	228	68	296	200	G	400	●	070	●

								ATORN indexable insert drill bit 5xD		ATORN clamping screws for indexable insert drills	
							Tool holding device	HB parallel shank			
							Coolant supply	Internal			
							Max. drilling depth (D)	5xD			
							Adjustment range (+/-)	+0,40			
D1 (mm)	D (mm)	D2 (mm)	L1 (mm)	LS (mm)	L (mm)	L4 max. (mm)	Suitable for indexable inserts type	11236... Ident. No.		11238... Ident. No.	
40.5	40	50	234	68	302	205	G	405	○	070	●
41	40	50	234	68	302	205	G	410	●	070	●
41.5	40	50	239	68	307	210	G	415	○	070	●
42	40	50	239	68	307	210	G	420	●	070	●
42.5	40	50	245	68	313	215	G	425	○	070	●
43	40	50	245	68	313	215	G	430	●	070	●
43.5	40	50	250	68	318	220	G	435	○	070	●
44	40	50	250	68	318	220	G	440	●	070	●

Prod. Gr. 1AI

ATORN Indexable inserts for ATORN indexable insert drill bit

For indexable insert drill bits no. 11234, 11235, 11236

Application:
Ident. No. 010–070: For use on steel
Ident. No. 100–160: For use on cast iron
Ident. No. 200–260: For use on stainless steel
Ident. No. 300–360: For use on special alloys

Delivery:
VPE 10 pieces

Ident. No. 010–070

Ident. No. 100–160

Ident. No. 200–260

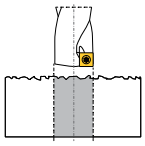
Ident. No. 300–360

				Material to be processed		Steel		Cast metal		Stainless steel VA | Stainless steel V2A | Stainless steel V4A		Special alloy	
Carbide type	Suitable for indexable inserts type	f min. (mm/r)	max. f (mm/r)			11237... Ident. No.		11237... Ident. No.		11237... Ident. No.		11237... Ident. No.	
ACP25D	A	0.06	0.16			010	●	-	-	-	-	-	-
ACK15D	A	0.08	0.18			-	-	100	●	-	-	-	-
ACM40D	A	0.06	0.12			-	-	-	-	200	●	-	-
ACS40D	A	0.04	0.08			-	-	-	-	-	-	300	●
ACP25D	B	0.11	0.16			020	●	-	-	-	-	-	-
ACK15D	B	0.12	0.18			-	-	110	●	-	-	-	-
ACM40D	B	0.08	0.12			-	-	-	-	210	●	-	-
ACS40D	B	0.04	0.08			-	-	-	-	-	-	310	●
ACP25D	C	0.13	0.22			030	●	-	-	-	-	-	-
ACK15D	C	0.14	0.25			-	-	120	●	-	-	-	-
ACM40D	C	0.1	0.18			-	-	-	-	220	●	-	-
ACS40D	C	0.05	0.09			-	-	-	-	-	-	320	●
ACP25D	D	0.14	0.22			040	●	-	-	-	-	-	-
ACK15D	D	0.18	0.3			-	-	130	●	-	-	-	-
ACM40D	D	0.12	0.18			-	-	-	-	230	●	-	-
ACS40D	D	0.06	0.1			-	-	-	-	-	-	330	●
ACP25D	E	0.14	0.22			050	●	-	-	-	-	-	-
ACK15D	E	0.2	0.3			-	-	140	●	-	-	-	-
ACM40D	E	0.12	0.18			-	-	-	-	240	●	-	-
ACS40D	E	0.07	0.11			-	-	-	-	-	-	340	●
ACP25D	F	0.14	0.22			060	●	-	-	-	-	-	-
ACK15D	F	0.2	0.3			-	-	150	●	-	-	-	-
ACM40D	F	0.12	0.18			-	-	-	-	250	●	-	-
ACS40D	F	0.07	0.11			-	-	-	-	-	-	350	●
ACP25D	G	0.14	0.22			070	●	-	-	-	-	-	-
ACK15D	G	0.2	0.3			-	-	160	●	-	-	-	-
ACM40D	G	0.12	0.18			-	-	-	-	260	●	-	-
ACS40D	G	0.08	0.12			-	-	-	-	-	-	360	●

Prod. Gr. 1AZ

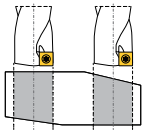
ATORN indexable insert drills - Notes on use

1.



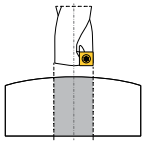
Tapping on uneven surfaces (cast surfaces)
- Reduce feed by approx. 30-50 % during tapping and drilling out
  (Depending on construction stability, clamping and surface quality)

2.



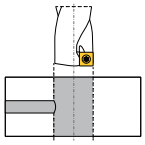
Tapping on inclined surfaces/inclined hole exit
- When tapping, reduce feed by approx. 30-60 % until full diameter is reached
- When drilling out, reduce feed to approx. 30-60 % after the cut interruption
- Use a tough indexable insert type and stable corner radius

3.



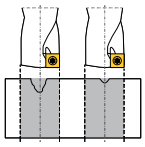
Tapping on spherical surfaces
- When tapping, reduce feed by approx. 30-60 % until full diameter is reached
- When drilling out, reduce feed to approx. 30-60 % after the cut interruption
  (Depending on construction stability and clamping)

4.



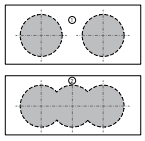
Drilling through a cross hole
- Reduce feed by approx. 30-50 % during tapping and drilling out
  (Depending on construction stability and clamping)
- Reduce feed rate by 50 % in the area of the cross hole
- Pay attention to chip jams at the circumference of the tool
- Use a tough indexable insert type and stable corner radius

5.



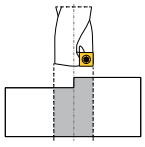
Tapping in a bead or large centring hole
- When tapping and drilling out, reduce the feed by approx. 30-50 % until the centring depth is reached
- Reduce the feed
- Use a tough indexable insert type for the female thread cutter
- If necessary, spotface

6.



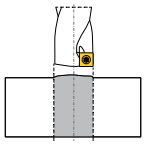
Drilling a bell hollow
- First the no. ① holes, then the no. ② intermediate hole
- Ensure there is a symmetrical distribution
- Avoid chip jams
- Use a tough indexable insert type and corner radius
- Full drilling: Reduce feed by approx. 30-60 % during tapping
  (Depending on construction stability and clamping)
- Cut interruption: When drilling the cut interruption, reduce feed by approx. 50-60 %

7.



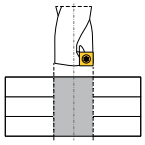
Tapping on an edge
- When tapping and drilling out, reduce the feed by approx. 30-50 % until the full bore diameter is reached
  (Depending on construction stability and clamping)
- Use a tough indexable insert type and stable corner radius

8.



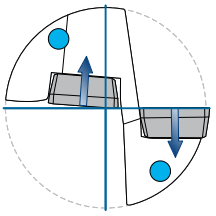
Tapping on uneven surfaces (cast surfaces)
- When tapping, reduce feed by approx. 30-60 % until the full bore diameter is reached
- When drilling out, reduce feed by approx. 30-60 % after the cut interruption
  (Depending on construction stability and clamping)

9.

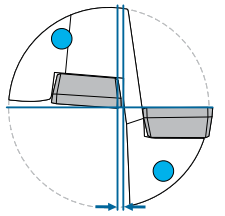


Drilling through packages
- Good workpiece clamping required
- Max. gap = 1 mm

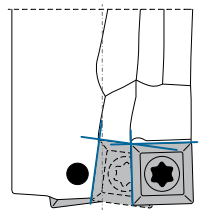
ATORN indexable insert drills - Installation position of plates



Dimensionally accurate holes
Thanks to the special gamma angle, the deflection forces are further minimised and create very precise holes with high process reliability.



Various bore diameters possible thanks to the individual adjustment range
The ATORN indexable insert drill can be positioned up to 0.25 mm from the centre, making it possible to cover different diameter ranges.



Perfect self-centring
The drill centres itself precisely due to the axial positioning and the installation angle of the indexable inserts in relation to each other.

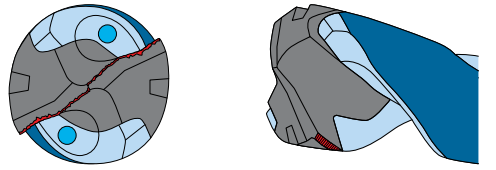
troubleshooting indexable insert drilling

wear to open space

wear to open space is the preferred type of wear, if it is even.

problem
- cutting speed too high
- oil content in coolant too low
- too little cooling
- concentricity error

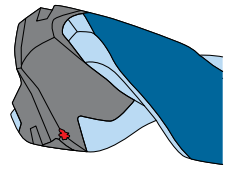
countermeasures
- lower cutting speed
- increase oil content in coolant
- increase coolant quantity
- check concentricity



plastic deformation

problem
- cutting speed too high
- feed rate too high
- too little cooling

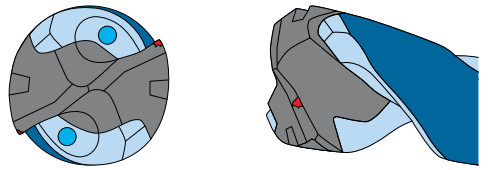
countermeasure
- reduce cutting speed
- reduce feed rate
- increase cooling



breakouts

problem
- tip angles do not match
- unstable conditions
- concentricity error
- feed rate too high
- too little cooling

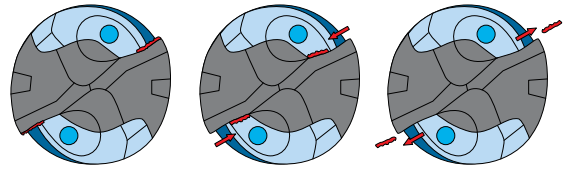
countermeasure
- check tip angle
- check clamping
- check concentricity
- reduce feed rate
- increase cooling



built-up edge

problem
- cutting speed too high/too low
- oil content of coolant too low

countermeasure
- increase cutting speed so that the built-up edge moves to the centre
- decrease cutting speed so that the built-up edge moves to the outer edge or is avoided
- increase coolant oil content



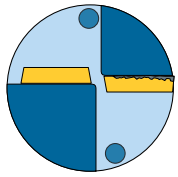
troubleshooting indexable insert drilling

rapid wear of the peripheral cutting edge

Flank wear is the preferred type of wear, if it is even.

Problem
- Cutting speed too high
- Not enough cooling
- Wrong cemented carbide type

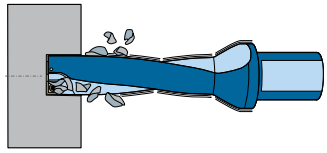
Countermeasures
- Reduce cutting speed
- Increase cooling
- Select a more wear-resistant carbide type



vibrations on the tool body

Problem
- Cutting speed too high
- Feed too high
- Not enough cooling

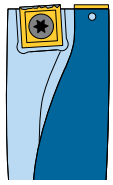
Countermeasure
- Reduce cutting speed
- Reduce the feed
- Increase cooling



Rapid wear of the inner cutting edge

Problem
- Workpiece surface uneven
- Unstable clamping conditions for tool/workpiece
- Wrong cemented carbide type

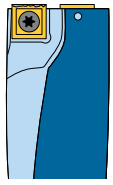
Countermeasure
- Reduce feed by 50%
- Check clamping of tool/workpiece
- Select more a durable cemented carbide type



Rapid wear of the outer cutting edge

Problem
- Feed too high
- Workpiece surface uneven
- Wrong cemented carbide type
- Wrong indexable insert geometry

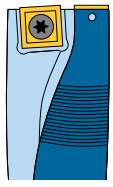
Countermeasure
- Reduce the feed
- Reduce feed by 50%
- Select more a durable cemented carbide type
- Insert indexable insert geometry for higher feeds



chips welding to the tool body

Problem
- Cutting speed too low (long-chipping)
- Feed too high (long-chipping)
- Feed too low
- Not enough cooling

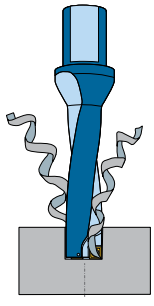
Countermeasure
- Increase cutting speed (long-chipping)
- Reduce feed (long-chipping)
- Increase the feed
- Increase cooling



long continuous chips are produced

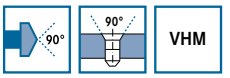
Problem
- Cutting speed too low (long-chipping)
- Feed too high (long-chipping)
- Feed too low
- Wrong indexable insert geometry

Countermeasure
- Increase cutting speed (long-chipping)
- Reduce feed (long-chipping)
- Increase the feed
- Insert indexable insert geometry for lower feeds



Conical countersink 90° solid carbide

Application:
For countersinking 90° screw heads or deburring of bores.

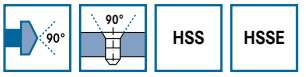


Advantage:
- Very wide range
- Many shank types and designs
- Very long service life thanks to high-quality solid carbide cutting material

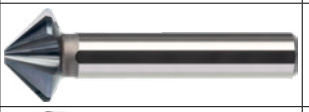
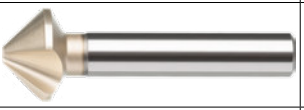
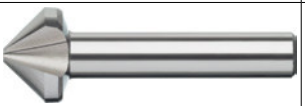
	Tool holding device	Cutting material	Number of cutting edges	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H	H 65HRC		page
11501705-724	HA parallel shank	SC	3 PCS	●	●	●	●	●	●	○	○	○		145
11535	HA parallel shank	SC	4 PCS	●	●	●	●	○	○	●	●	●		146
11536	Morse taper shank	SC	5 PCS	●	●	●	●	○	○	●	●	●		146

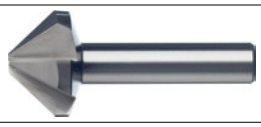
Conical countersink 90°, HSS/HSSE

Application:
For countersinking 90° screw heads or deburring of bores.



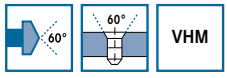
Advantage:
- Very wide range
- Various cutting materials available
- Many shank types and designs

	Tool holding device	Cutting material	Number of cutting edges	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H	H 65HRC		page
11501260-269	Parallel shank with three tightening surfaces	HSSE	4 PCS	●	●	●	●	●	●	●				147
11501730-744	HA parallel shank	HSSE	3 PCS	●	●	●	●	●	●	●				148
11501637-661	HA parallel shank	HSS	3 PCS	●	●	●	○	○	●					150
11501235-242	HA parallel shank	HSS	3 PCS	●	●	●	○	○	●					151
11501800-825	HA parallel shank	HSS	3 PCS	●	○	○		●	○					152-153
11500601-648	HA parallel shank	HSS	3 PCS	●	○	○	○	●	○		○			152-153
11501006-138	HA parallel shank	HSS	3 PCS	●	○	○		●	○					152-153
11500698-750	HA parallel shank	HSSE	3 PCS	●	●	○	●	●	○	○				154
11501506-565	Parallel shank with three tightening surfaces	HSS	3 PCS	●	○	○		●	○					154-155

	Tool holding device	Cutting material	Number of cutting edges	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H	H 65HRC		page
11531	HA parallel shank	HSSE	4 PCS	●	●	●	●	○	○	●				157

Conical countersink 60° solid carbide

Application:
For countersinking 60° screw heads or deburring of bores.

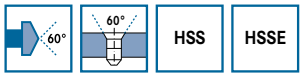


Advantage:
- Very long service life thanks to high-quality solid carbide cutting material

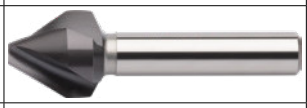
	Tool holding device	Cutting material	Number of cutting edges	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H	H 65HRC		page
11498308-325	HA parallel shank	SC	3 PCS	●	●	●	●	●	●	○				159

Conical countersink 60°, HSS/HSSE

Application:
For countersinking 60° screw heads or deburring of bores.

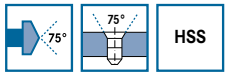


Advantage:
- Very wide range
- Various cutting materials available
- Many shank types and designs

	Tool holding device	Cutting material	Number of cutting edges	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H	H 65HRC		page
11501768-774	HA parallel shank	HSS	3 PCS	●	●	●	●	●	●	●				160
11501227-233	HA parallel shank	HSS	3 PCS	●	●	●	○	○	●					161
11498206-225	HA parallel shank	HSS	3 PCS	●	○	○		●	○					162
11498226-263	Morse taper shank	HSS	3 PCS	●	●	○		●	●					163
11497405-430	HA parallel shank	HSSE	1 PCS	●	●	○		●	○					163

Conical countersink 75° HSS

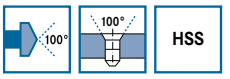
Application:
For countersinking 75° screw heads or deburring of bores.



	Tool holding device	Cutting material	Number of cutting edges	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H	H 65HRC		page
11499008-025	HA parallel shank	HSS	3 PCS	●	○	○		○	○					164

Conical countersink 100° HSS

Application:
For countersinking 100° rivet and screw heads or deburring of bores.

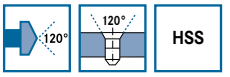


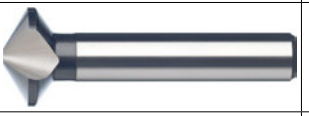
Countersinks 100° HSS

	Tool holding device	Cutting material	Number of cutting edges	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H	H 65HRC		page
11501861-867	HA parallel shank	HSS	3 PCS	●	●	○	○	●	○					164

Conical countersink 120° HSS

Application:
For countersinking 120° screw heads or deburring of bores.

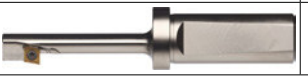


	Tool holding device	Cutting material	Number of cutting edges	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S	H	H 65HRC		page
11502106-126	HA parallel shank	HSS	3 PCS	●	○	○		○	○					165
11502231-250	Morse taper shank	HSS	3 PCS	●	○	○		○	○					165

Indexable insert countersink range
For standard plates CC..06, CC..09, CC..12

Application:
- Wide range of countersinks for use with ISO indexable inserts with CC.. Shape
- Single/double-edged cutter, adjustable and for reverse machining

Advantages:
- Wide range of countersinks
- Covers a large range of diameters
- Standard indexable inserts can be used
- Flexible use keeps tool costs to a minimum
- High-quality support material

			page
11233100-140	Indexable inserts, fine-boring rod, single tooth cutter, adjustable for universal use up to 1300 N/mm² with CC..06 and CC..09..		167
11240	Indexable insert countersink, single-tooth cutter For universal use up to 1300 N/mm² with CC..06 and CC..09..		168
11243	Indexable insert countersink, twin-blade for universal use up to 1300 N/mm² with CC..06 and CC..09..		168-169
11251150-760	Reversible tips for reverse boring bar, single-bladed cutter for universal use up to 1,300 N/mm² with CC..06, CC..09.., CC..12.. and CP..05T1.. standard indexable inserts		169

Conical countersink 90° solid carbide

Application:
For countersinking 90° screw heads or deburring of bores.

Advantage:
- Very wide range
- Many shank types and designs
- Very long service life thanks to high-quality solid carbide cutting material

ATORN SC 90° conical countersink, three flutes, extremely uneven pitch

For universal use up to 60 HRC

Application:
For producing 90° counterbores

Execution:
- profile-ground triple-edge countersink with radial relief

Advantage:
- Solid carbide cutting material for high service life requirements
- Uneven pitch ensures excellent surfaces without chatter marks and minimisation of cutting forces
- radial relief ensures optimum chip breaking

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	60	50	40	30	30	60	80	70	70	70	70	70	25	45	15	20	15	12	8

				Cutting material	SC	
				Surface	TiN/ZrN	
				Tool holding device	HA parallel shank	
mm	mm	mm	mm	f steel 1300 ● (mm/r)	11501... Ident. No.	
6.3	1.5	5	45	0.06	705	●
8.3	2.0	6	50	0.08	709	●
10.4	2.5	6	50	0.08	712	●
12.4	2.8	8	56	0.08	714	●
16.5	3.2	10	60	0.10	717	●
20.5	3.5	10	63	0.14	719	●
25.0	3.8	10	67	0.18	721	●
31.0	4.2	12	71	0.18	724	●

Prod. Gr. 114

ATORN Conical countersink, 90°, solid carbide, multi-flute cutter

For universal use up to 63 HRC

Application:
For countersinking 90° in the material groups steel, stainless steel, (non-ferrous metals), (cast materials) and special alloys up to a strength of 60 HRC.

Execution:
- profile-ground multi-edge countersink with radial relief

Advantage:
- excellent service life characteristics in Hardox 400 and 500, Creusabro, Inconel, Nimonic, Hastelloy, Monel, manganese-hardened steel, hardened steels up to 60 HRC, titanium and titanium alloy materials
- innovative and patented cutter geometry with a large number of cutters ensures excellent cutting performance and good surface qualities

Notes:
Solid carbide head and steel shank

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	60	50	30	20	15	120	150	100	90	90	70			4	20	20	20	10	7

					Cutting material	SC	
					Surface	Uncoated	
mm	mm	mm	mm	Number of cutting edges (PCS)	f steel 1300 ● (mm/r)	11535... Ident. No.	
10.4	4.0	46	8	4	0.04	104	●
12.4	4.0	56	8	5	0.05	124	●
16.5	4.5	60	10	5	0.06	165	●
20.5	5.0	63	10	5	0.08	205	●
25.0	5.5	67	10	5	0.09	250	●
31.0	6.0	71	12	5	0.1	310	●

Prod. Gr. 114

ATORN Solid carbide 90° conical countersink, multi-flute cutter

For universal use up to 60 HRC

Application:
For producing 90° counterbores up to 60 HRC.

Execution:
- profile-ground triple-edge countersink with patented grind

Advantage:
- excellent service life characteristics in Hardox 400 and 500, Creusabro, Inconel, Nimonic, Hastelloy, Monel, manganese-hardened steel, hardened steels up to 60 HRC, titanium and titanium alloy materials
- innovative and patented cutter geometry with a large number of cutters ensures excellent cutting performance and good surface qualities

Notes:
Diameter 31 mm= SC head and steel shank/ from diameter 40 mm= steel carrier with soldered carbide panels

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	60	50	30	20	15	120	150	100	90	90	70			4	20	20	20	10	7

				Cutting material	SC	
				Surface	Uncoated	
mm	mm	mm	Number of cutting edges (PCS)	f steel 1300 ● (mm/r)	11536... Ident. No.	
31.0	6.0	108	MK 2	5	0.1	310	●
40.0	14.0	137	MK 3	5	0.12	400	●
50.0	18.0	147	MK 3	5	0.14	500	●

Prod. Gr. 114

Conical countersink 90°, HSS/HSSE

Application:
For countersinking 90° screw heads or deburring of bores.

Advantage:
- Very wide range
- Various cutting materials available
- Many shank types and designs

ATORN HSS/HSSE 90° countersink, 4 flute, extremely unequal pitch (DIN 335)

for universal use up to 1,300 N/mm²

HSS | HSSE | TiAlN plus | Z 4

Application:
Ident. No. 250–259: For producing 90° counterbores up to 1,000 N/mm².
Ident. No. 260–269: For producing 90° counterbores up to 1,300 N/mm².

Execution:
- Four-edged design with extremely unequal pitch
- **Ident. No. 250–259:** With three-flat shank
- **Ident. No. 260–269:** With 3-flat shank

Advantage:
- Up to 50 % faster countersinking
- Extremely smooth running
- Optimal countersinking pattern without chatter marks
- Much lower infeed force required
- Three-flat shank reduces spinning in the drill chuck

Ident. No. 260–269

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11501250-259	45	35	14	17	17	46	60	45	50	45	50	51		30	12	13	12		
11501260-269	50	40	20	22	22	50	65	50	55	50	55	55		35	18	18	18		

						Tool holding device	Parallel shank with three tightening surfaces		Parallel shank with three tightening surfaces	
						Cutting material	HSS		HSSE	
						Surface	TiAlN plus		TiAlN plus	
mm	mm	mm	mm	f steel 700 ● (mm/r)	f steel 1000 ● (mm/r)		11501... Ident. No.		11501... Ident. No.	
10.4	2.5	6.0	50	0.12	-		250	●	-	-
10.4	2.5	6.0	50	-	0.12		-	-	260	●
12.4	2.8	8.0	56	0.12	-		251	●	-	-
12.4	2.8	8.0	56	-	0.12		-	-	261	●
15.0	2.9	10.0	60	0.14	-		252	●	-	-
15.0	2.9	10.0	60	-	0.14		-	-	262	●
16.5	3.2	10.0	60	0.2	-		253	●	-	-
16.5	3.2	10.0	60	-	0.2		-	-	263	●
19.0	3.5	10.0	63	0.2	-		254	●	-	-
19.0	3.5	10.0	63	-	0.2		-	-	264	●
20.5	3.5	10.0	63	0.2	-		255	●	-	-
20.5	3.5	10.0	63	-	0.2		-	-	265	●
23.0	3.8	10.0	67	0.22	-		256	●	-	-
23.0	3.8	10.0	67	-	0.22		-	-	266	●
25.0	3.8	10.0	67	0.24	-		257	●	-	-
25.0	3.8	10.0	67	-	0.24		-	-	267	●
31.0	4.2	12.0	71	0.24	-		258	●	-	-
31.0	4.2	12.0	71	-	0.24		-	-	268	●
40.0	5.3	12.0	80	0.27	-		259	●	-	-
40.0	5.3	12.0	80	-	0.27		-	-	269	●

Prod. Gr. 1EB

ATORN HSS/HSSE 90° countersink set, 4 flute, extremely unequal pitch (DIN 335)

for universal use up to 1,300 N/mm²

90° | HSS | HSSE | TiAlN plus | Z 4 | ≠

Application:
For creating 90° countersinks

Execution:
- Four-edged design with extremely unequal pitch
- With three-flat shank

Advantage:
- Up to 50 % faster countersinking
- Extremely smooth running
- Optimal countersinking pattern without chatter marks
- Much lower infeed force required
- Three-flat shank reduces spinning in the drill chuck

Ident. No. 270

Ident. No. 271

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11501270-271	45	35	14	17	17	46	60	45	50	45	50	51		30	12	13	12		
11501272-273	50	40	20	22	22	50	65	50	55	50	55	55		35	18	18	18		

Tool holding device		Parallel shank with three tightening surfaces		Parallel shank with three tightening surfaces	
Cutting material		HSS		HSSE	
Surface		TiAlN plus		TiAlN plus	
Included in delivery	Number of pieces in assortment/set (PCS)	11501... Ident. No.		11501... Ident. No.	
10.4/12.4/16.5/20.5	4	270	●	272	●
10.4/12.4/16.5/20.5/25	5	271	●	273	●

Prod. Gr. 1EB

ATORN HSSE 90° countersink, 3 flute, unequal spiral pitch (DIN 335)

for universal use up to 1,300 N/mm²

90° | HSSE | TiAlN plus | Z 3 | HA | ≠

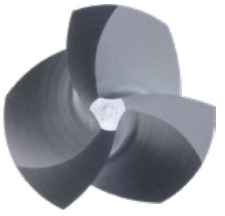
Application:
For producing 90° counterbores up to 1,300 N/mm².

Execution:
- Three convex cutting edges with unequal spiral pitch

Advantage:
- Low-vibration cutting conditions
- Significant reduction in feed forces
- Perfectly round and chatter-free countersinks
- **Ident. No. 745–759:**
  - Three-flat shank prevents spinning in the drill chuck
  - Ideal for hand-held power tools

Ident. No. 730–744

Ident. No. 745–759



Cutting material					HSSE		HSSE	
Surface					TiAlN plus		TiAlN plus	
Tool holding device					HA parallel shank		Parallel shank with three tightening surfaces	
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11501... Ident. No.		11501... Ident. No.	
6.3	1.5	5	45	0.08	730	●	745	●
8.0	2.0	6	50	0.1	731	●	746	●
8.3	2.0	6	50	0.1	732	●	747	●
10.0	2.5	6	50	0.1	733	●	748	●
10.4	2.5	6	50	0.1	734	●	749	●
11.5	2.8	8	56	0.1	735	●	750	●
12.4	2.8	8	56	0.1	736	●	751	●
15.0	3.2	10	60	0.12	737	●	752	●
16.4	3.2	10	60	0.12	738	●	753	●
19.0	3.5	10	63	0.14	739	●	754	●
20.5	3.5	10	63	0.18	740	●	755	●
23.0	3.8	10	67	0.18	741	●	756	●
25.0	3.8	10	67	0.18	742	●	757	●
31.0	4.2	12	71	0.22	743	●	758	●
40.0	10.0	12	75	0.25	744	●	759	●

Prod. Gr. 1EB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	45	35	14	17	17	46	60	45	50	45	50	51		30	12	13	12		

ATORN HSSE 90° countersink set, 3 flute, unequal spiral pitch (DIN 335)

for universal use up to 1,300 N/mm²

90° | HSSE | TiAlN plus | Z 3 | HA | ≠

Application:

Ident. No. 782–783: For producing 90° counterbores up to 1300 N/mm².

Ident. No. 784–785: For producing 90° countersinks up to 1,300 N/mm².

Execution:

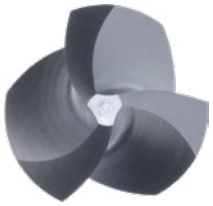
- Three convex cutting edges with unequal spiral pitch

Advantage:

- Low-vibration cutting conditions
- Significant reduction in feed forces
- **Ident. No. 782–783:**
  - Perfectly round and chatter-free counterbores
- **Ident. No. 784–785:**
  - Perfectly round and chatter-free countersinks
  - Three-flat shank reduces spinning in the drill chuck
  - Ideal for hand-held power tools

Ident. No. 782

Ident. No. 783



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	45	35	14	17	17	46	60	45	50	45	50	51		30	12	13	12		

	Tool holding device	HA parallel shank		Parallel shank with three tightening surfaces	
	Cutting material	HSSE		HSSE	
	Surface	TiAlN plus		TiAlN plus	
Included in delivery	Number of pieces in assortment/set (PCS)	11501... Ident. No.		11501... Ident. No.	
6.3/8.3/10.4/12.4/16.5/20.5	6	782	●	784	●
6.3/10.4/16.5/20.5/25.0	5	783	●	785	●

Prod. Gr. 1EB

ATORN HSS 90° countersink, 3 flute, unequal spiral pitch, long version (DIN 335)

for universal use up to 1,000 N/mm²

90° | HSS | TiAlN plus | Z 3 | HA | ≠

Application:

For producing 90° counterbores up to 1,000 N/mm².

Execution:

- Three convex cutting edges with unequal spiral pitch

Advantage:

- Low-vibration cutting conditions
- Significant reduction in feed forces
- Perfectly round and chatter-free countersinks
- Ideal for countersinking deep-set bores

				Cutting material	HSS	
				Surface	TiAlN plus	
				Tool holding device	HA parallel shank	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11501... Ident. No.	
6.3	1.5	5	104	0.08	760	●
8.3	2.0	6	105	0.1	761	●
10.4	2.5	6	107	0.1	762	●
12.4	2.8	8	108	0.1	763	●
16.5	3.2	10	111	0.12	764	●
20.5	3.5	10	114	0.18	765	●
25.0	3.8	10	118	0.18	766	●
31.0	4.2	12	140	0.22	767	●

Prod. Gr. 1EB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	30	12	15	15	40	50	40	45	40	45	44		26	10	11	10		

ATORN ORIONⓇ HSS 90° countersink, 3 flute, extremely unequal pitch (DIN 335)

for universal use up to 1,300 N/mm²

Application:
For producing 90° counterbores up to 1300 N/mm².

Execution:
- **Ident. No. 637–685:** profile-ground triple-edge countersink with radial relief, with extremely uneven pitch
- **Ident. No. 689–696:** Profile-ground triple-edge countersink with radial relief, with extremely uneven pitch

Advantage:
- Uneven pitch ensures excellent surfaces without chatter marks and minimisation of cutting forces
- **Ident. No. 637–685:** radial relief ensures optimum chip breaking
- **Ident. No. 670–696:** 3-sided shaft ensures very good power transmission and prevents the tool from spinning in the drill chuck or cordless drill
- **Ident. No. 689–696:** Radial relief ensures optimum chip breaking

Notes:
Ident. No. 689–696: Note: The 6.3-mm diameter design does not have a 3-face shaft

Ident. No. 670–685

Ident. No. 689–696

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	30	12	15	15	40	50	40	40	40	40	40		20	10				

					ATORN				ORION			
				Cutting material	HSS		HSS		HSS		HSS	
				Surface	TiN/ZrN		TiN/ZrN		TiAlN plus		TiAlN plus	
				Tool holding device	HA parallel shank		Parallel shank with three tightening surfaces		HA parallel shank		Parallel shank with three tightening surfaces	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11501... Ident. No.		11501... Ident. No.		11501... Ident. No.		11501... Ident. No.	
4.3	1.3	4	40	0.06	637	●	670	●	-	-	-	-
6.0	1.5	5	45	0.08	641	●	671	●	-	-	-	-
6.3	1.5	5	45	0.08	642	●	672	●	689	●	-	-
8.0	2.0	6	50	0.1	645	●	673	●	-	-	-	-
8.3	2.0	6	50	0.1	646	●	674	●	-	-	690	●
10.0	2.5	6	50	0.1	648	●	675	●	-	-	-	-
10.4	2.5	6	50	0.1	649	●	676	●	-	-	691	●
11.5	2.8	8	56	0.1	650	●	677	●	-	-	-	-
12.4	2.8	8	56	0.1	651	●	678	●	-	-	692	●
15.0	3.2	10	60	0.12	653	●	679	●	-	-	-	-
16.5	3.2	10	60	0.12	654	●	680	●	-	-	693	●
19.0	3.5	10	63	0.14	655	●	681	●	-	-	-	-
20.5	3.5	10	63	0.18	656	●	682	●	-	-	694	●
23.0	3.8	10	67	0.18	657	●	683	●	-	-	-	-
25.0	3.8	10	67	0.18	658	●	684	●	-	-	695	●
31.0	4.2	12	71	0.22	661	●	685	●	-	-	696	●

ATORN = Prod. Gr. 1EB
ORION = Prod. Gr. 1EH

ATORN ORIONⓇ HSS 90° countersink set, 3 flute, extremely unequal pitch (DIN 335)

for universal use up to 1,000 N/mm²

Application:
For producing 90° counterbores up to 1300 N/mm².

Execution:
- **Ident. No. 244–697:** Profile-ground triple-edge countersink with radial relief, with extremely uneven pitch
- **Ident. No. 698:** Profile-ground triple-flute countersink with radial relief, with extremely unequal pitch

Advantage:
- Radial relief ensures optimum chip breaking
- **Ident. No. 244, 686:** 3-sided shaft design for excellent power transmission and prevents the tool from spinning in the drill chuck and cordless drill
- **Ident. No. 244–686:** Uneven pitch ensures excellent surfaces without chatter marks and minimization of cutting forces
- **Ident. No. 697–698:**
- Uneven pitch ensures excellent surfaces without chatter marks and minimisation of cutting forces
- 3-sided shank design for excellent power transmission and prevents the tool from spinning in the drill chuck and cordless drill

Notes:
Ident. No. 697: Note: The 6.3-mm diameter design does not have a 3-face shaft
Ident. No. 698: Caution! The 6.3-mm diameter design does not feature a 3-sided shank

Ident. No. 244

Ident. No. 697

Ident. No. 698

Ident. No. 686

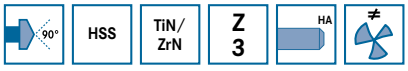
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	30	12	15	15	40	50	40	40	40	40	40		20	10				

		ATORN				ORION	
Tool holding device		Parallel shank with three tightening surfaces		HA parallel shank		Parallel shank with three tightening surfaces	
Cutting material		HSS		HSS		HSS	
Surface		TiN/ZrN		TiN/ZrN		TiAlN plus	
Included in delivery	Number of pieces in assortment/set (PCS)	11501... Ident. No.		11501... Ident. No.		11501... Ident. No.	
6.3/10.4/12.4/16.5/20.5	5	244	●	245	●	697	●
6.3/10.4/16.5/20.5/25	5	686	●	662	●	698	●

ATORN® = Prod. Gr. 1EB
ORION = Prod. Gr. 1EH

ATORN HSS 90° countersink, 3 flute, extremely unequal pitch, long version

for universal use up to 1,300 N/mm²



Application:
For producing 90° counterbores up to 1300 N/mm².

Execution:
- Profile-ground triple-flute countersink with radial relief, with extremely uneven pitch

Advantage:
- Radial relief ensures optimum chip breaking
- Uneven pitch ensures excellent surfaces without chatter marks and minimisation of cutting forces
- Simple countersinking of deep-seated countersinks

				Cutting material	HSS	
				Surface	TiN/ZrN	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11501... Ident. No.	
6.3	1.5	104	5	0.08	235	●
8.3	2.0	105	6	0.1	236	●
10.4	2.5	107	6	0.1	237	●
12.4	2.8	108	8	0.1	238	●
16.5	3.2	111	10	0.12	239	●
20.5	3.5	114	10	0.18	240	●
25.0	3.8	118	10	0.18	241	●
31.0	4.2	140	12	0.22	242	●

Prod. Gr. 1EB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	30	12	15	15	40	50	40	40	40	40	40		20	10				

ATORN HSS 90° countersink set, 3 flute, extremely unequal pitch, long version (DIN 335)

for universal use up to 1,300 N/mm²

90° | HSS | TiN/ZrN | Z 3 | HA | ≠

Application:
For producing 90° counterbores up to 1300 N/mm².

Execution:
- Profile-ground triple-flute countersink with radial relief, with extremely uneven pitch

Advantage:
- Radial relief ensures optimum chip breaking
- Uneven pitch ensures excellent surfaces without chatter marks and minimisation of cutting forces
- Simple countersinking of deep-seated countersinks

Included in delivery	Number of pieces in assortment/set (PCS)	Shaft length (mm)	11501... Ident. No.	
6.3/8.3/10.4/12.4/16.5/20.5	6	100	243	●

Prod. Gr. 1EB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	30	12	15	15	40	50	40	40	40	40	40		20	10				

ATORN HSS 90° countersink, 3 flute, MT, extremely unequal pitch (DIN 335)

for universal use up to 1,300 N/mm²

90° | HSSE | Z 3 | MK | ≠

Application:
For producing 90° countersinks up to 1300 N/mm²

Execution:
- Profile-ground triple-edge countersink with radial relief, with extremely uneven pitch
- With Morse taper shank

Advantage:
- Radial relief ensures optimum chip breaking
- Uneven pitch ensures excellent surfaces without chatter marks and minimisation of cutting forces

Notes:
The grooves are milled from a diameter of 37

				Cutting material	HSSE	
mm	mm	mm		f steel 700 ● (mm/r)	11500... Ident. No.	
31.0	4.2	112	MK 2	0.21	384	●
37.0	4.8	118	MK 2	0.24	404	●
40.0	10.0	140	MK 3	0.28	414	●
50.0	14.0	150	MK 3	0.32	424	●
63.0	16.0	180	MK 4	0.35	434	●
80.0	22.0	190	MK 4	0.37	444	●

Prod. Gr. 1EB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	30	12	15	15	40	50	40	40	40	40	40		20	10				

ATORN ORION® Countersink, 90°, HSS (DIN 335)

for universal use

90° | HSS | TiN | TiNAlOX | Z 3 | HA

Application:
For producing 90° counterbores up to 1000 N/mm².

Execution:
- profile-ground triple-edge countersink with radial relief

Advantage:
- radial relief ensures optimum chip breaking
- **No. 11500 601–11500 649:** TiNAlOX coating for increased service life requirements

No. 11500 006–11500 138, 11501 006–11501 138

No. 11500 601–11500 649

No. 11501 146–11501 825

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11500006-138; 11501006-138; 11501800-825	30	20	10	8		40	70	60	50	40	30	30		15					
11500601-648	30	20	10	10	8	40	70	60	50	40	30	30		15	8			20	
11501146-218	30	20	10	10		40	70	60	50	40	30	30		15	8				

					ATORN		ORION		ATORN		ORION		ATORN	
Cutting material					HSS		HSS		HSS		HSS		HSS	
Surface					Uncoated		Uncoated		TiN		TiN		TiNALOX	
Tool holding device					HA parallel shank		HA parallel shank		HA parallel shank		HA parallel shank		HA parallel shank	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11500... Ident. No.		11501... Ident. No.		11501... Ident. No.		11501... Ident. No.		11500... Ident. No.	
4.3	1.3	4	40	0.06	006	●	006	●	800	●	146	●	601	●
5	1.5	4	40	0.07	011	●	011	●	801	●	151	●	602	●
5.3	1.5	4	40	0.07	013	●	013	●	802	●	153	●	604	●
5.8	1.5	5	45	0.08	016	●	016	●	803	●	155	●	606	●
6	1.5	5	45	0.08	021	●	021	●	804	●	157	●	608	●
6.3	1.5	5	45	0.08	026	●	026	●	805	●	161	●	611	●
7	1.8	6	50	0.09	031	●	031	●	806	●	163	●	612	●
7.3	1.8	6	50	0.09	036	●	036	●	807	●	165	●	614	●
8	2	6	50	0.1	041	●	041	●	808	●	167	●	616	●
8.3	2	6	50	0.1	046	●	046	●	809	●	171	●	618	●
9.4	2.2	6	50	0.11	048	●	048	●	810	●	173	●	621	●
10	2.5	6	50	0.12	051	●	051	●	811	●	168	●	622	●
10.4	2.5	6	50	0.12	056	●	056	●	812	●	177	●	624	●
11.5	2.8	8	56	0.13	061	●	061	●	813	●	179	●	626	●
12.4	2.8	8	56	0.13	071	●	071	●	814	●	181	●	628	●
13.4	2.9	8	56	0.13	076	●	076	●	815	●	186	●	631	●
15	3.2	10	60	0.14	081	●	081	●	816	●	191	●	632	●
16.5	3.2	10	60	0.14	096	●	096	●	817	●	196	●	634	●
19	3.5	10	63	0.15	101	●	101	●	818	●	198	●	636	●
20.5	3.5	10	63	0.16	114	●	114	●	819	●	201	●	638	●
23	3.8	10	67	0.17	121	●	121	●	820	●	206	●	640	●
25	3.8	10	67	0.18	131	●	131	●	821	●	211	●	642	●
28	4	12	71	0.19	132	●	136	●	822	●	216	●	644	●
30	4.2	12	71	0.2	136	●	137	●	823	●	217	●	646	●
31	4.2	12	71	0.21	138	●	138	●	824	●	218	●	648	●
40	10	12	75	0.25	137	●	-	-	825	●	-	-	649	●

ATORN® = Prod. Gr. 1EB
ORION = Prod. Gr. 1EH

ATORN ORION® HSS/HSSE 90° countersink sets (DIN 335)

for universal use

Application:

Ident. No. 010–535: For producing 90° counterbores up to 1000 N/mm².

Ident. No. 700–720: For producing 90° counterbores up to 1300 N/mm².

Execution:

- profile-ground triple-edge countersink with radial relief

Advantage:

- radial relief ensures optimum chip breaking
- **Ident. No. 480, 490, 500, 510, 520, 530:** TiN coating for increased service life requirements
- **Ident. No. 485, 495, 505, 515, 525, 535:** TiN coating for increased requirements regarding service life

Ident. No. 505

Ident. No. 700–720

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11507010-061; 11507015-065; 11507480-530	30	20	10	8		40	70	60	50	40	30	30		15					
11507485-535	30	20	10	8		40	70	60	50	40	30	30		15					
11507700-720	30	20	10	8	6	40	70	60	50	40	30	30		15					

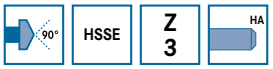
		ATORN		ORION		ATORN		ORION		ATORN	
Tool holding device		HA parallel shank		HA parallel shank		HA parallel shank		HA parallel shank		HA parallel shank	
Cutting material		HSS		HSS		HSS		HSS		HSSE	
Surface		Uncoated		Uncoated		TiN		TiN		Uncoated	
Included in delivery	Number of pieces in assortment/ set (PCS)	11507... Ident. No.		11507... Ident. No.		11507... Ident. No.		11507... Ident. No.		11507... Ident. No.	
8/10/11.5/15	4	010	●	015	●	480	●	485	●	-	-
10.4/16.5/20.5/25	4	020	●	025	●	490	●	495	●	-	-
6/8/10/11.5/15/19	6	031	●	035	●	500	●	505	●	700	●

		ATORN		ORION		ATORN		ORION		ATORN	
Tool holding device		HA parallel shank		HA parallel shank		HA parallel shank		HA parallel shank		HA parallel shank	
Cutting material		HSS		HSS		HSS		HSS		HSSE	
Surface		Uncoated		Uncoated		TiN		TiN		Uncoated	
Included in delivery	Number of pieces in assortment/ set (PCS)	11507... Ident. No.		11507... Ident. No.		11507... Ident. No.		11507... Ident. No.		11507... Ident. No.	
6/8/10/11.5/15/19/25	7	041	●	045	●	510	●	515	●	-	-
6.3/8.3/10.4/12.4/16.5/20.5	6	051	●	055	●	520	●	525	●	720	●
6.3/8.3/10.4/12.4/16.5/20.5/25	7	061	●	065	●	530	●	535	●	-	-

ATORN = Prod. Gr. 1EB
ORION = Prod. Gr. 1EH

ATORN HSSE 90° countersink, 3 flute (DIN 335)

for universal use up to 1,300 N/mm²



Application:
For producing 90° counterbores up to 1300 N/mm².

Advantage:
- radial relief ensures optimum chip breaking

Execution:
- profile-ground triple-edge countersink with radial relief

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	30	12	10	8	40	70	60	50	40	30	30		15	10	10			

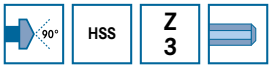
Cutting material					HSSE	
Surface					Uncoated	
Tool holding device					HA parallel shank	
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11500... Ident. No.	
4.3	1.3	4	40	0.07	698	●
5.0	1.5	4	40	0.07	699	●
5.3	1.5	4	40	0.07	700	●
6.0	1.5	5	45	0.08	702	●
6.3	1.5	5	45	0.08	705	●
7.0	1.8	6	50	0.09	706	●
8.0	2.0	6	50	0.1	710	●
8.3	2.0	6	50	0.1	712	●
9.4	2.2	6	50	0.11	715	●
10.0	2.5	6	50	0.12	720	●
10.4	2.5	6	50	0.12	722	●

Cutting material					HSSE	
Surface					Uncoated	
Tool holding device					HA parallel shank	
mm	mm	mm	mm	f steel 1000 ● (mm/r)	11500... Ident. No.	
11.5	2.8	8	56	0.13	723	●
12.4	2.8	8	56	0.13	725	●
15.0	3.2	10	60	0.14	730	●
16.5	3.2	10	60	0.14	735	●
19.0	3.5	10	63	0.15	736	●
20.5	3.5	10	63	0.16	740	●
23.0	3.8	10	67	0.17	741	●
25.0	3.8	10	67	0.18	745	●
31.0	4.2	12	71	0.21	750	●
40.0	10.0	12	75	0.21	751	●

Prod. Gr. 1EB

ATORN HSS 90° countersink, 3 flute with 3-flat shank

for universal use up to 1,000 N/mm²



Application:
For producing 90° counterbores up to 1000 N/mm².

Advantage:
- radial relief ensures optimum chip breaking
- three-edge shank ensures excellent power transmission in the chuck

Execution:
- profile-ground triple-edge countersink with three-edge shank with radial relief

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	8		40	70	60	50	40	30	30		15					

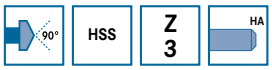
Tool holding device					Parallel shank with three tightening surfaces	
Cutting material					HSS	
Surface					Uncoated	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11501... Ident. No.	
11.5	2.8	8	56	0.13	506	●
12.4	2.8	8	56	0.13	511	●
13.4	2.9	8	56	0.13	516	●
15.0	3.2	10	60	0.14	521	●
16.5	3.2	10	60	0.14	526	●
19.0	3.5	10	63	0.15	532	●
20.5	3.5	10	63	0.16	536	●

Tool holding device					Parallel shank with three tightening surfaces	
Cutting material					HSS	
Surface					Uncoated	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11501... Ident. No.	
23.0	3.8	10	67	0.17	542	●
25.0	3.8	10	67	0.18	547	●
28.0	4.0	12	71	0.19	551	●
30.0	4.2	12	71	0.2	556	●
31.0	4.2	12	71	0.21	561	●
40.0	10.0	12	75	0.21	565	●

Prod. Gr. 1EB

ATORN HSS 90° countersink, extra long

for universal use up to 1,000 N/mm²



Application:
For producing deep-set 90° counterbores up to 1000 N/mm².

Execution:
- **Ident. No. 300–455:** profile-ground extra-long triple-edge countersink
- **Ident. No. 541:** Profile-ground extra-long triple-edge countersink

Advantage:
- **Ident. No. 300–455:**
  - radial relief ensures optimum chip breaking
  - deep-set countersinks are made easy for the user
- **Ident. No. 541:**
  - Radial relief ensures optimum chip breaking
  - Deep-set countersinks are made easy for the user

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11501300-455	30	20	10	10		40	70	60	50	40	30	30		15					

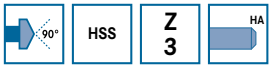
Cutting material				HSS	
Surface				Uncoated	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11501... Ident. No.	
5.8	1.5	104	5	0.08	300	●
6.3	1.5	104	5	0.08	305	●
6.3	1.5	154	5	0.08	405	●
8.3	2.0	105	6	0.1	310	●
8.3	2.0	155	6	0.1	410	●
9.4	2.2	106	6	0.11	315	●
10.4	2.5	107	6	0.12	320	●
10.4	2.5	157	6	0.12	420	●
11.5	2.8	108	6	0.13	325	●
12.4	2.8	108	8	0.13	330	●
12.4	2.8	158	8	0.13	430	●

Cutting material				HSS	
Surface				Uncoated	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11501... Ident. No.	
15.0	3.2	109	10	0.14	335	●
15.0	3.2	159	10	0.14	435	●
16.5	3.2	111	10	0.14	340	●
16.5	3.2	161	10	0.14	440	●
16.5	3.2	261	10	0.14	541	●
20.5	3.5	114	10	0.16	345	●
20.5	3.5	164	10	0.16	445	●
25.0	3.8	118	10	0.18	350	●
25.0	3.8	168	10	0.18	450	●
31.0	4.2	140	12	0.21	355	●
31.0	4.2	190	12	0.21	455	●

Prod. Gr. 1EB

ATORN HSSE 90° countersink sets, extra long

for universal use up to 1,000 N/mm²



Application:
For producing deep-set 90° counterbores up to 1000 N/mm².

Execution:
- profile-ground extra-long triple-edge countersink with radial relief

Advantage:
- radial relief ensures optimum chip breaking
- deep-set countersinks are made easy for the user

Ident. No. 390

Ident. No. 490

Included in delivery	Number of pieces in assortment/set (PCS)	Shaft length (mm)	11501... Ident. No.	
6.3/8.3/10.4/12.4/16.5/20.5	6	100	390	●
6.3/8.3/10.4/12.4/16.5/20.5	6	150	490	●

Prod. Gr. 1EB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	8		40	70	60	50	40	30	30		15					

ATORN HSS/HSSE 90° countersink, 3 flute (DIN 335)

for universal use

Application:
For producing 90° counterbores up to 1000 N/mm².

Execution:
- profile-ground triple-edge countersink with radial relief

Advantage:
- radial relief ensures optimum chip breaking

Notes:
The grooves are milled from diameter of 31

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	10		40	70	60	50	40	30	30		15					

Cutting material				HSS	
mm	mm	mm		f steel 700 ● (mm/r)	11500... Ident. No.	
15.0	3.2	85	MK 1	0.14	312	●
16.5	3.2	85	MK 1	0.14	322	●
20.5	3.5	100	MK 2	0.16	337	●
25.0	3.8	106	MK 2	0.18	352	●
28.0	4.0	112	MK 2	0.19	367	●
30.0	4.2	112	MK 2	0.2	372	●
31.0	4.2	112	MK 2	0.21	382	●

Cutting material				HSS	
mm	mm	mm		f steel 700 ● (mm/r)	11500... Ident. No.	
34.0	4.5	118	MK 2	0.22	392	●
37.0	4.8	118	MK 2	0.24	402	●
40.0	10.0	140	MK 3	0.28	412	●
50.0	14.0	150	MK 3	0.32	422	●
63.0	16.0	180	MK 4	0.35	432	●
80.0	22.0	190	MK 4	0.37	442	●

Prod. Gr. 1EB

ORION® HSS 90° countersink with bit holder

for universal use up to 1,000 N/mm²

Application:
For countersinking, chamfering and deburring. For use in hand-held bit holders, electric hand drills and electric screwdrivers.

Execution:
- profile-ground

Advantage:
- Hexagonal shank, 1/4" provides a user-friendly tool chuck in the bit holder

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●	○	○		●	●	●	●	●	●	●	○	○					

Suitable for screw thread	Spot-facer Ø (mm)	Tip Ø (mm)	Shaft length (mm)	Length (mm)	11492... Ident. No.	
M3	6.3	1.5	20	31	063	●
M4	8.3	2	20	31	083	●
M5	10.4	2.5	20	34	104	●
M6	12.4	2.8	20	35	124	●
M8	16.5	3.2	20	40	165	●
M10	20.5	3.5	20	41	205	●

Prod. Gr. 1EH

ORION® HSS 90° countersink set with bit holder

for universal use up to 1,000 N/mm²

Application:
For countersinking, chamfering and deburring. For use in hand-held bit holders, electric hand drills and electric screwdrivers.

Execution:
- profile-ground

Advantage:
- Hexagonal shank, 1/4" provides a user-friendly tool chuck in the bit holder

Included in delivery		1x each countersink 6.3/8.3/10.4/12.4/16.5/20.5
Number of pieces in assortment/set (PCS)		6
11493...	Ident. No.	520 ●

Prod. Gr. 1EH

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●	○	○		●	●	●	●	●	●	●	○	○					

ATORN HSSE 90° countersink, multi-flute cutter

for universal use up to 1300 N/mm²

Application:
For producing 90° counterbores up to 1300 N/mm².

Execution:
- Profile-ground multi-edge countersink with patented special cut

Advantage:
- excellent service life for Hardox 400, Creusabro, Inconel, Nimonic, Hastelloy, Monel, titanium and titanium alloy materials
- radial relief ensures optimum chip breaking
- innovative cutting geometry with greater number of cutters provides excellent cutting performance and good surface quality

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	35	25	15	12	10	40	70	60	50	40	30			20	12	12	12		

				Cutting material	HSSE	
				Surface	Uncoated	
mm	mm	mm	mm	Number of cutting edges (PCS)	11531... Ident. No.	
10.4	4.0	50	6	4	104	●
12.4	4.0	56	8	5	124	●
16.5	4.5	60	10	5	165	●
20.5	5.0	63	10	5	205	●
25.0	5.5	67	10	5	250	●
31.0	6.0	71	12	5	310	●

Prod. Gr. 1EB

ATORN HSS 90° countersink, multi-flute cutter (DIN 335)

for universal use up to 1,000 N/mm²

Application:
For producing 90° counterbores up to 1000 N/mm².

Execution:
- profile-ground multi-edge countersink with straight cutting edge

Advantage:
- high number of cutting edges for quiet cutting performance
- very good cutting performance and surface quality (chatter-free)

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	10		40	70	40	40	60	60	30		20					

					Cutting material	HSS	
					Surface	Uncoated	
mm	mm	mm	mm	Number of cutting edges (PCS)	f steel 700 ● (mm/r)	11495... Ident. No.	
8.0	1.5	48	8	5	0.1	408	●
12.5	2.0	48	8	5	0.13	412	●
16.0	3.2	56	10	7	0.14	416	●
20.0	5.0	60	10	7	0.16	420	●

Prod. Gr. 1EB

ATORN HSS 90° countersink, multi-flute cutter (DIN 335)

for universal use up to 1,000 N/mm²

Application:
For producing 90° counterbores up to 1000 N/mm².

Execution:
- Multi-edge countersink with straight cutting edge

Advantage:
- high number of cutting edges for quiet cutting performance
- very good cutting performance and surface quality (chatter-free)

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	10		40	**70**	60	**50**	40	**30**	**30**		15					

					Cutting material	HSS	
					Surface	Uncoated	
mm	mm	mm		Number of cutting edges (PCS)	f steel 700 ● (mm/r)	11495... Ident. No.	
25.0	7.0	118	MK 2	9	0.18	**430**	●
31.5	9.0	122	MK 2	9	0.21	**440**	●
40.0	12.0	150	MK 3	11	0.25	**450**	●
50.0	16.0	155	MK 3	13	0.28	**460**	●
63.0	20.0	185	MK 4	15	0.33	**470**	●

Prod. Gr. 1EB

ATORN HSSE 90° countersink and deburring tool

for universal use up to 1,000 N/mm²

Application:
For producing 90° counterbores up to 1300 N/mm².

Execution:
- profile-ground single-edge countersink with radial relief

Advantage:
- radial relief ensures optimum chip breaking
- deep and wide flute provides optimum chip removal
- special geometry ensures vibration-free and accurate countersinking with high finish quality

Notes:
The grooves are milled from diameter of 15

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	**20**	10	8	7	**40**	**70**	**50**	**40**	**35**	**30**	**30**		15	8				

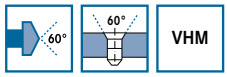
					ATORN	
mm	Min./max. cutting edge Ø	mm	mm	f steel 1000 ● (mm/r)	11497... Ident. No.	
5.0	1-5 mm	5	50	0.07	**605**	●
10.0	1-10 mm	10	60	0.12	**610**	●
15.0	2-15 mm	10	65	0.14	**615**	●
20.0	2-20 mm	10	73	0.16	**620**	●
25.0	2-25 mm	10	80	0.18	**625**	●
30.0	3-30 mm	12	82	0.2	**630**	●
40.0	3-40 mm	15	92	0.25	**640**	●
40.0	3-40 mm	12	92	0.25	**641**	●
50.0	3-50 mm	15	100	0.28	**650**	●
50.0	3-50 mm	12	100	0.30	**651**	●

Prod. Gr. 1EB

Conical countersink 60° solid carbide

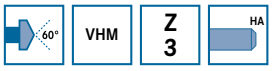
Application:
For countersinking 60° screw heads or deburring of bores.

Advantage:
- Very long service life thanks to high-quality solid carbide cutting material



ATORN Solid carbide 60° conical countersink, three-flute cutter (DIN 334)

for universal use up to 1300 N/mm²



Application:
For producing 60° counterbores up to 1300 N/mm².

Advantage:
- radial relief ensures optimum chip breaking

Execution:
- profile-ground triple-edge countersink with radial relief

Notes:
Diameter 8 mm = solid carbide/diameter 10-25 mm = solid carbide head and steel shank

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	60	45	20	20	15	80	150	120	100	80	60	60		40	20	20	20		

Cutting material	SC	
Surface	Uncoated	
Tool holding device	HA parallel shank	
mm	mm	mm	mm	f steel 1300 ● (mm/r)	11498... Ident. No.	
8.0	2.0	6	50	0.08	308	●
10.0	2.5	8	50	0.09	310	●
12.5	3.2	8	56	0.1	312	●
16.0	4.0	10	63	0.12	316	●
20.0	5.0	10	67	0.13	320	●
25.0	6.3	10	71	0.14	325	●

Prod. Gr. 114

Conical countersink 60°, HSS/HSSE

Application:
For countersinking 60° screw heads or deburring of bores.

Advantage:
- Very wide range
- Various cutting materials available
- Many shank types and designs

ATORN HSS 60° countersink, triple-flute cutter, unequal spiral pitch (DIN 334)

for universal use up to 1,000 N/mm²

HSS | TiAlN plus | Z 3 | HA

Application:
For producing 90° counterbores up to 1,000 N/mm².

Execution:
- Three convex cutting edges with unequal spiral pitch

Advantage:
- Low-vibration cutting conditions
- Significant reduction in feed forces
- Perfectly round and chatter-free countersinks
- **Ident. No. 775–781:**
  - Three-flat shank prevents spinning in the drill chuck
  - Ideal for hand-held power tools

Ident. No. 768–774

Ident. No. 775–781

Cutting material					HSS		HSS	
Surface					TiAlN plus		TiAlN plus	
Tool holding device					HA parallel shank		Parallel shank with three tightening surfaces	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11501... Ident. No.		11501... Ident. No.	
6.3	1.6	5	45	0.08	768	●	775	●
8.0	2.0	6	50	0.1	769	●	776	●
10.0	2.5	6	56	0.1	770	●	777	●
12.5	3.2	8	56	0.1	771	●	778	●
16.0	4.0	10	63	0.12	772	●	779	●
20.0	5.0	10	67	0.18	773	●	780	●
25.0	6.3	10	71	0.18	774	●	781	●

Prod. Gr. 1EB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	30	12	15	15	40	50	40	45	40	45	44		26	10	11	10		

ATORN HSS 60° countersink set, triple-flute cutter, unequal spiral pitch (DIN 334)

for universal use up to 1,000 N/mm²

HSS | TiAlN plus | Z 3 | HA

Application:
Ident. No. 786: For producing 60° countersinks up to 1,000 N/mm².
Ident. No. 787: For producing 60° counterbores up to 1,000 N/mm².

Execution:
- Three convex cutting edges with unequal spiral pitch

Advantage:
- Low-vibration cutting conditions
- Significant reduction in feed forces
- **Ident. No. 786:** Perfectly round and chatter-free countersinks
- **Ident. No. 787:**
  - Perfectly round and chatter-free counterbores
  - Three-flat shank prevents spinning in the drill chuck
  - Ideal for hand-held power tools

Ident. No. 786

Tool holding device		HA parallel shank		Parallel shank with three tightening surfaces	
Cutting material		HSS		HSS	
Surface		TiAlN plus		TiAlN plus	
Included in delivery	Number of pieces in assortment/ set (PCS)	11501... Ident. No.		11501... Ident. No.	
6.3/8.0/10.0/12.5/16.0/20.0	6	786	●	787	●

Prod. Gr. 1EB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	30	12	15	15	40	50	40	45	40	45	44		26	10	11	10		

ATORN HSS 60° conical countersink, three flutes, extremely uneven pitch (DIN 334)

for universal use up to 1300 N/mm²

60° | HSS | TiN/ZrN | Z 3 | HA | ≠

Application:
For producing 60° counterbores up to 1300 N/mm².

Execution:
- **Ident. No. 219–225:** Profile-ground triple-edge countersink with radial relief, with extremely uneven pitch
- **Ident. No. 227–233:** Profile-ground triple-flute countersink with radial relief, with extremely uneven pitch

Advantage:
- Radial relief ensures optimum chip breaking
- Uneven pitch ensures excellent surfaces without chatter marks and minimisation of cutting forces
- **Ident. No. 219–225:** 3-sided shaft ensures very good power transmission and prevents the tool from spinning in the drill chuck or even in the cordless drill

Ident. No. 219–225

Ident. No. 227–233

Tool holding device					Parallel shank with three tightening surfaces		HA parallel shank	
Cutting material					HSS		HSS	
Surface					TiN/ZrN		TiN/ZrN	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11501... Ident. No.		11501... Ident. No.	
6.3	1.6	5	45	0.08	219	●	227	●
8.0	2.0	6	50	0.1	220	●	228	●
10.0	2.5	6	50	0.1	221	●	229	●
12.5	3.2	8	56	0.1	222	●	230	●
16.0	4.0	10	63	0.12	223	●	231	●
20.0	5.0	10	67	0.18	224	●	232	●
25.0	6.3	10	71	0.18	225	●	233	●

Prod. Gr. 1EB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	30	12	15	15	40	50	40	40	40	40	40		20	10				

ATORN HSS 60° conical countersink set, three flutes, extremely uneven pitch (DIN 334)

for universal use up to 1300 N/mm²

60° | HSS | TiN/ZrN | Z 3 | HA | ≠

Application:
For producing 60° counterbores up to 1300 N/mm².

Execution:
- Profile-ground triple-edge countersink with radial relief, with extremely uneven pitch

Advantage:
- Radial relief ensures optimum chip breaking
- Uneven pitch ensures excellent surfaces without chatter marks and minimisation of cutting forces
- **Ident. No. 226:** 3-sided shaft design for excellent power transmission and prevents the tool from spinning in the drill chuck and cordless drill

Ident. No. 226

Tool holding device		Parallel shank with three tightening surfaces		HA parallel shank	
Cutting material		HSS		HSS	
Surface		TiN/ZrN		TiN/ZrN	
Included in delivery	Number of pieces in assortment/ set (PCS)	11501... Ident. No.		11501... Ident. No.	
6.3/10.0/12.5/16.0/20.0	5	226	●	234	●

Prod. Gr. 1EB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titanalloy	Nickelalloy	Superalloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	30	12	15	15	40	50	40	40	40	40	40		20	10				

ATORN HSS 60° conical countersink, three-flute cutter (DIN 334)

For universal use up to 1000 N/mm²

Application:
For producing 60° counterbores up to 1000 N/mm².

Advantage:
- radial relief ensures optimum chip breaking

Execution:
- profile-ground triple-edge countersink with radial relief

Ident. No. 106–126

Ident. No. 206–225

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	8		40	70	60	50	40	30	30		15					

				Cutting material	HSS		HSS	
				Surface	TiN		Uncoated	
				Tool holding device	HA parallel shank		HA parallel shank	
mm	mm	mm	mm	f steel 700 ● (mm/r)	11498... Ident. No.		11498... Ident. No.	
6.3	1.6	5	45	0.08	206	●	106	●
8.0	2.0	6	50	0.1	208	●	108	●
10.0	2.5	6	50	0.12	210	●	110	●
12.5	3.2	8	56	0.13	212	●	112	●
16.0	4.0	10	63	0.14	216	●	-	-
20.0	5.0	10	67	0.16	220	●	121	●
25.0	6.3	10	71	0.18	225	●	126	●

Prod. Gr. 1EB

ATORN HSSE 60° conical countersink set, three-flute cutter (DIN 334)

for universal use up to 1000 N/mm²

Application:
For producing 60° counterbores up to 1000 N/mm².

Advantage:
- radial relief ensures optimum chip breaking

Execution:
- profile-ground triple-edge countersink with radial relief

Ident. No. 900, 920

Ident. No. 910

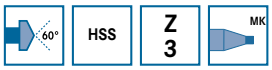
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	8		40	70	60	50	40	30	30		15					

		Tool holding device	HA parallel shank		HA parallel shank	
		Cutting material	HSS		HSS	
		Surface	Uncoated		TiN	
Included in delivery	Number of pieces in assortment/set (PCS)		11498... Ident. No.		11498... Ident. No.	
8.0/10.0/12.5/16.0/20.0	5		900	●	910	●
6.3/8.0/10.0/12.5/16.0/20.0/25.0	7		920	●	930	●

Prod. Gr. 1EB

ATORN HSSE 60° conical countersink, three-flute cutter (DIN 334)

for universal use up to 1000 N/mm²



Application:
For producing 60° counterbores up to 1000 N/mm².

Execution:
- profile-ground triple-edge countersink with radial relief

Advantage:
- radial relief ensures optimum chip breaking

Notes:
The grooves are milled from diameter of 40

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	10		40	70	60	50	40	30	30		15					

				Cutting material	HSS	
mm	mm	mm		f steel 700 ● (mm/r)	11498... Ident. No.	
25.0	6.3	112	MK 2	0.18	226	●
31.5	10.0	118	MK 2	0.21	231	●
40.0	12.5	150	MK 3	0.25	240	●
50.0	16.0	160	MK 3	0.28	250	●
63.0	20.0	190	MK 4	0.33	263	●

Prod. Gr. 1EB

ATORN HSSE 60° conical countersink, single-flute cutter

for universal use up to 1300 N/mm²

Application:
For producing 60° counterbores up to 1300 N/mm².

Execution:
- profile-ground single-edge countersink

Advantage:
- radial relief ensures optimum chip breaking
- deep and wide flute provides optimum chip removal
- special geometry ensures vibration-free and accurate countersinking with high finish quality

Notes:
The grooves are milled from diameter of 15

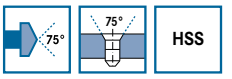
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	8		40	70	60	50	40	30	30		15	8				

mm	Min./max. cutting edge Ø	mm	mm	f steel 1000 ● (mm/r)	11497... Ident. No.	
5.0	1-5 mm	5	50	0.07	405	●
10.0	1-10 mm	10	60	0.12	410	●
15.0	2-15 mm	10	65	0.14	415	●
20.0	2-20 mm	10	73	0.16	420	●
25.0	2-25 mm	10	80	0.16	425	●
30.0	3-30 mm	12	82	0.2	430	●

Prod. Gr. 1EB

Conical countersink 75° HSS

Application:
For countersinking 75° screw heads or deburring of bores.



ATORN HSS 75° conical countersink, three-flute cutter
for universal use up to 1000 N/mm²

Application:
For producing 75° counterbores up to 1000 N/mm².

Advantage:
- radial relief ensures optimum chip breaking

Execution:
- profile-ground triple-edge countersink with radial relief

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	10		40	**70**	60	**50**	40	**30**	**30**		15					

Cutting material	HSS
Surface	Uncoated
Tool holding device	HA parallel shank

mm	mm	mm	mm	f steel 700 ● (mm/r)	11499... Ident. No.	
8.0	2.0	6	50	0.1	008	●
10.0	2.5	6	54	0.12	010	●
12.5	2.8	8	54	0.13	012	●

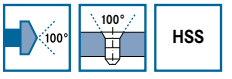
Cutting material	HSS
Surface	Uncoated
Tool holding device	HA parallel shank

mm	mm	mm	mm	f steel 700 ● (mm/r)	11499... Ident. No.	
15.0	3.2	8	56	0.14	015	●
20.0	3.5	10	63	0.16	020	●
25.0	6.3	10	71	0.18	025	●

Prod. Gr. 1EB

Conical countersink 100° HSS

Application:
For countersinking 100° rivet and screw heads or deburring of bores.



ATORN HSS 100° conical countersink, three-flute cutter
For universal use up to 1000 N/mm²

Application:
For producing 100° counterbores up to 1000 N/mm².

Advantage:
- Radial relief ensures optimum chip breaking
- Extremely smooth running and chatter-free countersinking in 100° countersinks

Execution:
- Profile-ground three-edge countersink with radial relief

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	**20**	10	10	8	**40**	**70**	**60**	**50**	**40**	**30**	**30**		15					

Cutting material	HSS
Surface	Uncoated
Tool holding device	HA parallel shank

mm	mm	mm	mm	f steel 700 ● (mm/r)	11501... Ident. No.	
6.3	1.5	5	44	0.08	861	●
8.0	2.0	6	49	0.1	862	●
10.4	2.5	6	49	0.12	863	●
12.4	2.8	8	55	0.13	864	●

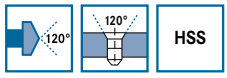
Cutting material	HSS
Surface	Uncoated
Tool holding device	HA parallel shank

mm	mm	mm	mm	f steel 700 ● (mm/r)	11501... Ident. No.	
16.5	3.2	10	59	0.14	865	●
20.5	3.5	10	62	0.16	866	●
25.0	3.8	10	65	0.18	867	●

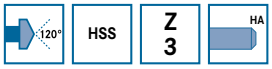
Prod. Gr. 1EB

Conical countersink 120° HSS

Application:
For countersinking 120° screw heads or deburring of bores.



ATORN HSS 120° conical countersinks
for universal use up to 1000 N/mm²



Application:
For producing 120° counterbores up to 1000 N/mm².

Execution:
- profile-ground triple-edge countersink with radial relief

Advantage:
- radial relief ensures optimum chip breaking

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	10		40	**70**	60	**50**	40	**30**	**30**		15					

Cutting material	HSS
Surface	Uncoated
Tool holding device	HA parallel shank

mm	mm	mm	mm	f steel 700 ● (mm/r)	11502... Ident. No.	
6.3	1.5	6	49	0.1	**106**	●
8.0	2.0	6	49	0.1	**108**	●
12.5	2.8	8	54	0.13	**112**	●

Cutting material	HSS
Surface	Uncoated
Tool holding device	HA parallel shank

mm	mm	mm	mm	f steel 700 ● (mm/r)	11502... Ident. No.	
16.0	3.2	10	57	0.14	**117**	●
20.0	3.5	10	59	0.16	**120**	●
25.0	3.8	10	63	0.18	**126**	●

Prod. Gr. 1EB

ATORN HSS 120° conical countersink, three-flute cutter
for universal use up to 1000 N/mm²

Application:
For producing 120° counterbores up to 1000 N/mm².

Execution:
- profile-ground triple-edge countersink with radial relief

Advantage:
- radial relief ensures optimum chip breaking

Notes:
The grooves are milled from diameter of 40

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	20	10	10		40	**50**	20	**20**	40	**40**	**30**		20					

Cutting material	HSS

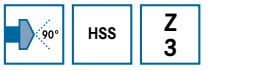
mm	mm	mm	f steel 700 ● (mm/r)	11502... Ident. No.	
31.5	4.2	107	MK 2	0.21	**231**	●
40.0	10.0	134	MK 3	0.25	**240**	●

Cutting material	HSS

mm	mm	mm	f steel 700 ● (mm/r)	11502... Ident. No.	
50.0	14.0	143	MK 3	0.28	**250**	●

Prod. Gr. 1EB

ATORN ORION® Hand deburrers 90° HSS
With 3 flutes



Application:
For producing 90° counterbores and for deburring up to 1000 N/mm².

Execution:
- profile-ground triple-edge countersink with radial relief

Advantage:
- radial relief ensures optimum chip breaking
- **Ident. No. 111–125:**
  - innovative cutting geometry provides excellent cutting performance and good finish quality
  - ergonomic plastic handle ensures good power transmission

Ident. No. 111–125

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●	○	○		●	●	●	●	●	●	●	○	○					

Spot-facer Ø (mm)			11.5	12.4	15	16.5	19	20.5	23	25
ORION	11511...	Ident. No.	211 ●	212 ●	215 ●	216 ●	219 ●	220 ●	223 ●	225 ●
ATORN	11511...	Ident. No.	111 ●	112 ●	115 ●	116 ●	119 ●	120 ●	123 ●	125 ●

ATORN = Prod. Gr. 1EB
ORION = Prod. Gr. 1EH

ATORN HSSE 90° hand deburrer set, three-flute cutter with hexagon shank

for universal use up to 1000 N/mm²

90° | HSS | Z 3

Application:
For 90° counterboring and deburring for the material groups of steel, (stainless steel), non-ferrous metals and (cast iron) up to a strength of 1000 N/mm².

Execution:
- Profile-ground triple-edge countersink with radial relief on the blade

Advantage:
- Radial relief ensures optimum chip breaking
- Innovative cutting geometry provides excellent cutting performance and good finish quality

Notes:
All countersinks have a shank diameter of 6 mm

Technical data:
- Composition of set: 1 of each conical countersink 8/10/11.5/15/20.5

11511...	Ident. No.	900 ●

Prod. Gr. 1EB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●	○	○		●	●	●	●	●	●	●	○	○					

ATORN Handle with collet chuck

From hand deburrer set

Advantage:
- Hexagon socket in the handle prevents the tool from twisting in the handle

11511...	Ident. No.	530 ●

Prod. Gr. 1EB

ATORN HSS 90° hand deburring tool, three-flute cutter with hexagon shank

for universal use up to 1000 N/mm²

90° | HSS | Z 3

Application:
For 90° counterboring and deburring for the material groups of steel, (stainless steel), non-ferrous metals and (cast iron) up to a strength of 1000 N/mm² in individual part and series production.

Execution:
- profile-ground triple-edge countersink with radial back taper on the flute for the most demanding of requirements for dimensional tolerance and process reliability

Advantage:
- radial relief ensures optimum chip breaking
- precision grinding for the most demanding requirements in terms of dimensional accuracy
- innovative cutting geometry provides excellent cutting performance and good finish quality

Notes:
All countersinks have a shank diameter of 6 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●	○	○		●	●	●	●	●	●	●	○	○					

Spot-facer Ø (mm)			8	10	11.5	15	20.5
11511...		Ident. No.	508 ●	510 ●	511 ●	515 ●	520 ●

Prod. Gr. 1EB

Indexable insert countersink range
For standard plates CC..06, CC..09, CC..12

Application:
- Wide range of countersinks for use with ISO indexable inserts with CC.. Shape
- Single/double-edged cutter, adjustable and for reverse machining

Advantages:
- Wide range of countersinks
- Covers a large range of diameters
- Standard indexable inserts can be used
- Flexible use keeps tool costs to a minimum
- High-quality support material

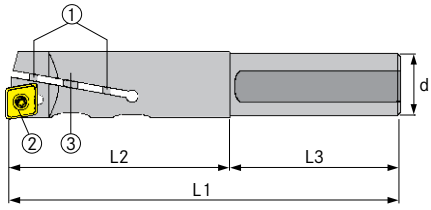
ATORN Reversible tip fine boring rod, single tooth cutter, adjustable
For universal application up to 1300 N/mm² with CC..06 and CC..09 Indexable inserts

Z 1 | HB

Application:
boring and drill out with CC.. indexable inserts in the diameter range from 10.00–50.00 mm in the material groups steel, stainless steel, non-ferrous metals, cast materials and special alloys.

Execution:
- Support material made from high-grade steel with adjusting range and clamping surface in line with DIN 1835B

Advantage:
- low cost boring and reaming tool with large adjustment range
- standard CC.. indexable inserts can be used, thereby optimising procurement and minimising tool costs
- nickel-plated tool for high corrosion-resistance



① Adjusting screws
② Indexable insert screw
③ Locking screw

						Reversible tip fine boring rod, single tooth cutter, adjustable		Clamping screw for indexable inserts		Adjusting screw, tension, fine boring bar		Adjusting screw, pressure, fine boring bar	
Min./max. cutting edge Ø	L2 (mm)	L3 (mm)	L1 (mm)	d (mm)	Suitable for indexable inserts	11233... Ident. No.		16108... Ident. No.		16108... Ident. No.		16108... Ident. No.	
10-12 mm	30	70	100	10	CC..06	100	●	121	●	601	○	611	○
12-15 mm	30	70	105	12	CC..06	105	●	121	●	602	○	612	○
15-20 mm	50	60	110	16	CC..06	110	●	121	●	603	●	613	○
20-25 mm	60	60	120	20	CC..06	115	●	121	●	604	○	614	○
25-30 mm	70	70	140	25	CC..09	120	○	145	●	605	○	615	○
30-35 mm	90	70	160	25	CC..09	125	○	145	●	606	○	616	○
35-40 mm	100	70	170	32	CC..09	130	●	145	●	607	○	617	○
40-45 mm	120	70	190	32	CC..09	135	○	145	●	608	○	618	○
45-50 mm	150	70	220	32	CC..09	140	○	145	●	609	○	619	○

Prod. Gr. 142

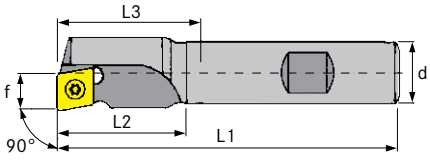
ATORN Indexable insert countersink, single tooth cutter
For universal use up to 1300 N/mm² with CC..06 and CC..09 indexable inserts

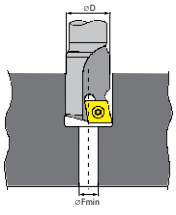
IK | Z 1 | HB

Application:
180° countersinks with CC.. indexable inserts in the diameter range 10.00-33.00 mm, in the material groups of steel, stainless steel, non-ferrous metals, cast materials and special alloys for use in single part and series production.

Execution:
- Backing material made from high-grade steel with clamping surface in line with DIN 1835B

Advantage:
- Precisely fitting inserts ensure optimal machining results even under difficult conditions
- Universal use in all material groups
- Cost-efficient tool in comparison with mono-block solutions





						Indexable insert countersink, single tooth cutter		TX key with handle		Clamping screw for indexable inserts	
D (mm)	L2 (mm)	L1 (mm)	F min (mm)	d (mm)	Suitable for indexable inserts	11240... Ident. No.		52144... Ident. No.		16108... Ident. No.	
10	15	85	4	12	CC..06	400	●	908	●	121	●
11	15	85	4	12	CC..06	410	●	908	●	121	●

						Indexable insert countersink, single tooth cutter		TX key with handle		Clamping screw for indexable inserts	
D (mm)	L2 (mm)	L1 (mm)	F min (mm)	d (mm)	Suitable for indexable inserts	11240... Ident. No.		52144... Ident. No.		16108... Ident. No.	
12	18	85	4	12	CC..06	420	○	908	●	121	●
13	23	85	4	12	CC..06	430	○	908	●	121	●
14	23	85	5	12	CC..06	440	●	908	●	121	●
15	30	85	5	12	CC..06	450	●	908	●	121	●
16	30	85	5	12	CC..06	460	○	908	●	121	●
17	30	95	6	16	CC..09	470	●	908	●	240	●
18	40	95	6	16	CC..09	480	○	908	●	240	●
19	40	95	6	16	CC..09	490	○	908	●	240	●
20	40	95	5	16	CC..09	500	○	908	●	240	●
21	42	95	5	16	CC..09	510	○	908	●	240	●
22	42	95	6	16	CC..09	520	○	908	●	240	●
23	42	95	6	16	CC..09	530	○	908	●	240	●
24	42	95	6	16	CC..09	540	○	908	●	240	●
25	42	95	8	16	CC..09	550	○	908	●	240	●
26	56	120	8	20	CC..09	560	○	908	●	240	●
27	56	120	8	20	CC..09	570	○	908	●	240	●
28	56	120	10	20	CC..09	580	○	908	●	240	●
29	56	120	10	20	CC..09	590	○	908	●	240	●
30	56	120	10	20	CC..09	600	○	908	●	240	●
31	56	120	12	20	CC..09	610	○	908	●	240	●
32	56	120	12	20	CC..09	620	○	908	●	240	●
33	56	120	12	20	CC..09	630	○	908	●	240	●

Prod. Gr. 142

ATORN Indexable insert countersink, dual cutter

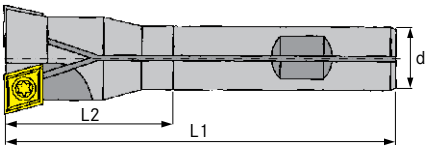
For universal application up to 1300 N/mm², with CC..06 and CC09.. Indexable inserts

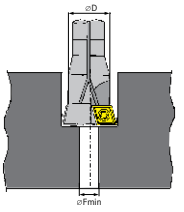
Z 2 | IK | HB

Application:
180° countersinks with CC.. indexable inserts in the diameter range from 10.00–33.00 mm, in the material groups steel, stainless steel, non-ferrous metals, cast materials and special alloys for use in single part and series production.

Execution:
- backing material made from high-grade steel with clamping surface in line with DIN 1835B

Advantage:
- precision-engineered insert seat and two blades ensure optimum machining results and smooth running even under difficult operating conditions
- universal use in all material groups
- cost-efficient tool in comparison with mono-block solutions





						Indexable insert countersink, dual cutter		TX key with handle		Clamping screw for indexable inserts	
D (mm)	L2 (mm)	L1 (mm)	F min (mm)	d (mm)	Suitable for indexable inserts	11243... Ident. No.		52144... Ident. No.		16108... Ident. No.	
16	30	92	5	12	CC..06	160	●	908	●	121	●
17	32	94	6	16	CC..06	170	○	908	●	121	●
18	41	97	7	16	CC..06	180	●	908	●	121	●
19	41	100	8	16	CC..06	190	○	908	●	121	●
20	41	102	9	16	CC..06	200	●	908	●	121	●
21	41	105	10	16	CC..06	210	○	908	●	121	●
22	41	110	11	16	CC..06	220	○	908	●	121	●
23	41	112	12	16	CC..06	230	●	908	●	121	●
24	41	115	13	16	CC..06	240	●	908	●	121	●
25	40	120	8	16	CC..09	250	●	915	●	240	●
26	55	125	9	20	CC..09	260	●	915	●	240	●
27	55	128	10	20	CC..09	270	○	915	●	240	●
28	55	130	11	20	CC..09	280	○	915	●	240	●
29	55	132	12	20	CC..09	290	○	915	●	240	●
30	55	134	13	20	CC..09	300	○	915	●	240	●
31	55	136	14	20	CC..09	310	○	915	●	240	●
32	55	138	15	20	CC..09	320	○	915	●	240	●
33	55	140	16	20	CC..09	330	●	915	●	240	●
34	60	140	16	25	CC..09	340	○	915	●	240	●
35	60	140	17	25	CC..09	350	○	915	●	240	●
36	60	140	18	25	CC..09	360	○	915	●	240	●
37	60	140	19	25	CC..09	370	○	915	●	240	●

						Indexable insert countersink, dual cutter		TX key with handle		Clamping screw for indexable inserts	
D (mm)	L2 (mm)	L1 (mm)	F min (mm)	d (mm)	Suitable for indexable inserts	11243... Ident. No.		52144... Ident. No.		16108... Ident. No.	
38	60	140	20	25	CC..09	380	○	915	●	240	●
39	60	140	21	25	CC..09	390	○	915	●	240	●
40	60	140	22	25	CC..09	400	○	915	●	240	●
41	60	140	23	25	CC..09	410	○	915	●	240	●
42	60	140	24	25	CC..09	420	○	915	●	240	●

Prod. Gr. 142

ATORN Indexable insert reverse boring bar, 1 flute

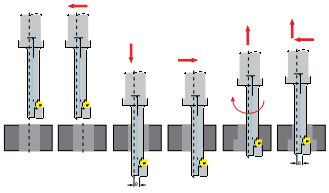
for universal use up to 1,300 N/mm² with CC..06, CC..09, CC..12 and CP..05T1 indexable inserts

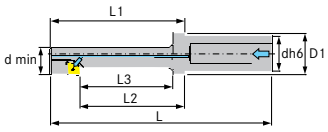
Z 1 | IK | HE

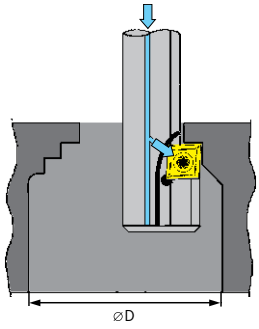
Application:
180° back countersinks with CC.. and CP.. indexable inserts in the diameter range of 15.00-76.00 mm, in the steel, stainless steel, non-ferrous metal, casting material and special alloy material groups for use in individual part and series production.

Execution:
- backing material made from high-grade steel with clamping surface as per DIN 1835E
- Note: 1125150 + 11251180 do not feature internal cooling

Advantage:
- Standard CC.. and CP.. indexable inserts can be used, which optimises procurement and minimises tool costs
- precisely fitting inserts ensure optimum machining results even under difficult conditions
- nickel-plated tool for high corrosion-resistance







										Indexable insert reverse boring bar, 1 flute		TX key with handle		clamping screw for indexable insert		Clamping screw for indexable inserts	
Countersink Ø (mm)	d min. (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	d (mm)	D1 (mm)	e (mm)	Suitable for indexable inserts	11251... Ident. No.		52144... Ident. No.		17827... Ident. No.		16108... Ident. No.	
15	8.5	105	55	42	35	20	25	3.5	CP.. 05T1..	150	○	908	●	902	●	-	-
18	10.5	112	62	47	40	20	25	4	CC..06	180	●	908	●	-	-	121	●
20	13	117	67	52	45	20	25	3.75	CC..06	200	●	908	●	-	-	121	●
24	15	122	72	57	50	20	25	4.75	CC..06	240	●	908	●	-	-	121	●
26	17	132	82	67	60	20	25	5	CC..06	260	●	908	●	-	-	121	●
30	19	142	92	77	65	20	25	6	CC..06	300	●	908	●	-	-	121	●
33	21	152	102	82	75	20	25	6.5	CC..09	330	●	915	●	-	-	240	●
36	23	173	113	93	85	32	25	7	CC..09	360	○	915	●	-	-	240	●
40	25	183	123	103	95	32	40	8	CC..09	400	●	915	●	-	-	240	●
43	30	183	123	103	95	32	40	7	CC..09	430	○	915	●	-	-	240	●
48	33	223	163	143	135	32	40	8	CC..09	480	○	915	●	-	-	240	●
53	36	210	140	-	110	40	-	9	CC..12	530	○	920	●	-	-	130	●
57	39	220	150	-	120	40	-	9.5	CC..12	570	○	920	●	-	-	130	●
66	45	245	165	-	135	50	-	11	CC..12	660	○	920	●	-	-	130	●
76	52	265	185	-	155	50	-	12.5	CC..12	760	○	920	●	-	-	130	●

Prod. Gr. 142

ATORN ORION® 180° counterbore (DIN 373)

for tapping holes

HSS | HSSE | 180° | HA

Application:
For producing 180° counterbores for thread core holes in accordance with DIN 74-2, types H, J, K and DIN 974-1.

Execution:
- profile-ground with spiral blade

Advantage:
- spiral chip flutes ensure smooth cutting and the blade does not catch

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11438	30	20	10	10		70	80	45	40	40	40	30		15					
11439	30	20	10	10	10	70	80	45	40	40	40	30		15	7				

						ORION		ATORN	
					Cutting material	HSS		HSSE	
					Surface	Uncoated		Uncoated	
Suitable for screw thread	Spot-facer Ø (mm)	Ø of tenon (mm)	Shank Ø (mm)	Length (mm)	Number of cutting edges (PCS)	11438... Ident. No.		11439... Ident. No.	
M3	6.0	2.5	5	71	3	030	●	030	●
M3	6.5	2.5	5	71	3	-	-	031	●
M4	8.0	3.3	5	71	3	040	●	040	●
M5	10.0	4.2	8	80	3	050	●	050	●
M6	11.0	5.0	8	80	3	060	●	060	●
M8	15.0	6.8	12.5	100	3	080	●	080	●
M10	18.0	8.5	12.5	100	3	100	●	100	●
M12	20.0	10.2	12.5	100	3	120	●	120	●

ATORN = Prod. Gr. 1EA
ORION = Prod. Gr. 103

ATORN ORION 180° counterbore (DIN 373)

for fine through holes

HSS | HSSE | TiN | 180° | HA

Application:

No. 11442–11445: For producing counterbores 180° fine quality grade for through hole to DIN 74-2, forms H, J, K and DIN 974-1.

No. 11451: For producing 180° counterbores of fine quality grade for through holes in accordance with DIN 74-2, type H, J, K and DIN 974-1.

Execution:

- profile-ground with spiral blade

Advantage:

- spiral chip flutes ensure smooth cutting and the blade does not catch
- precision grinding for highest requirements in terms of concentricity and dimensional accuracy

No. 11442–11445

No. 11451

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11442	30	20	10	10		70	80	45	40	40	40	30		15					
11445; 11451	30	20	10	10	10	70	80	45	40	40	40	30		15	7				

						ORION		ATORN		ATORN	
					Cutting material	HSS		HSSE		HSSE	
					Surface	Uncoated		Uncoated		TiN	
Suitable for screw thread	Spot-facer Ø (mm)	Ø of tenon (mm)	Shank Ø (mm)	Length (mm)	Number of cutting edges (PCS)	11442... Ident. No.		11445... Ident. No.		11451... Ident. No.	
M3	6.0	3.2	5	71	3	030	●	030	●	030	●
M3	6.5	3.2	5	71	3	-	-	031	●	031	●
M4	8.0	4.3	5	71	3	040	●	040	●	040	●
M5	10.0	5.3	8	80	3	050	●	050	●	050	●
M6	11.0	6.4	8	80	3	060	●	060	●	060	●
M8	15.0	8.4	12.5	100	3	080	●	080	●	080	●
M10	18.0	10.5	12.5	100	3	100	●	100	●	100	●
M12	20.0	13.0	12.5	100	3	120	●	120	●	120	●

ATORN = Prod. Gr. 1EA
ORION = Prod. Gr. 103

ATORN ORION 180° counterbore (DIN 373)

for through holes, quality grade: medium

HSS | HSSE | TiN | 180° | HA

Application:

For producing 180° counterbores of medium quality grade for through holes in accordance with DIN 74-2, type H, J, K and DIN 974-1.

Execution:

- profile-ground with spiral blade

Advantage:

- spiral chip flutes ensure smooth cutting and the blade does not catch

No. 11449–11452

No. 11454

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11449	30	20	10	10		70	80	45	40	40	40	30		15					
11452; 11454	30	20	10	10	10	70	80	45	40	40	40	30		15	7				

						ORION		ATORN			
					Cutting material	HSS		HSSE		HSSE	
					Surface	Uncoated		Uncoated		TiN	
Suitable for screw thread	Spot-facer Ø (mm)	Ø of tenon (mm)	Shank Ø (mm)	Length (mm)	Number of cutting edges (PCS)	11449... Ident. No.		11452... Ident. No.		11454... Ident. No.	
M2	4.3	2.4	4.3	56	3	020	●	-	-	-	-
M3	6.0	3.4	5	71	3	030	●	030	●	030	●
M3	6.5	3.4	5	71	3	-	-	031	●	031	●
M4	8.0	4.5	5	71	3	040	●	040	●	040	●
M5	10.0	5.5	8	80	3	050	●	050	●	050	●
M6	11.0	6.6	8	80	3	060	●	060	●	060	●
M8	15.0	9.0	12.5	100	3	080	●	080	●	080	●
M10	18.0	11.0	12.5	100	3	100	●	100	●	100	●
M12	20.0	13.5	12.5	100	3	120	●	120	●	120	●

ATORN® = Prod. Gr. 1EA
ORION = Prod. Gr. 103

ATORN ORION® HSS/HSSE counterbore sets (DIN 373)

in case

Application:

No. 11438: For producing 180° counterbores for thread core holes in accordance with DIN 74-2, types H, J, K and DIN 974-1.

No. 11439: For producing 180° counterbores for tapping holes in accordance with DIN 74-2, types H, J, K and DIN 974-1.

No. 11442–11445: For producing 180° counterbores of fine quality grade for through holes in accordance with DIN 74-2, type H, J, K and DIN 974-1.

No. 11449–11452: For producing 180° counterbores of medium quality grade for through holes in accordance with DIN 74-2, type H, J, K and DIN 974-1.

Execution:

- profile-ground with spiral blade

Advantage:

- spiral chip flutes ensure smooth cutting and the blade does not catch

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11438500; 11442500; 11449500	30	20	10	10		70	80	45	40	40	40	30		15					
11439500; 11445500; 11452500	30	20	10	10	10	70	80	45	40	40	40	30		15	7				

		ORION						ATORN					
	Cutting material	HSS		HSS		HSS		HSSE		HSSE		HSSE	
Design	Included in delivery	11438... Ident. No.		11442... Ident. No.		11449... Ident. No.		11439... Ident. No.		11445... Ident. No.		11452... Ident. No.	
For thread core hole M3/M4/M5/M6/M8/M10	1x each counterbore for M3/M4/M5/M6/M8/M10	500	●	-	-	-	-	-	-	-	-	-	-
For clearance hole M3/M4/M5/M6/M8/M10, fine quality grade	1x each counterbore for M3/M4/M5/M6/M8/M10	-	-	500	●	-	-	-	-	-	-	-	-
For clearance hole M3/M4/M5/M6/M8/M10, medium quality grade	1x each counterbore for M3/M4/M5/M6/M8/M10	-	-	-	-	500	●	-	-	-	-	-	-
For thread core hole M3/M4/M5/M6/M8/M10	1 each counterbore for M3/M4/M5/M6/M8/M10	-	-	-	-	-	-	500	●	-	-	-	-
For clearance hole M3/M4/M5/M6/M8/M10, fine quality grade	1 each counterbore for M3/M4/M5/M6/M8/M10	-	-	-	-	-	-	-	-	500	●	-	-
For clearance hole M3/M4/M5/M6/M8/M10, medium quality grade	1 each counterbore for M3/M4/M5/M6/M8/M10	-	-	-	-	-	-	-	-	-	-	500	●

ATORN® = Prod. Gr. 1EA
ORION = Prod. Gr. 103

Surfaces that can be achieved compared with other procedures

Average surface finish Ra	25	12,5	6,3	3,2		1,6	0,8		0,4	0,2	0,1	0,05	0,025
average roughness Rz	100	63	40	25	16	10	6,3	4	2,5	1,6	1	0,63	0,25
Drilling													
Drilling out													
Spindles													
Grinding													
Sanding													
Honing													
Rolling													

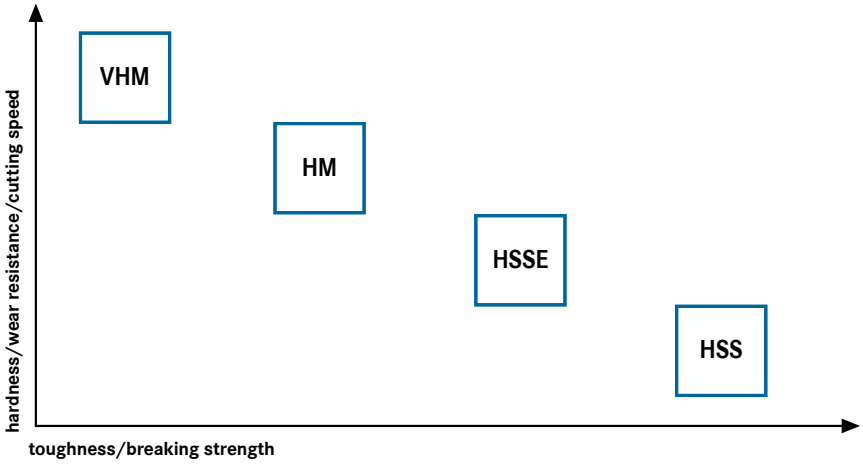
Producible — Conditionally producible

Producible surface qualities during reaming in various materials

	Average surface finish Ra	25	12,5	6,3	3,2		1,6	0,8		0,4	0,2	0,1	0,05	0,025
	Average roughness Rz	100	63	40	25	16	10	6,3	4	2,5	1,6	1	0,63	0,25
ISO P	Low and high alloyed steels													
ISO M	Stainless steels													
ISO N	Non-ferrous metals													
ISO K	Cast metal													
ISO S	Special alloys/titanium													
ISO H	Hardened steel up to 65 HRC													

Producible — Conditionally producible

Cutting materials of reamers



Solid carbide
- Cutting material for applications up to 63 HRC
- High cutting speed
- High precision

Carbide carrier equipped with carbide
- Highly elastic
- High cutting speed
- High precision

HSSE high-speed steel
- Cutting material for applications up to 1300 N/mm^2
- Low to medium cutting speeds
- Approx. 5 % cobalt content
- Extremely high elasticity

HSS high-speed steel
- Cutting material for applications up to 1000 N/mm^2
- Low cutting speeds
- Low alloy content
- Extremely high elasticity

Coatings for reamers

Titanium aluminium nitride
- Universal coating for high-performance machining with high cutting speeds
- Thermally and chemically very stable
- Very high hardness
- Very good heat resistance
- Relatively low heat conductivity
- Vickers hardness: 3,200 HV
- Steel friction coefficient: 0.55
- Temperature resistance: 900-1,000°
- Colour: dark blue/grey
- Coating method: PVD

TiAlN

Titanium carbon nitride
- Very high hardness
- High adhesive strength
- Relatively high thermal conductivity
- Low friction coefficient against steel
- Vickers hardness: 3500 HV
- Friction coefficient of steel: 0.2
- Temperature resistance: 400°
- Colour: blue-grey
- Coating process: PVD

TiCN

Titanium aluminium silicon nitride
- High performance machining for processing very abrasive or hard materials such as steel up to 63 HRC
- Very high hardness
- High wear resistance
- Vickers hardness: 3,500 HV
- Steel friction coefficient: 0.70
- Temperature resistance: 900°
- Colour: blue/purple
- Coating method: PVD

TiAlSiN

Titanium aluminium carbon nitride
- Universal layer for high-performance machining with high cutting speed
- Low friction
- Very high hardness
- High oxidation resistance
- Relatively low thermal conductivity
- Vickers hardness: 3500 HV
- Friction coefficient of steel: 0.20
- Temperature resistance: 800°
- Colour: antique pink
- Coating process: PVD

TiAlCN

Bore hole allowance when reaming

Allowance range aR	Allowance a (mm) in bore hole diameter:								
	Ø < 5 mm	Ø > 5 mm	Ø > 8 mm	Ø > 10 mm	Ø > 15 mm	Ø > 20 mm	Ø > 30 mm	Ø > 40 mm	Ø> 50 mm
A	0,1	0,1	0,1	0,1	0,1-0,2	0,2	–	–	–
B	0,1-0,2	0,1-0,2	0,2	0,2	0,2	0,3	0,3	0,3	0,4
C	0,1-0,2	0,2	0,25	0,2	0,3	0,3	0,4	0,4	0,4
D	0,05-0,1	0,05-0,1	0,05-0,1	0,1	0,1	0,1-0,2	–	–	–
E	–	–	–	0,2	0,3	0,3	0,3	0,3	–
F	–	–	–	0,1	0,1-0,2	0,1-0,2	0,1-0,2	0,1-0,2	–
g	–	–	–	0,2	0,2	0,2	0,3	0,3	–

	Material		Strength	DIN	Material	Allowance ranges code				
			N/mm²	No.	No.	HSSE	HSSE coated	Solid carbide/ cemented carbide	solid carbide HPC coated	Solid carbide HPC Modular
	1.	**Steels**								
ISO P	1.1	Free machining steel	< 900	9 S 20	1.0711	B	B	B	A	E
	1.2	Structural steel	< 500	ST 37-2	1.0037	B	B	B	A	E
	1.3	Structural steel	> 500	ST 60-2	1.0060	B	B	B	A	E
	1.4	Heat-treated steel	<1000	42 CrMo 4	1.7225	B	B	B	A	E
	1.5	Cast steel	<1000	GS-45	1.0446	A	A	A	A	E
	1.6	Case-hardening steel	<1200	16 MnCr 5	1.7131	A	A	A	A	E
	1.7	Rust and acid-resistant steel and ferritic, martensitic steel casting	<1100	X 10 Cr 13	1.4006	A	A	A	A	E
	1.8	Heat-treated steel	>1000	43 CrMo 4	1.3563	A	A	A	A	E
	1.9	Nitriding steel	<1300	31 CrMoV 9	1.8519	A	A	A	A	E
	1.10	Tool steel (up to 45 HRC)	<1300	X 38 CrMoV 5 1	1.2343	A	A	A	A	E
ISO M	**2.**	**Stainless steels**								
	2.1	Rust and acid-resistant steel/austenitic steel casting	<1100	G-X 2 CrNiMo 18 15	1.3953	A	A	A	A	g
ISO N	**3.**	**Non-ferrous metals**								
	3.1	Aluminium alloy, long-chipping/ wrought alloy/pure metals/magnesium alloy	<500	Al99.9	3.0305	C	C	C	A	–
	3.2	Aluminium alloys, short-chipping	<500	G - AlSi12	3.2581	C	C	C	A	–
	3.3	Copper alloy (bronze), long-chipping	<1200	CuSn4	2.1016	C	C	C	A	–
	3.4	Copper alloy (bronze), short-chipping	<850	CuNi12Zn24	2.0730	C	C	C	A	–
	3.5	Copper alloy (brass), long-chipping	<600	Cu Zn 20	2.0250	C	C	C	A	–
	3.6	Copper alloy (brass), short-chipping	<600	Cu Zn 39 Pb 3	2.0381	C	C	C	A	–
	3.7	Thermoplast	<100	PVC, acrylic glass	–	B	B	B	–	–
	3.8	Duroplast	<150	Bakelite, melamine	–	B	B	B	–	–
	3.9	Fibre-reinforced plastics	<1500	CFRP, GFRP	–	B	B	B	–	–
	3.10	Graphite	<60	C8000	–	–	–	–	–	–
	3.11	Composite materials	–	–	–	–	–	–	–	–
ISO K	**4.**	**Cast metal**								
	4.1	Grey cast iron	<260	GG10	0.6010	B	B	B	A	F
	4.2	Ductile graphite iron	<400	GGG 40	0.7040	B	B	B	A	F
	4.3	Malleable cast iron	<550	GTW-55	0.8055	B	B	B	A	F
ISO S	**5.**	**Special alloys**								
	5.1	Titanium alloys	<1200	TiAl5Sn2.5	3.7115	A	A	A	A	–
	5.2	Nickel-based alloys	<1400	NiCr21Mo	2.4858	B	B	B	A	–
	5.3	Super alloys	<1300	X45CrSi 9 3	1.4718	B	B	B	A	–
ISO H	**6.**	**Hard materials**								
	6.1	Hardened materials - 63 HRC	>1300	G-X 260 NiCr 4 2	0.9620	–	–	–	D	–

Coverable tolerance classes with 1/100 reamers

with 1/100 reamers, available in increments of 0.01 mm, various fit tolerance dimensions can be catered to. the system ranges up to a diameter of 12.10mm. a brief example would be, for instance, a 1/100 reamer 11.03mm capable of producing a fit tolerance of 11.0 F8. further fit tolerance dimensions catered to are shown in the table below.

hole tolerance table for 1/100 machine reamers:

Hole Ø (mm)	C8	C9	C10	C11	CD7	D7	D8	D9	D10	D11	D12	E7	E8	E9	EF8	F7	F8	F9
1,0	1,07	1,07	1,08	1,10	1,04	1,02	1,03	-	1,04	1,06	1,08	1,02	1,02	1,03	1,02	1,01	1,01	1,02
2,0	2,07	2,07	2,08	2,10	2,04	2,02	2,03	-	2,04	2,06	2,08	2,02	2,02	2,03	2,02	2,01	2,01	2,02
3,0	3,07	3,07	3,08	3,10	3,04	3,02	3,03	-	3,04	3,06	3,08	3,02	3,02	3,03	3,02	3,01	3,01	3,02
4,0	4,08	4,09	-	-	4,05	4,04	4,04	4,05	4,06	4,08	4,10	-	4,03	4,04	4,03	-	4,02	4,03
5,0	5,08	5,09	-	-	5,05	5,04	5,04	5,05	5,06	5,08	5,10	-	5,03	5,04	5,03	-	5,02	5,03
6,0	6,08	6,09	-	-	6,05	6,04	6,04	6,05	6,06	6,08	6,10	-	6,03	6,04	6,03	-	6,02	6,03
7,0	7,09	7,10	-	-	7,06	7,05	7,05	7,06	7,08	7,10	-	7,03	7,04	7,05	7,03	7,02	7,03	-
8,0	8,09	8,10	-	-	8,06	8,05	8,05	8,06	8,08	8,10	-	8,03	8,04	8,05	8,03	8,02	8,03	-
9,0	9,09	9,10	-	-	9,06	9,05	9,05	9,06	9,08	9,10	-	9,03	9,04	9,05	9,03	9,02	9,03	-
10,0	10,09	10,10	-	-	10,06	10,05	10,05	10,06	10,08	10,10	-	10,03	10,04	10,05	10,03	10,02	10,03	-
11,0	-	-	-	-	-	11,06	-	11,08	11,10	-	-	11,04	11,05	11,06	-	-	11,03	11,04
12,0	-	-	-	-	-	12,06	-	12,08	12,10	-	-	12,04	12,05	12,06	-	-	12,03	12,04

Hole Ø (mm)	F10	G6	G7	H5	H6	H7	H8	H9	H10	H11	H12	H13	J6	J7	JS7	J8	JS8	JS9
1,0	-	-	1,01	1,00	1,00	-	1,01	-	1,02	1,04	1,06	1,09	1,00	1,00	1,00	1,00	1,00	1,00
2,0	-	-	2,01	2,00	2,00	-	2,01	-	2,02	2,04	2,06	2,09	2,00	2,00	2,00	2,00	2,00	2,00
3,0	-	-	3,01	3,00	3,00	-	3,01	-	3,02	3,04	3,06	3,09	3,00	3,00	3,00	3,00	3,00	3,00
4,0	4,04	4,01	4,01	4,00	4,00	-	4,01	4,02	4,03	4,05	4,08	-	4,00	4,00	4,00	4,00	4,00	4,00
5,0	5,04	5,01	5,01	5,00	5,00	-	5,01	5,02	5,03	5,05	5,08	-	5,00	5,00	5,00	5,00	5,00	5,00
6,0	6,04	6,01	6,01	6,00	6,00	-	6,01	6,02	6,03	6,05	6,08	-	6,00	6,00	6,00	6,00	6,00	6,00
7,0	7,05	7,01	7,01	7,00	7,00	7,01	7,01	7,02	7,04	7,06	7,10	-	7,00	7,00	7,00	7,00	7,00	-
8,0	8,05	8,01	8,01	8,00	8,00	8,01	8,01	8,02	8,04	8,06	8,10	-	8,00	8,00	8,00	8,00	8,00	-
9,0	9,05	9,01	9,01	9,00	9,00	9,01	9,01	9,02	9,04	9,06	9,10	-	9,00	9,00	9,00	9,00	9,00	-
10,0	10,05	10,01	10,01	10,00	10,00	10,01	10,02	10,02	10,04	10,06	10,10	-	10,00	10,00	10,00	10,00	10,00	-
11,0	11,06	11,01	-	11,00	-	11,01	11,02	11,03	11,05	11,07	-	-	11,00	11,00	11,00	11,00	11,00	-
12,0	12,06	12,01	-	12,00	-	12,01	12,02	12,03	12,05	12,07	-	-	12,00	12,00	12,00	12,00	12,00	-

Hole Ø (mm)	K6	K7	K8	M6	M7	M8	N6	N7	N8	P6	P7	P8	R6	R7	S6	S7	U6	U7
1,0	-	-	0,99	-	-	0,99	0,99	0,99	0,99	0,99	0,99	0,99	-	-	0,98	0,98	0,98	0,98
2,0	-	-	1,99	-	-	1,99	1,99	1,99	1,99	1,99	1,99	1,99	-	-	1,98	1,98	1,98	1,98
3,0	-	-	2,99	-	-	2,99	2,99	2,99	2,99	2,99	2,99	2,99	-	-	2,98	2,98	2,98	2,98
4,0	4,00	4,00	4,00	3,99	-	3,99	3,99	3,99	3,99	-	-	3,98	-	-	3,98	3,98	-	-
5,0	5,00	5,00	5,00	4,99	-	4,99	4,99	4,99	4,99	-	-	4,98	-	-	4,98	4,98	-	-
6,0	6,00	6,00	6,00	5,99	-	5,99	5,99	5,99	5,99	-	-	5,98	-	-	5,98	5,98	-	-
7,0	-	7,00	7,00	6,99	6,99	6,99	-	6,99	6,99	-	-	-	6,98	6,98	-	-	6,97	6,97
8,0	-	8,00	8,00	7,99	7,99	7,99	-	7,99	7,99	-	-	-	7,98	7,98	-	-	7,97	7,97
9,0	-	9,00	9,00	8,99	8,99	8,99	-	8,99	8,99	-	-	-	8,98	8,98	-	-	8,97	8,97
10,0	-	10,00	10,00	9,99	9,99	9,99	-	9,99	9,99	-	-	-	9,98	9,98	-	-	9,97	9,97
11,0	-	11,00	11,00	10,99	10,99	10,99	-	10,99	10,99	10,98	10,98	10,97	-	-	10,97	10,97	-	-
12,0	-	12,00	12,00	11,99	11,99	11,99	-	11,99	11,99	11,98	11,98	11,97	-	-	11,97	11,97	-	-

Hole Ø (mm)	X7	X8	X9	Z7	Z8	Z9	Z10	ZA7	ZA8	ZA9	ZB8	ZB9						
1,0	-	0,97	0,97	0,97	0,97	-	0,96	0,96	-	-	0,95	0,95						
2,0	-	1,97	1,97	1,97	1,97	-	1,96	1,96	-	-	1,95	1,95						
3,0	-	2,97	2,97	2,97	2,97	-	2,96	2,96	-	-	2,95	2,95						
4,0	3,97	-	3,96	3,96	3,96	3,95	3,95	3,96	-	-	3,94	3,94						
5,0	4,97	-	4,96	4,96	4,96	4,95	4,95	4,96	-	-	4,94	4,94						
6,0	5,97	-	5,96	5,96	5,96	5,95	5,95	5,96	-	-	5,94	5,94						
7,0	-	6,96	6,95	6,96	6,95	-	6,94	6,94	6,94	-	-	6,92						
8,0	-	7,96	7,95	7,96	7,95	-	7,94	7,94	7,94	-	-	7,92						
9,0	-	8,96	8,95	8,96	8,95	-	8,94	8,94	8,94	-	-	8,92						
10,0	-	9,96	9,95	9,96	9,95	-	9,94	9,94	9,94	-	-	9,92						
11,0	10,96	10,95	-	10,95	10,94	-	10,93	-	10,93	-	10,90	10,90						
12,0	11,96	11,95	-	11,95	11,94	-	11,93	-	11,93	-	11,90	11,90						

Recommended chucks for reaming

	Standard collet chucks	Precision collet chucks	Shrink-fit chucks	Hydro-expansion chucks
Concentricity	◎	●	●	●
Vibration-reducing	◎	◎	○	●
Rotation speed/balancing quality	◎	●	●	●
Internal cooling	Yes	Yes	Yes	Yes
Flexibility	●	●	○	●
Overall rating	**Limited suitability**	**Very well suited**	**Well suited**	**Very well suited**

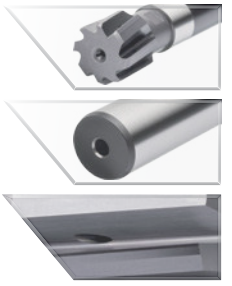
● = Very well suited ◎ = Suitable ○ = Limited suitability

Solid carbide HPC machine reamers modular

Application:
For producing clearances in medium to large batch sizes for the diameters 10.00 mm - 40.00 mm

H7 VHM

Advantage:
- Steel/cast iron and stainless steel geometries available for through hole and blind hole machining
- High-precision tool change also possible in the machine
- Perfect system concentricity thanks to ground thread and tapered contact face
- Innovative rake provides very high stability and process reliability, with very high cutting parameters
- Hard-to-reach clearances can be produced owing to various bracket lengths
- Longer service life due to innovative coatings
- Perfect chip removal owing to coolant outlet directly on the cutter
- HPC reamers available on request as H7
- Diameters and clearances can be ordered individually with short delivery times



		Ø	Tolerance of fit	Hole type	P 1000 N/mm²	P 1300 N/mm²	M	K		page
11785110-140	SC HPC interchangeable head reamer for use in steel and cast iron up to 1300 N/mm²	10-40 mm	H7	Clearance hole	●	●		●		182-183
11785310-340	SC HPC interchangeable head reamer For use on stainless steels	10-40 mm	H7	Clearance hole			●			182-183

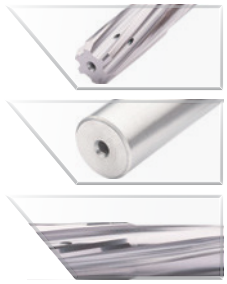
		Construction length	Material		page
11785510-527	Interchangeable head holder For reamer interchangeable head no. 11785	Short	Steel		184
11785511-528	Interchangeable head holder For reamer interchangeable head no. 11785	Standard	Steel		184
11785512-529	Interchangeable head holder For reamer interchangeable head no. 11785	Long	Steel		184
11785522-530	Interchangeable head holder For reamer interchangeable head no. 11785	Extra long	Steel		184

Solid carbide HPC machine reamers

Application:
For series manufacture of clearances on modern CNC machines with stable tool and workpiece clamping.

H7 | 0,001 | 0,00X | VHM

Advantage:
- Innovative rake provides very high stability and process reliability, with very high cutting parameters
- High-quality solid carbide cutting material and coating ensure a very long service life
- Innovative coating technology ensures longer service life
- Internal cooling ensures optimal transportation of chips
- Wide range with specialist tools for the most common materials
- Diameters and clearances can be ordered individually with short delivery times
- HPC reamers as H7, 1/100 mm and special reamers available
- All geometries available for through hole and blind hole machining



		Ø	Tolerance of fit	Hole type	P 1000 N/mm²	P 1300 N/mm²	M	N	K	H 65HRC		page
11781050-539	High-performance reamer, solid carbide, TiALN With cast steel geometry for use up to 1300 N/mm²	3.97-20 mm	H7	Clearance hole	●	●			●			185-187
11781059-586	High-performance reamer, solid carbide TiALN With cast steel geometry for use up to 1300 N/mm²	3.97-20 mm	H7	Stud hole	●	●			●			185-187

Solid carbide machine reamers H7

Application:
For cutting H7 fit tolerances on conventional machines and CNC machines.

H7 | VHM

Advantage:
- All diameters from 1.00 mm to 20.00 mm available
- Various different types of reamers
- Extremely long service life
- High cutting values can be achieved
- Very precise grinding according to DIN1420
- Other allowances available on request

		Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11726010-200	NC machine reamer, solid carbide with universal shank for universal use up to 1300N/mm²	1.0-20 mm	SC	●	●	●	○	●	●	●		188-189
11744050-200	Carbide machine reamer for universal use up to 1300N/mm²	5.0-20 mm	Carbide	●	●	●	○	●	●	●		190

Solid carbide machine reamers 1/100 mm

Application:
For cutting high-precision fit tolerances (0/+0.003 mm) on conventional machines and CNC machines.

0,001 | VHM

Advantage:
- Covers a wide range of fit tolerances
- No special reamers have to be produced
- Deliverable from stock
- High cutting values can be achieved
- All diameters from 0.90 mm to 12.03 mm available
- High level of precision thanks to narrow tolerance (0/+0.003 mm)
- Very long service life thanks to high-quality solid carbide cutting material

		Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11730	NC machine reamer, solid carbide, with uniform shank For universal use up to 1300 N/mm²	0.9-12.03 mm	SC	●	●	●	○	●	●	●		192-193

HSSE machine reamers H7

Application:
For cutting H7 fit tolerances on conventional machines and CNC machines.

H7 | HSSE

Advantage:
- All diameters from 1.00 mm to 40.00 mm available
- Various different types of reamers
- Extremely long service life
- Very precise grinding according to DIN 1420
- Coated versions for higher cutting values
- Other allowances available on request

		Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11628010-027	NC machine reamer HSSE with straight shank For universal use up to 1000 N/mm²	1.0-2.7 mm	HSSE	●	●	○	○	○	●	○		193-195
11628028-200	NC machine reamer HSSE with straight shank For universal use up to 1000 N/mm²	20.0-2.8 mm	HSSE	●	●	○	○	○	●	○		193-195
11630010-025	Machine reamer HSSE for universal use up to 1000N/mm²	1.0-2.5 mm	HSSE	●	●	○	○	○	●	○		195-196
11630030-200	Machine reamer HSSE for universal use up to 1000N/mm²	3.0-20 mm	HSSE	●	●	○	○	○	●	○		195-196
11627020-120	Machine reamer, extra-long, HSSE For universal use up to 1000 N/mm²	2.0-12 mm	HSSE	●	●	○	○	○	●	○		196
11646030-120	Machine bottoming reamer, HSSE For universal use up to 1000 N/mm²	3.0-12 mm	HSSE	●	●	○	○	○	●	○		197
11643125-300	Machine reamer, extra-long, HSSE For universal use up to 1000 N/mm²	12.0-30 mm	HSSE	●	●	○	○	○	●	○		198
11642030-400	Machine reamer HSSE for universal use up to 1,000 N/mm²	3.0-40 mm	HSSE	●	●	○	○	○	●	○		197-198

HSSE machine reamers 1/100 mm

Application:
For cutting high-precision fit tolerances (0/+0.003 mm) on conventional machines and CNC machines.

0,001 | HSSE

Advantage:
- Covers a wide range of fit tolerances
- No special reamers have to be produced
- Deliverable from stock
- All diameters from 0.90 mm to 12.03 mm available
- High level of precision thanks to narrow tolerance (0/+0.003 mm)
- Lower-cost alternative to a solid carbide tool

		Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11624100-203	NC machine reamer 1/100 mm HSSE with universal shaft For universal use up to 1000 N/mm²	0.98-2.03 mm	HSSE	●	●	○	○	○	●	○		199-200
11624298-019	HSSE NC machine reamer 1/100 mm with uniform shank For universal use up to 1000 N/mm²	2.47-12.03 mm	HSSE	●	●	○	○	○	●	○		199-200

HSSE machine reamers with selectable diameter and fit

Application:
For cutting individually selectable fit tolerances on conventional machines and CNC machines.

0,00X | HSSE

Advantage:
- Broad range of diameters from 0.95 mm to 20.00 mm
- Individually selectable diameters and tolerances
- Short delivery times
- Extremely long service life
- Very precise grinding according to DIN 1420
- For universal use

		Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11624911-995	HSSE NC machine reamer with uniform shank **(fit tolerance and diameter can be selected)** For universal use up to 1000 N/mm²	0.95-20 mm	HSSE	●	●	○	○	○	●	○		201-203
11625500-564	NC machine reamer HSSE with uniform shank **(diameter can be selected)** for universal use up to 1000 N/mm²	0.95-12.05 mm	HSSE	●	●	○	○	○	●	○		201-203

HSS/HSSE rivet hole reamers and machine taper reamers

Application:
For the production of conical tolerances for tapered pins and rivet holes on conventional and CNC machines.

HSS | HSSE

Advantage:
- Wide range
- Very good surfaces can be achieved
- Different shank variants
- Very high feed rates can be achieved
- Other allowances available on request

		Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11670100-300	Rivet hole reamer, HSS for universal use up to 1000N/mm²	30.0-10 mm	HSS	●	●	○	○	○	●	○		203
11674	Machine taper shell reamer HSS 1:50 For universal use up to 1000 N/mm²	1.5-12 mm	HSSE	●	●	○	○	○	●	○		204

HSS hand reamers

Application:
For manually producing H7 or 1/100 tolerances and reworking existing tolerances

HSS | H7 | 0,001

Advantage:
- Cost-effective alternative for manual work
- Long threaded start to correctly align the reamer
- Adjustable variants
- Straight and spiral designs
- The square shank serves as a carrier
- For universal use

		Ø	Cutting material	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N	K	S		page
11602	HSS hand reamer for universal use up to 1000N/mm²	1.5-40 mm	HSS	●	●	○	○	○	○	○		204-205
11603	HSS hand reamer for universal use up to 1000N/mm²	2.0-20 mm	HSS	●	●	○	○	○	○	○		204-205
11604	HSS hand reamer for universal use up to 1000N/mm²	1.5-40 mm	HSS	●	●	○	○	○	○	○		204-205
11606	Adjustable HSS hand reamer for universal use up to 1000N/mm²	6.0-30 mm	HSS	●	●	○	○	○	○	○		206
11610	Quick-adjustment reamer for universal use up to 1000N/mm²	6.4-55 mm	HSS	●	●	○	○	○	○	○		206
11672015-120	HSS hand taper reamers 1:50 for universal use up to 1000N/mm²	12.0-1.5 mm	HSS	●	●	○	○	○	○	○		207
11673030-200	HSS hand taper reamers 1:50 for universal use up to 1000N/mm²	3.0-25 mm	HSS	●	●	○	○	○	○	○		207

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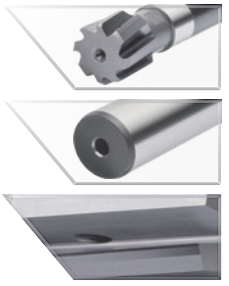
Solid carbide HPC machine reamers modular

Application:
For producing clearances in medium to large batch sizes for the diameters 10.00 mm - 40.00 mm

H7 | VHM

Advantage:
- Steel/cast iron and stainless steel geometries available for through hole and blind hole machining
- High-precision tool change also possible in the machine
- Perfect system concentricity thanks to ground thread and tapered contact face
- Innovative rake provides very high stability and process reliability, with very high cutting parameters
- Hard-to-reach clearances can be produced owing to various bracket lengths
- Longer service life due to innovative coatings
- Perfect chip removal owing to coolant outlet directly on the cutter
- HPC reamers available on request as H7
- Diameters and clearances can be ordered individually with short delivery times



ATORN Interchangeable head reamer SC HPC

For use in steel, casting materials and stainless steel

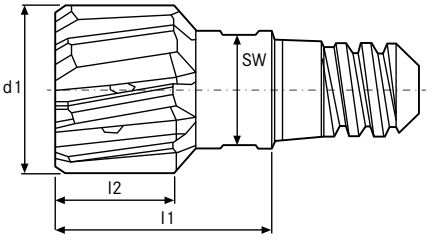
VHM | TiAlN | H7 | HPC UNI | HPC VA | 10° | IK

Application:
For HPC reaming of through holes in the diameter range 10.00 mm–40.00 mm

Execution:
- Left-hand diagonal toothing with extremely uneven pitch

Advantage:
- System concentricity in installed state <5 µ
- Internal cooling ensures optimal transportation of chips
- Ground thread and tapered flat face for maximum changeover accuracy and high strength
- Various holder lengths available
- Simple to change in the machine

Notes:
Configurable dimensions available on request. Note: Please refer to dimension table.



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11785110-140	160	160	160											120					
11785310-340				40	40														

								Type	HPC UNI		HPC VA	
								Hole type	Clearance hole		Clearance hole	
								Groove type	Left-hand twist, 10°		Left-hand twist, 10°	
d1 (mm)	Tolerance of fit	Replace-able head system	l1 (mm)	l2 (mm)	Z (PCS)	Width across flats	Tightening torque (Nm)	f steel 1300 ●	f steinl. st. ●	11785... Ident. No.		11785... Ident. No.	
10	H7	WKS 6	18	10	6	6 mm	5	0.7	-	110	●	-	-
10	H7	WKS 6	18	10	6	6 mm	5	-	0.4	-	-	310	●
11	H7	WKS 8	20	10	6	8 mm	12.5	0.7	-	111	○	-	-
11	H7	WKS 8	20	10	6	8 mm	12.5	-	0.4	-	-	311	○
12	H7	WKS 8	20	10	6	8 mm	12.5	0.7	-	112	○	-	-
12	H7	WKS 8	20	10	6	8 mm	12.5	-	0.4	-	-	312	●
13	H7	WKS 10	22	10	6	10 mm	15	1	-	113	○	-	-
13	H7	WKS 10	22	10	6	10 mm	15	-	0.4	-	-	313	○
14	H7	WKS 10	22	12	6	10 mm	15	1	-	114	●	-	-
14	H7	WKS 10	22	12	6	10 mm	15	-	0.4	-	-	314	●
15	H7	WKS 10	22	12	6	10 mm	15	1	-	115	●	-	-
15	H7	WKS 10	22	12	6	10 mm	15	-	0.4	-	-	315	●
16	H7	WKS 10	22	12	6	10 mm	15	1	-	116	●	-	-
16	H7	WKS 10	22	12	6	10 mm	15	-	0.4	-	-	316	●
17	H7	WKS 10	22	12	8	10 mm	15	1.5	-	117	○	-	-
17	H7	WKS 10	22	12	8	10 mm	15	-	0.5	-	-	317	○
18	H7	WKS 12	26	14	8	13 mm	20	1.5	-	118	●	-	-
18	H7	WKS 12	26	14	8	13 mm	20	-	0.5	-	-	318	●
19	H7	WKS 12	26	14	8	13 mm	20	1.5	-	119	○	-	-

									Type	HPC UNI		HPC VA	
									Hole type	Clearance hole		Clearance hole	
									Groove type	Left-hand twist, 10°		Left-hand twist, 10°	
d1 (mm)	Tolerance of fit	Replace-able head system	l1 (mm)	l2 (mm)	Z (PCS)	Width across flats	Tightening torque (Nm)	f steel 1300 ●	f steinl. st. ●	**11785...** Ident. No.		**11785...** Ident. No.	
19	H7	WKS 12	26	14	8	13 mm	20	-	0.5	-	-	**319**	○
20	H7	WKS 12	26	14	8	13 mm	20	1.5	-	**120**	●	-	-
20	H7	WKS 12	26	14	8	13 mm	20	-	0.5	-	-	**320**	●
21	H7	WKS 12	26	14	8	13 mm	20	1.5	-	**121**	○	-	-
21	H7	WKS 12	26	14	8	13 mm	20	-	0.5	-	-	**321**	○
22	H7	WKS 16	26	14	8	16 mm	25	1.5	-	**122**	●	-	-
22	H7	WKS 16	26	14	8	16 mm	25	-	0.5	-	-	**322**	●
23	H7	WKS 16	26	14	8	16 mm	25	1.5	-	**123**	○	-	-
23	H7	WKS 16	26	14	8	16 mm	25	-	0.5	-	-	**323**	○
24	H7	WKS 16	26	14	8	16 mm	25	1.5	-	**124**	●	-	-
24	H7	WKS 16	26	14	8	16 mm	25	-	0.5	-	-	**324**	●
25	H7	WKS 16	26	14	8	16 mm	25	1.5	-	**125**	●	-	-
25	H7	WKS 16	26	14	8	16 mm	25	-	0.5	-	-	**325**	●
26	H7	WKS 16	26	14	8	16 mm	25	1.5	-	**126**	○	-	-
26	H7	WKS 16	26	14	8	16 mm	25	-	0.5	-	-	**326**	○
27	H7	WKS 16	26	14	8	16 mm	25	1.5	-	**127**	○	-	-
27	H7	WKS 16	26	14	8	16 mm	25	-	0.5	-	-	**327**	○
28	H7	WKS 16+	26	14	8	24 mm	25	1.5	-	**128**	●	-	-
28	H7	WKS 16+	26	14	8	24 mm	25	-	0.5	-	-	**328**	●
29	H7	WKS 16+	26	14	8	24 mm	25	1.5	-	**129**	○	-	-
29	H7	WKS 16+	26	14	8	24 mm	25	-	0.5	-	-	**329**	○
30	H7	WKS 16+	26	14	8	24 mm	25	1.5	-	**130**	●	-	-
30	H7	WKS 16+	26	14	8	24 mm	25	-	0.5	-	-	**330**	●
31	H7	WKS 16+	30	14	8	24 mm	25	2	-	**131**	○	-	-
31	H7	WKS 16+	30	14	8	24 mm	25	-	1.2	-	-	**331**	○
32	H7	WKS 16+	30	14	8	24 mm	25	2	-	**132**	○	-	-
32	H7	WKS 16+	30	14	8	24 mm	25	-	1.2	-	-	**332**	●
33	H7	WKS 16+	30	14	8	24 mm	25	2	-	**133**	○	-	-
33	H7	WKS 16+	30	14	8	24 mm	25	-	1.2	-	-	**333**	○
34	H7	WKS 16+	30	14	8	24 mm	25	2	-	**134**	○	-	-
34	H7	WKS 16+	30	14	8	24 mm	25	-	1.2	-	-	**334**	○
35	H7	WKS 16+	30	14	8	24 mm	25	2	-	**135**	●	-	-
35	H7	WKS 16+	30	14	8	24 mm	25	-	1.2	-	-	**335**	●
36	H7	WKS 16+	30	14	8	24 mm	25	2	-	**136**	●	-	-
36	H7	WKS 16+	30	14	8	24 mm	25	-	1.2	-	-	**336**	●
37	H7	WKS 16+	30	14	8	24 mm	25	2	-	**137**	○	-	-
37	H7	WKS 16+	30	14	8	24 mm	25	-	1.2	-	-	**337**	○
38	H7	WKS 16+	30	14	8	24 mm	25	2	-	**138**	○	-	-
38	H7	WKS 16+	30	14	8	24 mm	25	-	1.2	-	-	**338**	○
39	H7	WKS 16+	30	14	8	24 mm	25	2	-	**139**	○	-	-
39	H7	WKS 16+	30	14	8	24 mm	25	-	1.2	-	-	**339**	○
40	H7	WKS 16+	30	14	8	24 mm	25	2	-	**140**	○	-	-
40	H7	WKS 16+	30	14	8	24 mm	25	-	1.2	-	-	**340**	●

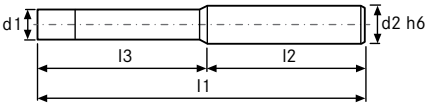
Prod. Gr. 1BK

ATORN Interchangeable head holder

For reamer interchangeable head no. 11785

Notes:
Also available as a special design in solid carbide or Densimet

Ident. No. 511



Ident. No. 510–513, 515–516, 518–519, 521–523, 525–527, 529–530

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d1 (mm)	Replaceable head system	Tightening torque (Nm)	d2 h6 (mm)	l1 (mm)	l3 (mm)	l2 (mm)	Construction length	11785... Ident. No.	
7.8	WKS 6	5	10	60	20	40	Short	510	●
7.8	WKS 6	5	10	85	45	40	Standard	511	●
7.8	WKS 6	5	10	150	110	40	Long	512	●
9.8	WKS 8	12.5	12	70	25	45	Short	513	○
9.8	WKS 8	12.5	12	90	45	45	Standard	514	○
9.8	WKS 8	12.5	12	150	105	45	Long	515	○
11.8	WKS 10	15	16	70	22	48	Short	516	●
11.8	WKS 10	15	16	90	42	48	Standard	517	●
11.8	WKS 10	15	16	150	102	48	Long	518	●
15.8	WKS 12	20	16	80	32	48	Short	519	●
15.8	WKS 12	20	16	105	57	48	Standard	520	●
15.8	WKS 12	20	16	150	102	48	Long	521	●
15.8	WKS 12	20	16	200	152	48	Extra long	522	●
19.8	WKS 16	25	25	90	34	56	Short	523	●
19.8	WKS 16	25	25	120	64	56	Standard	524	●
19.8	WKS 16	25	25	200	144	56	Long	525	●
19.8	WKS 16	25	25	250	194	56	Extra long	526	●
26.0	WKS 16+	25	25	90	34	56	Short	527	●
26.0	WKS 16+	25	25	120	64	56	Standard	528	●
26.0	WKS 16+	25	25	200	144	56	Long	529	●
26.0	WKS 16+	25	25	250	194	56	Extra long	530	●

Prod. Gr. 1BK

ATORN Open-end wrench for interchangeable head system

Width across flats	Replaceable head system	Length (mm)	Width (mm)	11785... Ident. No.	
6 mm	WKS 6	75	2.3	531	●
8 mm	WKS 8	92	2.8	532	●
10 mm	WKS 10	100	3.8	533	●
13 mm	WKS 12	135	3.8	534	●
16 mm	WKS 16	145	4.8	535	●
24 mm	WKS 16+	215	4.8	538	●

Prod. Gr. 186

ATORN Open-end wrench plug-in tool for interchangeable head system

For torque wrench with square plug-in shaft

Width across flats	Replaceable head system	Length (mm)	Width (mm)	Insert shank square	11785... Ident. No.	
6 mm	WKS 6	274	2.3	9 x 12 mm	541	●
8 mm	WKS 8	274	2.8	9 x 12 mm	542	●
10 mm	WKS 10	274	3.8	9 x 12 mm	543	●
13 mm	WKS 12	274	3.8	9 x 12 mm	544	●
16 mm	WKS 16	274	4.8	9 x 12 mm	545	●
24 mm	WKS 16+	470.5	4.8	14 x 18 mm	548	○

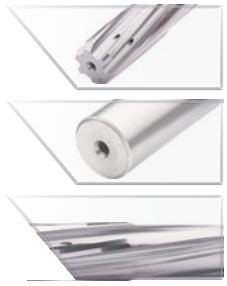
Prod. Gr. 186

Solid carbide HPC machine reamers

Application:
For series manufacture of clearances on modern CNC machines with stable tool and workpiece clamping.

H7 | 0,001 | 0,00X | VHM

Advantage:
- Innovative rake provides very high stability and process reliability, with very high cutting parameters
- High-quality solid carbide cutting material and coating ensure a very long service life
- Innovative coating technology ensures longer service life
- Internal cooling ensures optimal transportation of chips
- Wide range with specialist tools for the most common materials
- Diameters and clearances can be ordered individually with short delivery times
- HPC reamers as H7, 1/100 mm and special reamers available
- All geometries available for through hole and blind hole machining



ATORN Solid carbide TiALN high-performance reamer

For universal use up to 1,300 N/mm²

VHM | TiAlN | H7 | HPC UNI | 0° | ≈7–8° | HA | IK

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Application:
Ident. No. 050–058, 062–090, 094–122, 126–140, 142–158, 162–178, 182–198, 202–218, 222–238, 242–286, 359, 391, 423, 441, 459, 479, 499, 519, 539, 604–628: for cutting fit tolerances **in through holes** on modern CNC machines with steady tool and workpiece clamping up to 1300 N/mm².
Ident. No. 059, 091, 123, 141, 159, 179, 199, 219, 239, 350–358, 362–390, 394–422, 426–440, 442–458, 462–478, 482–498, 502–518, 522–538, 542–586, 633–657: for cutting fit tolerances **in blind holes** on modern CNC machines with steady tool and workpiece clamping up to 1300 N/mm².

Execution:
- **Ident. No. 050–058, 062–090, 094–122, 126–140, 142–158, 162–178, 182–198, 202–218, 222–238, 242–286, 359, 391, 423, 441, 459, 479, 499, 519, 539, 604–628:** 7–8° left-hand spiral, extremely variable pitch and inner cooling, **type B**
- **Ident. No. 059, 091, 123, 141, 159, 179, 199, 219, 239, 350–358, 362–390, 394–422, 426–440, 442–458, 462–478, 482–498, 502–518, 522–538, 542–586, 633–657:** Straight grooved with extremely variable pitch and internal cooling, **type A**

Advantage:
- innovative cutting geometry ensures excellent dimensional accuracy and process reliability for very high cutting parameters
- high-quality solid carbide cutting material and coating ensure a very long service life
- Internal cooling ensures optimum chip removal

Notes:
Ident. No. 050–586: Make sure that tools are accurately and tightly clamped (ideally use a hydro-mechanical clamping chuck or precision collet chuck). Note: Please refer to dimension table.
Ident. No. 604–657: Make sure that tools are accurately and tightly clamped (ideally use a hydro-mechanical clamping chuck or precision collet chuck). When ordering, specify the desired fit and diameter (e.g. 8.05 H7) take care! Please refer to dimension table.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	135	125	120											100					

									Type	HPC UNI		HPC UNI	
									Hole type	Clearance hole		Stud hole	
									Groove type	Left-hand twist, 7-8°		Straight	
mm		Min./max. optional Ø	mm	mm	mm	mm	z		f steel 1300 ● (mm/r)	11781... Ident. No.		11781... Ident. No.	
3.97	0 / +0,004 mm	-	75	12	36	6	4		0.3	050	○	350	●
3.98	0 / +0,004 mm	-	75	12	36	6	4		0.3	054	○	354	●
3.99	0 / +0,004 mm	-	75	12	36	6	4		0.3	058	○	358	○
4	H7	-	75	12	36	6	4		0.3	062	●	362	●
4	Optional	3.80-4.2 mm	75	12	36	6	4		0.3	604	○	633	○
4	0 / +0,004 mm	-	75	12	36	6	4		0.3	359	●	059	●
4.01	0 / +0,004 mm	-	75	12	36	6	4		0.3	066	●	366	●
4.02	0 / +0,004 mm	-	75	12	36	6	4		0.3	070	●	370	●
4.03	0 / +0,004 mm	-	75	12	36	6	4		0.3	074	●	374	●
4.5	H7	-	75	12	36	6	4		0.4	078	●	378	●
4.5	Optional	4.21-4.7 mm	75	12	36	6	4		0.4	605	○	634	○
4.97	0 / +0,004 mm	-	75	12	37	6	4		0.4	082	○	382	●
4.98	0 / +0,004 mm	-	75	12	37	6	4		0.4	086	●	386	○
4.99	0 / +0,004 mm	-	75	12	37	6	4		0.4	090	○	390	●
5	H7	-	75	12	37	6	4		0.4	094	●	394	●
5	Optional	4.71-5.2 mm	75	12	37	6	4		0.4	606	○	635	○
5	0 / +0,004 mm	-	75	12	37	6	4		0.4	391	●	091	●
5.01	0 / +0,004 mm	-	75	12	37	6	4		0.4	098	●	398	●
5.02	0 / +0,004 mm	-	75	12	37	6	4		0.4	102	●	402	●

								Type	HPC UNI		HPC UNI	
								Hole type	Clearance hole		Stud hole	
								Groove type	Left-hand twist, 7-8°		Straight	
mm		Min./max. optional Ø	mm	mm	mm	mm	z	f steel 1300 ● (mm/r)	11781... Ident. No.		11781... Ident. No.	
5.03	0 / +0,004 mm	-	75	12	37	6	4	0.4	106	●	406	●
5.5	H7	-	75	12	37	6	4	0.4	110	●	410	●
5.5	Optional	5.21-5.7 mm	75	12	37	6	4	0.4	607	○	636	○
5.97	0 / +0,005 mm	-	75	12	37	6	4	0.4	114	●	414	●
5.98	0 / +0,005 mm	-	75	12	37	6	4	0.4	118	○	418	●
5.99	0 / +0,005 mm	-	75	12	37	6	4	0.4	122	●	422	●
6	H7	-	75	12	37	6	4	0.4	126	●	426	●
6	Optional	5.71-6.2 mm	75	12	37	6	4	0.4	608	○	637	○
6	0 / +0,005 mm	-	75	12	37	6	4	0.4	423	●	123	●
6.01	0 / +0,005 mm	-	75	12	37	6	4	0.4	130	●	430	●
6.02	0 / +0,005 mm	-	75	12	37	6	4	0.4	134	●	434	●
6.03	0 / +0,005 mm	-	75	12	37	6	4	0.4	138	○	438	○
6.5	H7	-	100	16	62	8	6	0.4	140	●	440	●
6.5	Optional	6.21-6.7 mm	100	16	62	8	6	0.4	609	○	638	○
7	H7	-	100	16	62	8	6	0.4	142	●	442	●
7	Optional	6.71-7.2 mm	100	16	62	8	6	0.4	610	○	639	○
7	0 / +0,005 mm	-	100	16	62	8	6	0.4	441	●	141	●
7.5	H7	-	100	16	62	8	6	0.4	146	●	446	●
7.5	Optional	7.21-7.7 mm	100	16	62	8	6	0.4	611	○	640	○
7.97	0 / +0,005 mm	-	100	16	62	8	6	0.4	150	○	450	●
7.98	0 / +0,005 mm	-	100	16	62	8	6	0.4	154	○	454	●
7.99	0 / +0,005 mm	-	100	16	62	8	6	0.4	158	●	458	●
8	H7	-	100	16	62	8	6	0.4	162	●	462	●
8	Optional	7.71-8.2 mm	100	16	62	8	6	0.4	612	○	641	○
8	0 / +0,005 mm	-	100	16	62	8	6	0.4	459	●	159	●
8.01	0 / +0,005 mm	-	100	16	62	8	6	0.4	166	●	466	●
8.02	0 / +0,005 mm	-	100	16	62	8	6	0.4	170	●	470	●
8.03	0 / +0,005 mm	-	100	16	62	8	6	0.4	174	●	474	●
8.5	H7	-	100	20	57	10	6	0.6	178	○	478	○
8.5	Optional	8.21-8.7 mm	100	20	57	10	6	0.6	613	○	642	○
9	H7	-	100	20	58	10	6	0.6	182	●	482	●
9	Optional	8.71-9.2 mm	100	20	58	10	6	0.6	614	○	643	○
9	0 / +0,005 mm	-	100	20	58	10	6	0.6	479	●	179	●
9.5	H7	-	120	20	78	10	6	0.6	186	●	486	●
9.5	Optional	9.21-9.7 mm	120	20	78	10	6	0.6	615	○	644	○
9.97	0 / +0,005 mm	-	120	20	78	10	6	0.6	190	○	490	●
9.98	0 / +0,005 mm	-	120	20	78	10	6	0.6	194	○	494	●
9.99	0 / +0,005 mm	-	120	20	78	10	6	0.6	198	○	498	●
10	H7	-	120	20	78	10	6	0.6	202	●	502	●
10	Optional	9.71-10.2 mm	120	20	78	10	6	0.6	616	○	645	○
10	0 / +0,005 mm	-	120	20	78	10	6	0.6	499	●	199	●
10.01	0 / +0,005 mm	-	120	20	78	10	6	0.6	206	●	506	○
10.02	0 / +0,005 mm	-	120	20	78	10	6	0.6	210	●	510	●
10.03	0 / +0,005 mm	-	120	20	78	10	6	0.6	214	●	514	●
10.5	H7	-	120	20	72	12	6	0.6	218	●	518	●
10.5	Optional	10.21-10.7 mm	120	20	72	12	6	0.6	617	○	646	○
11	H7	-	120	20	73	12	6	0.6	222	●	522	●
11	Optional	10.71-11.2 mm	120	20	73	12	6	0.6	618	○	647	○
11	0 / +0,005 mm	-	120	20	73	12	6	0.6	519	●	219	●
11.5	H7	-	120	20	73	12	6	0.6	226	●	526	●
11.5	Optional	11.21-11.7 mm	120	20	73	12	6	0.6	619	○	648	○
11.97	0 / +0,005 mm	-	120	20	73	12	6	0.6	230	○	530	●
11.98	0 / +0,005 mm	-	120	20	73	12	6	0.6	234	●	534	●
11.99	0 / +0,005 mm	-	120	20	73	12	6	0.6	238	●	538	●
12	H7	-	120	20	73	12	6	0.6	242	●	542	○
12	Optional	11.71-12.2 mm	120	20	73	12	6	0.6	620	○	649	○
12	0 / +0,005 mm	-	120	20	73	12	6	0.6	539	●	239	●
12.01	0 / +0,005 mm	-	120	20	73	12	6	0.6	246	●	546	●
12.02	0 / +0,005 mm	-	120	20	73	12	6	0.6	250	●	550	○
12.03	0 / +0,005 mm	-	120	20	73	12	6	0.6	254	●	554	○
13	H7	-	130	22	82	14	6	0.7	258	○	558	●
13	Optional	12.21-13.2 mm	130	22	82	14	6	0.7	621	○	650	○
14	H7	-	130	22	83	14	6	0.7	262	●	562	●
14	Optional	13.21-14.2 mm	130	22	83	14	6	0.7	622	○	651	○
15	H7	-	150	22	99	16	6	0.8	266	●	566	●
15	Optional	14.21-15.2 mm	150	22	99	16	6	0.8	623	○	652	○
16	H7	-	150	25	100	16	6	0.8	270	●	570	●
16	Optional	15.21-16.2 mm	150	25	100	16	6	0.8	624	○	653	○
17	H7	-	150	25	99	18	8	1	274	●	574	○
17	Optional	16.21-17.2 mm	150	25	99	18	8	1	625	○	654	○
18	H7	-	150	25	100	18	8	1	278	●	578	●
18	Optional	17.21-18.2 mm	150	25	100	18	8	1	626	○	655	○
19	H7	-	150	25	97	20	8	1	282	●	582	○
19	Optional	18.21-19.2 mm	150	25	97	20	8	1	627	○	656	○
20	H7	-	150	25	98	20	8	1	286	●	586	○
20	Optional	19.21-20.2 mm	150	25	98	20	8	1	628	○	657	○

Prod. Gr. 1BK

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Solid carbide machine reamers H7

Application:
For cutting H7 fit tolerances on conventional machines and CNC machines.

H7 | VHM

Advantage:
- All diameters from 1.00 mm to 20.00 mm available
- Various different types of reamers
- Extremely long service life
- High cutting values can be achieved
- Very precise grinding according to DIN1420
- Other allowances available on request

ATORN NC machine reamer, solid carbide with standard shank (DIN 8093 similar)

For universal use up to 1,300 N/mm²

VHM | H7 | ≈7-8° | HA

Application:
For producing H7 fit tolerances in through holes on NC machines up to 1300 N/mm².

Advantage:
- good bore hole quality (dimensional tolerance, roundness, surface quality)

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Execution:
- 7-8° left-hand spiral, type B

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	15	12	10	8	20	20	20	20	18	16	18		12	8	8	6		

mm		mm	mm	mm	mm	z	f steel 1300 ● (mm/r)	11726... Ident. No.	
1	H7	34	6	20	1	3	0.12	010	●
1.5	H7	40	8	24	2	3	0.12	015	●
1.6	H7	43	9	25	2	3	0.12	016	●
1.7	H7	43	9	25	2	4	0.12	017	●
1.8	H7	46	10	28	2	4	0.12	018	●
1.9	H7	46	10	28	2	4	0.12	019	○
2	H7	49	11	29	2	4	0.12	020	●
2.1	H7	49	11	29	2	4	0.12	021	●
2.2	H7	53	12	32	3	4	0.12	022	●
2.3	H7	53	12	32	3	4	0.12	023	●
2.4	H7	57	14	34	3	4	0.12	024	●
2.5	H7	57	14	34	3	4	0.12	025	●
2.6	H7	57	15	41	3	4	0.12	026	●
2.7	H7	57	15	41	3	4	0.12	027	●
2.8	H7	61	15	41	3	6	0.12	028	●
2.9	H7	61	15	41	3	6	0.12	029	●
3	H7	61	15	41	3	6	0.12	030	●
3.1	H7	65	16	41	4	6	0.12	031	●
3.2	H7	65	16	41	4	6	0.12	032	●
3.3	H7	65	16	41	4	6	0.12	033	●
3.4	H7	70	18	43	4	6	0.12	034	●
3.5	H7	70	18	43	4	6	0.12	035	●
3.6	H7	70	18	43	4	6	0.12	036	●
3.7	H7	70	18	43	4	6	0.12	037	●
3.8	H7	75	19	43	4	6	0.12	038	○
3.9	H7	75	19	43	4	6	0.12	039	○
4	H7	75	19	43	4	6	0.12	040	●
4.1	H7	75	19	43	4	6	0.12	041	●
4.2	H7	80	21	47	4	6	0.12	042	●
4.3	H7	80	21	47	5	6	0.12	043	●
4.4	H7	80	21	47	5	6	0.12	044	●
4.5	H7	80	21	47	5	6	0.12	045	●
4.6	H7	80	21	47	5	6	0.12	046	○
4.7	H7	80	21	47	5	6	0.12	047	●
4.8	H7	80	23	52	5	6	0.12	048	●
4.9	H7	86	23	52	5	6	0.12	049	○
5	H7	86	23	52	5	6	0.12	050	●
5.1	H7	86	23	52	5	6	0.12	051	●
5.2	H7	86	23	52	5	6	0.12	052	●
5.3	H7	93	26	57	6	6	0.12	053	●
5.4	H7	93	26	57	6	6	0.12	054	●
5.5	H7	93	26	57	6	6	0.12	055	●
5.6	H7	93	26	57	6	6	0.12	056	●
5.7	H7	93	26	57	6	6	0.12	057	○

mm		mm	mm	mm	h6 mm	z	f steel 1300 ● (mm/r)	11726... Ident. No.	
5.8	H7	93	26	57	6	6	0.12	058	○
5.9	H7	93	26	57	6	6	0.12	059	○
6	H7	93	26	57	6	6	0.12	060	●
6.1	H7	101	28	63	6	6	0.12	061	●
6.2	H7	101	28	63	6	6	0.12	062	●
6.3	H7	101	28	63	6	6	0.12	063	○
6.4	H7	101	28	63	6	6	0.12	064	●
6.5	H7	101	28	63	6	6	0.12	065	●
6.6	H7	101	28	69	6	6	0.12	066	●
6.7	H7	109	31	69	6	6	0.12	067	●
6.8	H7	109	31	69	8	6	0.12	068	○
6.9	H7	109	31	69	8	6	0.12	069	○
7	H7	109	31	69	8	6	0.12	070	●
7.1	H7	109	31	69	8	6	0.12	071	○
7.2	H7	109	31	69	8	6	0.12	072	●
7.3	H7	109	31	69	8	6	0.12	073	○
7.4	H7	109	31	69	8	6	0.12	074	○
7.5	H7	109	31	69	8	6	0.12	075	●
7.6	H7	117	33	75	8	6	0.12	076	○
7.7	H7	117	33	75	8	6	0.12	077	○
7.8	H7	117	33	75	8	6	0.12	078	○
7.9	H7	117	33	75	8	6	0.12	079	●
8	H7	117	33	75	8	6	0.15	080	●
8.1	H7	117	33	75	8	6	0.15	081	●
8.2	H7	117	33	75	8	6	0.15	082	○
8.3	H7	117	33	75	8	6	0.15	083	●
8.4	H7	117	33	75	8	6	0.15	084	○
8.5	H7	117	33	75	8	6	0.15	085	●
8.6	H7	125	36	81	10	6	0.15	086	●
8.7	H7	125	36	81	10	6	0.15	087	○
8.8	H7	125	36	81	10	6	0.15	088	○
8.9	H7	125	36	81	10	6	0.15	089	○
9	H7	125	36	81	10	6	0.15	090	●
9.1	H7	125	36	81	10	6	0.15	091	○
9.2	H7	125	36	81	10	6	0.15	092	○
9.3	H7	125	36	81	10	6	0.15	093	○
9.4	H7	125	36	81	10	6	0.15	094	○
9.5	H7	125	36	81	10	6	0.15	095	○
9.6	H7	133	38	87	10	6	0.15	096	●
9.7	H7	133	38	87	10	6	0.15	097	○
9.8	H7	133	38	87	10	6	0.15	098	○
9.9	H7	133	38	87	10	6	0.15	099	○
10	H7	133	38	87	10	6	0.15	100	●
11	H7	142	41	96	10	6	0.15	110	●
12	H7	151	44	105	10	6	0.15	120	●
13	H7	151	44	105	10	8	0.15	130	●
14	H7	160	47	110	14	8	0.18	140	●
15	H7	162	50	112	14	8	0.18	150	●
16	H7	170	52	120	14	8	0.18	160	●
18	H7	182	56	130	14	8	0.18	180	●
20	H7	195	60	137	16	8	0.2	200	●

Prod. Gr. 1BJ

ORION® NC machine reamer, solid carbide with standard shank (DIN 8093)

For universal use up to 1,300 N/mm²

VHM | H7 | ≈7–8° | HA

Application:

For producing H7 fit tolerances in through holes on NC machines up to 1300 N/mm².

Advantage:

- good bore hole quality (dimensional tolerance, roundness, surface quality)

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Execution:

- 7-8° left-hand spiral, type B

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	15	12	10	8	20	20	20	20	18	16	18		12	8	8	6		

mm		mm	mm	mm	h6 mm	z	f steel 1300 ● (mm/r)	11727... Ident. No.	
1.5	H7	50	9	22	4	3	0.12	015	●
2	H7	50	12	22	4	4	0.12	020	●
2.5	H7	60	16	32	4	4	0.12	025	●
3	H7	64	17	36	4	6	0.12	030	●
4	H7	77	21	45	4	6	0.12	040	●

mm		mm	mm	mm	mm	z	f steel 1300 ● (mm/r)	11727... Ident. No.	
5	H7	93	26	59	6	6	0.12	050	●
6	H7	93	26	57	6	6	0.12	060	●
7	H7	109	31	69	8	6	0.12	070	●
8	H7	117	33	75	8	6	0.15	080	●
9	H7	125	36	81	10	6	0.15	090	●
10	H7	133	38	87	10	6	0.15	100	●
11	H7	142	41	96	10	6	0.15	110	●
12	H7	151	44	105	12	6	0.15	120	●
13	H7	160	44	114	14	6	0.15	130	●
14	H7	160	47	110	14	6	0.15	140	●
15	H7	170	50	120	16	6	0.18	150	●
16	H7	170	50	120	16	6	0.18	160	●

Prod. Gr. 104

ATORN Machine reamer HM (DIN 8093)

For universal use up to 1,300 N/mm²

Application:
For producing H7 fit tolerances in through holes on conventional machines and NC machines up to 1300 N/mm².

Execution:
- 7-8° left-hand spiral and variable pitch, type B

Advantage:
- good bore hole quality (dimensional tolerance, roundness, surface quality)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	15	12	10	8	20	20	20	20	18	16	18	10	12	8	8	6		

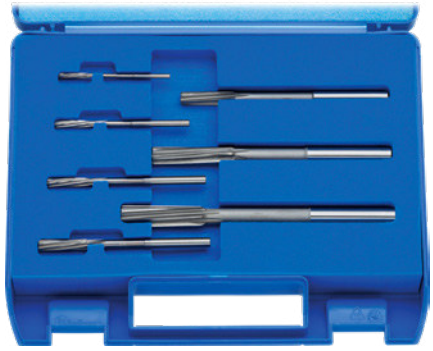
mm		mm	mm	mm	mm	z	f steel 1300 ● (mm/r)	11744... Ident. No.	
5	H7	86	23	52	5	6	0.12	050	●
6	H7	93	26	57	5.6	6	0.12	060	●
7	H7	109	30	69	7.1	4	0.12	070	●
8	H7	117	30	75	8	4	0.12	080	●
9	H7	125	30	81	9	4	0.15	090	●
10	H7	133	45	87	10	6	0.15	100	●
11	H7	142	45	96	10	6	0.15	110	●
12	H7	151	45	105	10	6	0.15	120	●
13	H7	151	45	105	10	6	0.15	130	●
14	H7	160	45	110	12.5	6	0.15	140	●
15	H7	162	45	112	12.5	6	0.15	150	●
16	H7	170	56	120	12.5	6	0.15	160	●
17	H7	175	56	123	14	6	0.18	170	●
18	H7	182	56	130	14	6	0.18	180	●
19	H7	189	56	131	16	6	0.2	190	●
20	H7	195	56	137	16	6	0.2	200	●

Prod. Gr. 1BJ

ATORN Carbide machine reamer set (DIN 8093)

For universal use up to 1,300 N/mm²

HM | H7 | ≈7–8° | HA



Application:
for producing H7 fit tolerances in through holes on conventional machines and NC machines up to 1300 N/mm².

Advantage:
- good bore hole quality (dimensional tolerance, roundness, surface quality)
- sturdy box protects the tool

Execution:
- 7-8° left-hand spiral and variable pitch, type B

Composition of set		3 / 4 / 5 / 6 / 8 / 10 / 12
Tolerance of fit		H7
Number of pieces in assortment/set (PCS)		7
11744...	Ident. No.	010 ●

Prod. Gr. 1BJ

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	15	12	10	8	20	20	20	20	18	16	18		12	8	8	6		

ATORN Machine reamer HM (DIN 8094)

For universal use up to 1,300 N/mm²

HM | H7 | ≈7–8° | MK

Application:
for producing H7 fit tolerances in through holes on conventional machines and NC machines up to 1000 N/mm².

Execution:
- 7-8° left-hand spiral and variable pitch, type B

Advantage:
- good bore hole quality (dimensional tolerance, roundness, surface quality)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	15	12	10	8	20	20	20	20	18	16	18		12	8	8	6		

mm		mm	mm	mm		z	f steel 1300 ● (mm/r)	11779... Ident. No.	
6	H7	138	26	72.5	MK 1	4	0.15	060	●
8	H7	156	33	90.5	MK 1	4	0.15	080	●
10	H7	168	38	102.5	MK 1	6	0.15	100	●
12	H7	182	44	116.5	MK 1	6	0.2	120	●
14	H7	189	47	123.5	MK 1	6	0.2	140	●
15	H7	204	50	124	MK 2	6	0.2	150	●
16	H7	210	52	130	MK 2	6	0.2	160	●
17	H7	214	54	134	MK 2	6	0.25	170	●
18	H7	219	56	139	MK 2	6	0.25	180	●
20	H7	228	60	148	MK 2	6	0.25	200	●
22	H7	237	64	157	MK 2	6	0.3	220	●
24	H7	268	68	169	MK 3	8	0.3	240	●
25	H7	268	68	169	MK 3	8	0.3	250	●
26	H7	273	70	174	MK 3	8	0.3	260	●
28	H7	277	71	178	MK 3	8	0.3	280	●
30	H7	281	73	182	MK 3	8	0.35	300	○
32	H7	317	77	193	MK 4	8	0.35	320	○

Prod. Gr. 1BJ

Solid carbide machine reamers 1/100 mm

Application:
For cutting high-precision fit tolerances (0/+0.003 mm) on conventional machines and CNC machines.

0,001 | VHM

Advantage:
- Covers a wide range of fit tolerances
- No special reamers have to be produced
- Deliverable from stock
- High cutting values can be achieved
- All diameters from 0.90 mm to 12.03 mm available
- High level of precision thanks to narrow tolerance (0/+0.003 mm)
- Very long service life thanks to high-quality solid carbide cutting material

ATORN NC machine reamer, solid carbide with standard shank (DIN 8093 similar)

For universal use up to 1,300 N/mm²

Application:
for producing fit tolerances (tolerance = 0/+0.003 mm) in through holes on NC machines up to 1300 N/mm².

Execution:
- 7–8° left-hand spiral, type B

Advantage:
- good bore hole quality (dimensional tolerance, roundness, surface quality)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	15	12	10	8	20	20	20	20	18	16	18		12	8	8	6		

mm		mm	mm	mm	mm	z	f steel 1300 ● (mm/r)	11730... Ident. No.	
0.9	0 / +0,003 mm	34	6	20	1	3	0.12	090	●
1	0 / +0,003 mm	34	6	20	1	3	0.12	100	●
1.01	0 / +0,003 mm	34	6	20	1	3	0.12	101	○
1.02	0 / +0,003 mm	34	6	20	1	3	0.12	102	●
1.03	0 / +0,003 mm	34	6	20	1	3	0.12	103	○
1.48	0 / +0,003 mm	40	8	24	2	3	0.12	148	○
1.49	0 / +0,003 mm	40	8	24	2	3	0.12	149	●
1.5	0 / +0,003 mm	40	8	24	2	2	0.12	150	●
1.51	0 / +0,003 mm	43	9	25	2	3	0.12	151	●
1.52	0 / +0,003 mm	43	9	25	2	3	0.12	152	●
1.53	0 / +0,003 mm	43	9	25	2	3	0.12	153	●
1.98	0 / +0,003 mm	49	11	29	2	4	0.12	198	●
1.99	0 / +0,003 mm	49	11	29	2	4	0.12	199	●
2	0 / +0,003 mm	49	11	29	2	4	0.12	200	●
2.01	0 / +0,003 mm	49	11	29	2	4	0.12	201	●
2.02	0 / +0,003 mm	49	11	29	2	4	0.12	202	●
2.03	0 / +0,003 mm	49	11	29	2	4	0.12	203	●
2.97	0 / +0,003 mm	61	15	41	3	4	0.12	297	●
2.98	0 / +0,003 mm	61	15	41	3	6	0.12	298	●
2.99	0 / +0,003 mm	61	15	41	3	6	0.12	299	●
3	0 / +0,003 mm	61	15	41	3	6	0.12	300	●
3.01	0 / +0,003 mm	61	15	41	3	6	0.12	301	●
3.02	0 / +0,003 mm	61	15	41	3	6	0.12	302	●
3.03	0 / +0,003 mm	61	15	41	3	6	0.12	303	●
3.97	0 / +0,003 mm	75	19	43	4	4	0.12	397	●
3.98	0 / +0,003 mm	75	19	43	4	6	0.12	398	●
3.99	0 / +0,003 mm	75	19	43	4	6	0.12	399	●
4	0 / +0,003 mm	75	19	43	4	6	0.15	400	●
4.01	0 / +0,003 mm	75	19	43	4	6	0.15	401	●
4.02	0 / +0,003 mm	75	19	43	4	6	0.15	402	●
4.03	0 / +0,003 mm	75	19	43	4	6	0.15	403	●
4.97	0 / +0,003 mm	86	23	52	5	6	0.15	497	○
4.98	0 / +0,003 mm	86	23	52	5	6	0.15	498	●
4.99	0 / +0,003 mm	86	23	52	5	6	0.15	499	●
5	0 / +0,003 mm	86	23	52	5	6	0.15	500	●
5.01	0 / +0,003 mm	86	23	52	5	6	0.15	501	●
5.02	0 / +0,003 mm	86	23	52	5	6	0.15	502	●
5.03	0 / +0,003 mm	86	23	52	5	6	0.15	503	●
5.98	0 / +0,003 mm	93	26	57	6	6	0.15	598	●
5.99	0 / +0,003 mm	93	26	57	6	6	0.15	599	●
6	0 / +0,003 mm	93	26	57	6	6	0.15	600	●
6.01	0 / +0,003 mm	101	28	63	6	6	0.15	601	●
6.02	0 / +0,003 mm	101	28	63	6	6	0.15	602	●
6.03	0 / +0,003 mm	101	28	63	6	6	0.15	603	●

mm		mm	mm	mm	h6 mm	z	f steel 1300 ● (mm/r)	11730... Ident. No.	
6.98	0 / +0,003 mm	109	31	69	8	6	0.15	698	●
6.99	0 / +0,003 mm	109	31	69	8	6	0.15	699	●
7	0 / +0,003 mm	109	31	69	8	6	0.15	700	●
7.01	0 / +0,003 mm	109	31	69	8	6	0.15	701	●
7.02	0 / +0,003 mm	109	31	69	8	6	0.15	702	●
7.03	0 / +0,003 mm	109	31	69	8	6	0.15	703	●
7.97	0 / +0,003 mm	117	33	75	8	6	0.15	797	●
7.98	0 / +0,003 mm	117	33	75	8	6	0.15	798	●
7.99	0 / +0,003 mm	117	33	75	8	6	0.15	799	●
8	0 / +0,003 mm	117	33	75	8	6	0.15	800	●
8.01	0 / +0,003 mm	117	33	75	8	6	0.15	801	●
8.02	0 / +0,003 mm	117	33	75	8	6	0.15	802	●
8.03	0 / +0,003 mm	117	33	75	8	6	0.15	803	●
8.98	0 / +0,003 mm	125	36	81	10	6	0.15	898	○
8.99	0 / +0,003 mm	125	36	81	10	6	0.15	899	●
9	0 / +0,003 mm	125	36	81	10	6	0.15	900	○
9.01	0 / +0,003 mm	125	36	81	10	6	0.15	901	●
9.02	0 / +0,003 mm	125	36	81	10	6	0.15	902	○
9.03	0 / +0,003 mm	125	36	81	10	6	0.15	903	●
9.97	0 / +0,003 mm	133	38	87	10	6	0.15	997	●
9.98	0 / +0,003 mm	133	38	87	10	6	0.15	998	○
9.99	0 / +0,003 mm	133	38	87	10	6	0.15	009	●
10	0 / +0,003 mm	133	38	87	10	6	0.15	010	●
10.01	0 / +0,003 mm	133	38	87	10	6	0.15	011	●
10.02	0 / +0,003 mm	133	38	87	10	6	0.15	012	●
10.03	0 / +0,003 mm	133	38	87	10	6	0.15	013	●
11.98	0 / +0,003 mm	151	44	105	10	6	0.15	014	●
11.99	0 / +0,003 mm	151	44	105	10	6	0.15	015	●
12	0 / +0,003 mm	151	44	105	10	6	0.15	016	●
12.01	0 / +0,003 mm	151	44	105	10	6	0.15	017	●
12.02	0 / +0,003 mm	151	44	105	10	6	0.15	018	●
12.03	0 / +0,003 mm	151	44	105	10	6	0.15	019	●

Prod. Gr. 1BJ

HSSE machine reamers H7

Application:
For cutting H7 fit tolerances on conventional machines and CNC machines.

H7 | HSSE

Advantage:
- All diameters from 1.00 mm to 40.00 mm available
- Various different types of reamers
- Extremely long service life
- Very precise grinding according to DIN 1420
- Coated versions for higher cutting values
- Other allowances available on request

ATORN ORION® HSSE NC machine reamers (DIN 212)

For universal use up to 1,000 N/mm²

HSSE | H7 | ≈7–8° | HA

Application:
for cutting H7 fit tolerances in through holes and blind holes on NC machines or conventional machines up to 1000 N/mm².

Execution:
- **No. 11628 010–11628 027, 11638 010–11638 025:** 7-8° left-hand spiral, **type B, with centring points on both sides** and continuous shank
- **No. 11628 028–11628 200, 11638 030–11638 200:** 7-8° left-hand spiral, **type D, with centring hole** and offset shank

Advantage:
- good bore hole quality (dimensional tolerance, roundness, surface quality)

No. 11628 010–11628 027

No. 11628 028–11638 200

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	12	9	7	8	7	17	17	17	17	13	13	13		11	5	5	5		

								ATORN		ORION	
							Surface	Uncoated		Uncoated	
mm		mm	mm	mm	h6 mm	z	f steel 1000 ● (mm/r)	11628... Ident. No.		11638... Ident. No.	
1	H7	34	5.5	15	1	3	0.1	010	●	010	●
1.1	H7	36	6.5	15.5	1	3	0.1	011	●	-	-

								ATORN		ORION	
							Surface	Uncoated		Uncoated	
mm		mm	mm	mm	mm	z	f steel 1000 ● (mm/r)	11628... Ident. No.		11638... Ident. No.	
1.2	H7	38	8	16.5	1	3	0.1	012	●	-	-
1.3	H7	38	8	16.5	1	3	0.1	013	●	-	-
1.4	H7	40	8	18	2	3	0.1	014	●	-	-
1.5	H7	40	8	18	2	3	0.1	015	●	015	●
1.6	H7	43	9	20	2	3	0.1	016	●	-	-
1.7	H7	43	9	20	2	3	0.1	017	●	-	-
1.8	H7	46	10	22	2	4	0.1	018	●	-	-
1.9	H7	46	10	22	2	4	0.1	019	●	-	-
2	H7	49	11	24	2	4	0.1	020	●	020	●
2.1	H7	49	11	24	2	4	0.1	021	●	-	-
2.2	H7	53	12	25	3	4	0.1	022	●	-	-
2.3	H7	53	12	25	3	4	0.1	023	●	-	-
2.4	H7	57	14	29	3	4	0.1	024	●	-	-
2.5	H7	57	14	29	3	4	0.1	025	●	025	●
2.6	H7	57	14	29	3	4	0.1	026	●	-	-
2.7	H7	61	15	33	3	4	0.1	027	●	-	-
2.8	H7	61	15	33	3	6	0.1	028	●	-	-
2.9	H7	61	15	33	3	6	0.1	029	●	-	-
3	H7	61	15	33	3	6	0.1	030	●	030	●
3.1	H7	65	16	37	4	6	0.1	031	●	-	-
3.2	H7	65	16	37	4	6	0.1	032	●	-	-
3.3	H7	65	16	37	4	6	0.1	033	●	-	-
3.4	H7	70	18	42	4	6	0.1	034	●	-	-
3.5	H7	70	18	42	4	6	0.1	035	●	035	●
3.6	H7	70	18	42	4	6	0.1	036	●	-	-
3.7	H7	70	18	42	4	6	0.1	037	●	-	-
3.8	H7	75	19	47	4	6	0.1	038	●	-	-
3.9	H7	75	19	47	4	6	0.1	039	●	-	-
4	H7	75	19	47	4	6	0.1	040	●	040	●
4.1	H7	75	19	47	4	6	0.1	041	●	-	-
4.2	H7	75	19	47	4	6	0.1	042	●	-	-
4.3	H7	80	21	52	5	6	0.1	043	●	-	-
4.4	H7	80	21	52	5	6	0.1	044	●	-	-
4.5	H7	80	21	52	5	6	0.1	045	●	045	●
4.6	H7	80	21	52	5	6	0.1	046	●	-	-
4.7	H7	80	21	52	5	6	0.1	047	●	-	-
4.8	H7	86	23	58	5	6	0.1	048	●	-	-
4.9	H7	86	23	58	5	6	0.1	049	●	-	-
5	H7	86	23	58	5	6	0.1	050	●	050	●
5.1	H7	86	23	58	5	6	0.1	051	●	-	-
5.2	H7	86	23	58	5	6	0.1	052	●	-	-
5.3	H7	86	23	58	5	6	0.1	053	●	-	-
5.4	H7	93	26	57	6	6	0.1	054	●	-	-
5.5	H7	93	26	57	6	6	0.1	055	●	055	●
5.6	H7	93	26	57	6	6	0.1	056	●	-	-
5.7	H7	93	26	57	6	6	0.1	057	●	-	-
5.8	H7	93	26	57	6	6	0.1	058	●	-	-
5.9	H7	93	26	57	6	6	0.1	059	●	-	-
6	H7	93	26	57	6	6	0.1	060	●	060	●
6.1	H7	101	28	65	6	6	0.1	061	●	-	-
6.2	H7	101	28	65	6	6	0.1	062	●	-	-
6.3	H7	101	28	65	6	6	0.1	063	●	-	-
6.4	H7	101	28	65	6	6	0.1	064	●	-	-
6.5	H7	101	28	65	6	6	0.1	065	●	065	●
6.6	H7	101	28	65	6	6	0.1	066	●	-	-
6.7	H7	101	28	65	6	6	0.1	067	●	-	-
6.8	H7	109	31	73	8	6	0.1	068	●	-	-
6.9	H7	109	31	73	8	6	0.1	069	○	-	-
7	H7	109	31	73	8	6	0.1	070	●	070	●
7.1	H7	109	31	73	8	6	0.1	071	●	-	-
7.2	H7	109	31	73	8	6	0.1	072	●	-	-
7.3	H7	109	31	73	8	6	0.1	073	●	-	-
7.4	H7	109	31	73	8	6	0.1	074	●	-	-
7.5	H7	109	31	73	8	6	0.1	075	●	075	●
7.6	H7	117	33	81	8	6	0.1	076	●	-	-
7.7	H7	117	33	81	8	6	0.1	077	●	-	-
7.8	H7	117	33	81	8	6	0.1	078	●	-	-
7.9	H7	117	33	81	8	6	0.1	079	●	-	-
8	H7	117	33	81	8	6	0.1	080	●	080	●
8.1	H7	117	33	81	8	6	0.13	081	●	-	-
8.2	H7	117	33	81	8	6	0.13	082	●	-	-
8.3	H7	117	33	81	8	6	0.13	083	●	-	-
8.4	H7	117	33	81	8	6	0.13	084	●	-	-
8.5	H7	117	33	81	8	6	0.13	085	●	085	●
8.6	H7	125	36	85	10	6	0.13	086	○	-	-
8.7	H7	125	36	85	10	6	0.13	087	●	-	-

								ATORN		ORION	
							Surface	Uncoated		Uncoated	
mm		mm	mm	mm	mm	z	f steel 1000 ● (mm/r)	11628... Ident. No.		11638... Ident. No.	
8.8	H7	125	36	85	10	6	0.13	088	●	-	-
8.9	H7	125	36	85	10	6	0.13	089	●	-	-
9	H7	125	36	85	10	6	0.13	090	●	090	●
9.1	H7	125	36	85	10	6	0.13	091	●	-	-
9.2	H7	125	36	85	10	6	0.13	092	●	-	-
9.3	H7	125	36	85	10	6	0.13	093	●	-	-
9.4	H7	125	36	85	10	6	0.13	094	●	-	-
9.5	H7	125	36	85	10	6	0.13	095	●	095	●
9.6	H7	133	38	93	10	6	0.13	096	●	-	-
9.7	H7	133	38	93	10	6	0.13	097	●	-	-
9.8	H7	133	38	93	10	6	0.13	098	●	-	-
9.9	H7	133	38	93	10	6	0.13	099	●	-	-
10	H7	133	38	93	10	6	0.15	100	●	100	●
11	H7	142	41	102	10	6	0.15	110	●	110	●
12	H7	151	44	111	10	6	0.15	120	●	120	●
13	H7	151	44	111	10	8	0.15	130	●	130	●
14	H7	160	47	115	14	8	0.15	140	●	140	●
15	H7	162	50	117	14	8	0.2	150	●	150	●
16	H7	170	52	125	14	8	0.2	160	●	160	●
17	H7	175	54	130	14	8	0.2	170	●	170	●
18	H7	182	56	137	14	8	0.2	180	●	180	●
20	H7	195	60	147	16	8	0.25	200	●	200	●

ATORN = Prod. Gr. 1BH
ORION = Prod. Gr. 104

ATORN ORION HSSE machine reamers (DIN 212)

For universal use up to 1,000 N/mm²

No. 11630

No. 11633

No. 11634

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Application:

No. 11630–11633: for cutting H7 fit tolerances in blind holes on conventional machines and NC machines up to 1000 N/mm².

No. 11634: for producing H7 fit tolerances in through holes on conventional machines and NC machines up to 1000 N/mm².

Execution:

- **No. 11630 010–11630 025, 11633 015–11633 025:** straight design, type A, with continuous shank and lathe centre on both sides
- **No. 11630 030–11630 200, 11633 030–11633 160:** straight design, type C, with reduced shank and centring hole on both sides
- **No. 11634 015–11634 025:** 7-8° left-hand spiral, type B, with continuous shank and centring point on both sides
- **No. 11634 030–11634 200:** 7-8° left-hand spiral, type D, with reduced shank and centring hole on both sides

Advantage:

- good bore hole quality (dimensional tolerance, roundness, surface quality)

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	12	9	7	8	7	17	17	17	17	13	13	13		11	5	5	5		

								ATORN		ORION		
							Groove type	Straight		Straight		Left-hand twist, 7-8°
mm		mm	mm	mm	mm	z	f steel 1000 ● (mm/r)	11630... Ident. No.		11633... Ident. No.		11634... Ident. No.
1	H7	34	5.5	15	1	3	0.1	010	●	-	-	-
1.5	H7	40	8	18	1.5	3	0.1	015	●	015	●	015
2	H7	49	11	24	2	4	0.1	020	●	020	●	020
2.5	H7	57	14	29	2.5	4	0.1	025	●	025	●	025
3	H7	61	15	33	3	6	0.1	030	●	030	●	030
3.5	H7	70	18	42	3.5	6	0.1	-	-	035	●	035
4	H7	75	19	47	4	6	0.1	040	●	040	●	040
4.5	H7	80	21	52	4.5	6	0.1	-	-	045	●	045
5	H7	86	23	58	5	6	0.1	050	●	050	●	050
6	H7	93	26	57	5.6	6	0.1	060	●	060	●	060
7	H7	109	31	73	7.1	6	0.1	070	●	070	●	070
8	H7	117	33	81	8	6	0.15	080	●	080	●	080
9	H7	125	36	85	9	6	0.15	090	●	090	●	090
10	H7	133	38	93	10	6	0.15	100	●	100	●	100
11	H7	142	41	102	10	6	0.15	-	-	110	●	110
12	H7	151	44	111	10	6	0.15	120	●	120	●	120
13	H7	151	44	111	10	8	0.15	130	○	130	●	130
14	H7	160	47	115	12.5	8	0.15	140	●	140	●	140
15	H7	162	50	117	12.5	8	0.15	150	○	150	●	150

								ATORN		ORION			
							Groove type	Straight		Straight		Left-hand twist, 7-8°	
mm		mm	mm	mm	h6 mm	z	f steel 1000 ● (mm/r)	11630... Ident. No.		11633... Ident. No.		11634... Ident. No.	
16	H7	170	52	125	12.5	8	0.2	160	●	160	●	160	●
17	H7	175	54	130	14	8	0.2	170	○	-	-	-	-
18	H7	182	56	137	14	8	0.2	180	●	-	-	180	●
20	H7	195	60	147	16	8	0.25	200	○	-	-	200	●

ATORN = Prod. Gr. 1BH
ORION = Prod. Gr. 104

ATORN NC machine reamer sets (DIN 212 similar)

For universal use up to 1,300 N/mm²

Application:

Ident. No. 050: For producing H7 fit tolerances in through holes on NC machines or conventional machines up to 1000 N/mm².

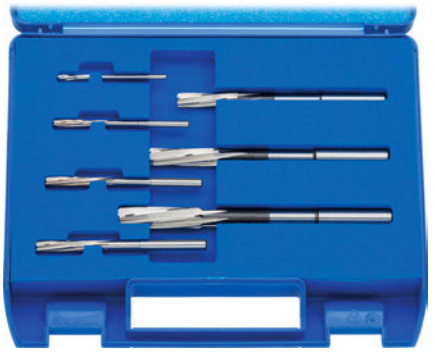
Ident. No. 060–070: For producing H7 fit tolerances in through holes on a NC machine or conventional machines up to 1000 N/mm².

Execution:

- 7-8° left-hand spiral and variable pitch, type B

Advantage:

- good bore hole quality (dimensional tolerance, roundness, surface quality)



Included in delivery			3/4/5/6/8/10/12
Tolerance of fit			H7
Number of pieces in assortment/set (PCS)			7
	Surface		
11621...	Uncoated	Ident. No.	050 ●
11621...	TiN	Ident. No.	060 ●
11621...	TiCN	Ident. No.	070 ●

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Prod. Gr. 1BH

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	12	9	7	8	7	17	17	17	17	13	13	13		11	5	5	5		

ATORN HSSE machine reamer, extra long (DIN 212 similar)

For universal use up to 1,000 N/mm²

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Application:

For producing H7 fit tolerances in deep-set through holes up to 1000 N/mm².

Execution:

- 10° left-hand spiral, long design

Advantage:

- good bore hole quality (dimensional tolerance, roundness, surface quality)
- long design ensures good accessibility for deep-set or difficult-to-reach drill holes

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	12	9	7	8	7	17	17	17	17	13	13	13		11	5	5	5		

mm		mm	mm	mm	h6 mm	z	f steel 1000 ● (mm/r)	11627... Ident. No.	
2	H7	65	14	45	2	6	0.1	020	●
2	H7	80	20	60	2	6	0.1	025	○
3	H7	90	14	70	3	6	0.1	030	●
3	H7	120	30	100	3	6	0.1	035	●
4	H7	105	16	80	4	6	0.1	040	●
4	H7	160	30	135	4	6	0.1	045	●
5	H7	115	16	90	5	6	0.1	050	●
5	H7	200	30	175	5	6	0.1	055	●
6	H7	130	16	100	6	6	0.1	060	●
6	H7	250	35	220	6	6	0.1	065	●
8	H7	160	18	130	8	6	0.1	080	●
8	H7	250	35	220	8	6	0.13	085	●
10	H7	190	20	150	10	6	0.13	100	●
10	H7	250	35	220	10	6	0.15	105	●
12	H7	210	20	160	12	6	0.15	120	●

Prod. Gr. 1BJ

ORION® HSSE machine bottoming reamer

For universal use up to 1,000 N/mm²

Application:
for cutting H7 fit tolerances with precisely defined drill spacings (tolerance of pre-drilling counterbalanced) on conventional machines and NC machine up to 1000 N/mm². the face cut overcomes the eccentricity between the bore and tool axis and does not follow the pilot hole.

Execution:
- straight-grooved, teeth around the circumference with circular grinding chamfer to the duct

Advantage:
- good bore hole quality (dimensional tolerance, roundness, surface quality)
- a groove is inserted for each to improve the supply of coolant

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	12	9	7	8	7	17	17	17	17	13	13	13		11	5	5	5		

mm		mm	mm	mm	mm	z	Length of milled slots (mm)	f steel 1000 ● (mm/r)	11646... Ident. No.	
3	H7	61	12	33	3	4	21	0.1	030	●
4	H7	75	16	44	4	6	28	0.1	040	●
5	H7	86	20	53	5	6	33	0.1	050	●
6	H7	93	20	59	6	6	39	0.1	060	●
7	H7	109	22	69	7	6	47	0.15	070	●
8	H7	117	24	71	8	6	47	0.15	080	●
9	H7	125	24	77	9	6	53	0.15	090	●
10	H7	133	26	84	10	6	58	0.15	100	●
11	H7	142	26	89	11	6	63	0.15	110	●
12	H7	151	26	96	12	6	70	0.2	120	●

Prod. Gr. 104

ATORN ORION® HSSE machine reamers (DIN 208)

For universal use up to 1,000 N/mm²

No. 11636

No. 11641

No. 11642

Application:
No. 11636 030–11636 320, 11642 030–11642 400: for producing H7 fit tolerances in through holes on conventional machines and NC machines up to 1000 N/mm².
No. 11641: for cutting H7 fit tolerances in blind holes on conventional machines and NC machines up to 1000 N/mm².

Execution:
- **No. 11636 030–11636 320, 11642 030–11642 400:** 7-8° left-hand spiral, type B
- **No. 11641:** straight version

Advantage:
- good bore hole quality (dimensional tolerance, roundness, surface quality)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	12	9	7	8	7	17	17	17	17	13	13	13		11	5	5	5		

								ATORN		ORION			
							Groove type	Left-hand twist, 7-8°		Left-hand twist, 7-8°		Straight	
mm		mm	mm	mm		z	f steel 1000 ● (mm/r)	11636... Ident. No.		11642... Ident. No.		11641... Ident. No.	
3	H7	112	15	49.5	MK 1	6	0.1	030	●	030	●	-	-
4	H7	125	19	59.5	MK 1	6	0.1	040	●	040	●	-	-
5	H7	133	23	67.5	MK 1	6	0.1	050	●	050	●	050	●
6	H7	138	26	72.5	MK 1	6	0.1	060	●	060	●	060	●
7	H7	150	31	84.5	MK 1	6	0.1	070	○	070	●	-	-
8	H7	156	33	90.5	MK 1	6	0.1	080	●	080	●	080	●
9	H7	162	36	96.5	MK 1	6	0.1	-	-	090	●	090	●
10	H7	168	38	102.5	MK 1	6	0.13	100	●	100	●	100	●
11	H7	175	41	109.5	MK 1	6	0.15	110	●	110	●	110	●
12	H7	182	44	116.5	MK 1	6	0.15	120	●	120	●	120	●
13	H7	182	44	116.5	MK 1	8	0.15	130	●	130	●	130	●
14	H7	189	47	123.5	MK 1	8	0.15	140	●	140	●	140	●
15	H7	204	50	124	MK 2	8	0.15	150	●	150	●	150	●
16	H7	210	52	130	MK 2	8	0.2	160	●	160	●	160	●
17	H7	214	54	134	MK 2	8	0.2	170	●	170	●	170	●
18	H7	219	56	139	MK 2	8	0.2	180	●	180	●	180	●

								ATORN		ORION			
							Groove type	Left-hand twist, 7-8°		Left-hand twist, 7-8°		Straight	
mm		mm	mm	mm		z	f steel 1000 ● (mm/r)	11636... Ident. No.		11642... Ident. No.		11641... Ident. No.	
19	H7	223	58	143	MK 2	8	0.2	190	●	190	●	190	●
20	H7	228	60	148	MK 2	8	0.2	200	●	200	●	200	●
21	H7	232	62	152	MK 2	8	0.2	-	-	210	●	210	●
22	H7	237	64	157	MK 2	8	0.2	220	●	220	●	220	●
23	H7	241	66	161	MK 2	8	0.25	-	-	230	●	230	●
24	H7	268	68	169	MK 3	8	0.25	-	-	240	●	240	●
24	H7	268	68	169	MK 3	10	0.25	240	●	-	-	-	-
25	H7	268	68	169	MK 3	10	0.25	250	●	250	●	250	●
26	H7	273	70	174	MK 3	10	0.25	260	●	260	●	260	●
27	H7	277	71	178	MK 3	10	0.25	-	-	270	●	-	-
28	H7	277	71	178	MK 3	10	0.25	280	●	280	●	280	●
29	H7	281	73	182	MK 3	10	0.25	-	-	290	●	-	-
30	H7	281	73	182	MK 3	10	0.25	300	●	300	●	300	●
32	H7	317	77	193	MK 4	12	0.3	320	○	320	●	-	-
34	H7	321	78	197	MK 4	12	0.3	-	-	340	●	-	-
35	H7	321	78	197	MK 4	12	0.3	-	-	350	●	-	-
36	H7	325	79	201	MK 4	12	0.3	-	-	360	●	-	-
38	H7	329	81	205	MK 4	12	0.3	-	-	380	●	-	-
40	H7	329	81	205	MK 4	12	0.3	-	-	400	●	-	-

ATORN = Prod. Gr. 1BH
ORION = Prod. Gr. 104

ATORN HSSE machine reamer, extra long (DIN 208 similar)

For universal use up to 1,000 N/mm²

Application:
for producing H7 fit tolerances in deep-set or difficult-to-reach through holes on conventional machines and NC machines up to 1000 N/mm².

Execution:
- 10° left-hand spiral, type B, long design

Advantage:
- good bore hole quality (dimensional tolerance, roundness, surface quality)
- long design ensures good accessibility for deep-set or difficult-to-reach drill holes

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	12	9	7	8	7	17	17	17	17	13	13	13		11	5	5	5		

mm		mm	mm	mm		z	f steel 1000 ● (mm/r)	11643... Ident. No.	
12	H7	315	40	250	MK 1	6	0.15	125	●
14	H7	245	22	180	MK 1	8	0.15	140	●
14	H7	315	40	250	MK 1	8	0.15	145	○
15	H7	260	22	180	MK 2	8	0.15	150	●
16	H7	260	25	180	MK 2	8	0.15	160	●
16	H7	350	45	270	MK 2	8	0.15	165	●
18	H7	260	25	180	MK 2	8	0.2	180	●
18	H7	350	45	270	MK 2	8	0.2	185	○
20	H7	270	28	190	MK 2	8	0.2	200	●
20	H7	350	45	270	MK 2	8	0.25	205	●
22	H7	280	28	200	MK 2	8	0.25	220	○
24	H7	300	32	200	MK 3	8	0.25	240	○
25	H7	320	32	220	MK 3	8	0.25	250	●
26	H7	330	32	236	MK 3	10	0.25	260	○
30	H7	350	36	250	MK 3	10	0.25	300	○

Prod. Gr. 1BJ

HSSE machine reamers 1/100 mm

Application:
For cutting high-precision fit tolerances (0/+0.003 mm) on conventional machines and CNC machines.

0,001 | HSSE

Advantage:
- Covers a wide range of fit tolerances
- No special reamers have to be produced
- Deliverable from stock
- All diameters from 0.90 mm to 12.03 mm available
- High level of precision thanks to narrow tolerance (0/+0.003 mm)
- Lower-cost alternative to a solid carbide tool

ATORN NC machine reamer 1/100 mm HSSE with standard shaft (DIN 212 similar)

For universal use up to 1,000 N/mm²

Application:
for producing fit tolerances in through holes (tolerance=0/+0.003 mm) on NC machines or conventional machines up to 1000 N/mm².

Execution:
- **Ident. No. 009–019, 247–998:** 7-8° left-hand spiral, **type D, with centring hole** and offset shank
- **Ident. No. 100–203:** 7-8° left-hand spiral, **type B, with centring points on both sides** and continuous shank

Advantage:
- good bore hole quality (dimensional tolerance, roundness, surface quality)

Ident. No. 009–019, 247–998

Ident. No. 100–203

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	12	9	7	8	7	17	17	17	17	13	13	13		11	5	5	5		

								Surface	Uncoated	
mm		mm	mm	mm	mm	z		f steel 1000 ● (mm/r)	11624... Ident. No.	
1	0 / +0,003 mm	34	5.5	15	1	3		0.08	100	●
1.01	0 / +0,003 mm	34	5.5	15	1	3		0.08	101	●
1.02	0 / +0,003 mm	34	5.5	15	1	3		0.08	102	●
1.03	0 / +0,003 mm	34	5.5	15	1	3		0.08	103	●
1.5	0 / +0,003 mm	40	8	18	2	3		0.08	150	●
1.51	0 / +0,003 mm	43	9	20	2	3		0.09	151	●
1.52	0 / +0,003 mm	43	9	20	2	3		0.09	152	●
1.53	0 / +0,003 mm	43	9	20	2	3		0.09	153	●
1.97	0 / +0,003 mm	49	11	24	2	4		0.09	197	●
1.98	0 / +0,003 mm	49	11	24	2	4		0.09	198	●
1.99	0 / +0,003 mm	49	11	24	2	4		0.09	199	●
2	0 / +0,003 mm	49	11	24	2	4		0.09	200	●
2.01	0 / +0,003 mm	49	11	24	2	4		0.09	201	●
2.02	0 / +0,003 mm	49	11	24	2	4		0.09	202	●
2.03	0 / +0,003 mm	49	11	24	2	4		0.09	203	●
2.47	0 / +0,003 mm	57	14	29	3	6		0.1	247	○
2.48	0 / +0,003 mm	57	14	29	3	6		0.1	248	○
2.49	0 / +0,003 mm	57	14	29	3	6		0.1	249	●
2.51	0 / +0,003 mm	57	14	29	3	6		0.1	251	●
2.52	0 / +0,003 mm	57	14	29	3	6		0.1	252	●
2.53	0 / +0,003 mm	57	14	29	3	6		0.1	253	●
2.97	0 / +0,003 mm	61	15	33	3	6		0.1	297	●
2.98	0 / +0,003 mm	61	15	33	3	6		0.1	298	●
2.99	0 / +0,003 mm	61	15	33	3	6		0.1	299	●
3	0 / +0,003 mm	61	15	33	3	6		0.1	300	●
3.01	0 / +0,003 mm	61	15	37	4	6		0.1	301	●
3.02	0 / +0,003 mm	61	15	37	4	6		0.1	302	●
3.03	0 / +0,003 mm	61	15	37	4	6		0.1	303	●
3.97	0 / +0,003 mm	75	19	47	4	6		0.1	397	●
3.98	0 / +0,003 mm	75	19	47	4	6		0.1	398	●
3.99	0 / +0,003 mm	75	19	47	4	6		0.1	399	●
4	0 / +0,003 mm	75	19	47	4	6		0.1	400	●
4.01	0 / +0,003 mm	75	19	47	4	6		0.1	401	●
4.02	0 / +0,003 mm	75	19	47	4	6		0.1	402	●
4.03	0 / +0,003 mm	75	19	47	4	6		0.1	403	●
4.97	0 / +0,003 mm	86	23	58	5	6		0.1	497	●
4.98	0 / +0,003 mm	86	23	58	5	6		0.1	498	●
4.99	0 / +0,003 mm	86	23	58	5	6		0.1	499	●
5	0 / +0,003 mm	86	23	58	5	6		0.1	500	●
5.01	0 / +0,003 mm	86	23	58	5	6		0.1	501	●
5.02	0 / +0,003 mm	86	23	58	5	6		0.1	502	●

							Surface	Uncoated	
mm		mm	mm	mm	h6 mm	z	f steel 1000 ● (mm/r)	11624... Ident. No.	
5.03	0 / +0,003 mm	86	23	58	5	6	0.1	503	●
5.97	0 / +0,003 mm	93	26	57	6	6	0.1	597	●
5.98	0 / +0,003 mm	93	26	57	6	6	0.1	598	●
5.99	0 / +0,003 mm	93	26	57	6	6	0.1	599	●
6	0 / +0,003 mm	93	26	57	6	6	0.1	600	●
6.01	0 / +0,003 mm	101	28	65	6	6	0.1	601	●
6.02	0 / +0,003 mm	101	28	65	6	6	0.12	602	●
6.03	0 / +0,003 mm	101	28	65	6	6	0.12	603	●
6.97	0 / +0,003 mm	109	31	73	8	6	0.12	697	○
6.98	0 / +0,003 mm	109	31	73	8	6	0.12	698	●
6.99	0 / +0,003 mm	109	31	73	8	6	0.12	699	●
7	0 / +0,003 mm	109	31	73	8	6	0.12	700	●
7.01	0 / +0,003 mm	109	31	73	8	6	0.12	701	●
7.02	0 / +0,003 mm	109	31	73	8	6	0.12	702	●
7.03	0 / +0,003 mm	109	31	73	8	6	0.12	703	●
7.97	0 / +0,003 mm	117	33	81	8	6	0.12	797	○
7.98	0 / +0,003 mm	117	33	81	8	6	0.12	798	●
7.99	0 / +0,003 mm	117	33	81	8	6	0.12	799	●
8	0 / +0,003 mm	117	33	81	8	6	0.12	800	●
8.01	0 / +0,003 mm	117	33	81	8	6	0.13	801	●
8.02	0 / +0,003 mm	117	33	81	8	6	0.13	802	●
8.03	0 / +0,003 mm	117	33	81	8	6	0.13	803	●
9	0 / +0,003 mm	125	36	85	10	6	0.13	900	●
9.01	0 / +0,003 mm	125	36	85	10	6	0.13	901	●
9.02	0 / +0,003 mm	125	36	85	10	6	0.13	902	●
9.03	0 / +0,003 mm	125	36	85	10	6	0.13	903	●
9.97	0 / +0,003 mm	133	38	93	10	6	0.13	997	●
9.98	0 / +0,003 mm	133	38	93	10	6	0.13	998	●
9.99	0 / +0,003 mm	133	38	93	10	6	0.13	009	●
10	0 / +0,003 mm	133	38	93	10	6	0.13	010	●
10.01	0 / +0,003 mm	133	38	93	10	6	0.13	011	●
10.02	0 / +0,003 mm	133	38	93	10	6	0.13	012	●
10.03	0 / +0,003 mm	133	38	93	10	6	0.13	013	●
11.98	0 / +0,003 mm	151	44	111	10	6	0.15	014	●
11.99	0 / +0,003 mm	151	44	111	10	6	0.15	015	●
12	0 / +0,003 mm	151	44	111	10	6	0.15	016	●
12.01	0 / +0,003 mm	151	44	111	10	6	0.15	017	●
12.02	0 / +0,003 mm	151	44	111	10	6	0.15	018	●
12.03	0 / +0,003 mm	151	44	111	10	6	0.15	019	●

Prod. Gr. 1BH

ATORN NC machine reamer set, 1/100 mm HSSE with standard shaft (DIN 212 similar)

For universal use up to 1,000 N/mm²

Application:
For producing fit tolerances in through holes (nominal size=0/+0.003 mm) on a NC machine or conventional machines up to 1000 N/mm².

Execution:
- 7-8° left-hand spiral, type B up to diameter 2.03 mm with dual-sided centring point and continuous shank, type D from diameter 2.98 mm with centring hole and offset shank

Advantage:
- good bore hole quality (dimensional tolerance, roundness, surface quality)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	12	9	7	8	7	17	17	17	17	13	13	13		11	5	5	5		

Included in delivery	Tolerance of fit	Number of pieces in assortment/set (PCS)	Surface Uncoated 11622... Ident. No.	
3 / 4 / 5 / 6 / 8 / 10 / 12	0 / +0,003 mm	7	010	●
2.98/3.0/3,01/3.02/3.98/4.00/4.01/4.02/4.98/5.00/5.01/5.02/5.98/6.00/6.01/6.02/7.98/8.00/8.01/8.02/9.98/10.00/10.01/10.02	0 / +0,003 mm	24	015	●
0.98/0.99/1.00/1.01/1.02/1.98/1.99/2.00/2.01/2.02/2.98/2.99/3.00/3.01/3.02/3.98/3.99/4.00/4.01/4.02/4.98/4.99/5.00/5.01/5.02	0 / +0,003 mm	25	030	●
-	0 / +0,003 mm	25	040	○

Prod. Gr. 1BH

HSSE machine reamers with selectable diameter and fit

Application:
For cutting individually selectable fit tolerances on conventional machines and CNC machines.

0,00X | HSSE

Advantage:
- Broad range of diameters from 0.95 mm to 20.00 mm
- Individually selectable diameters and tolerances
- Short delivery times
- Extremely long service life
- Very precise grinding according to DIN 1420
- For universal use

ATORN HSSE NC machine reamer with standard shank (fit tolerance and diameter can be selected) (DIN 212 similar)

For universal use up to 1,000 N/mm²

HSSE | ≈7–8° | HA

Application:
for producing fit tolerances in through holes on NC machines or conventional machines up to 1000 N/mm².

Execution:
- 7–8° left-hand spiral, type B

Advantage:
- high-quality HSSE cutting material for a very long service life
- good bore hole quality (dimensional tolerance, roundness, surface quality)
- **No. 11624:** Diameter and fit can be ordered to suit, shortest possible delivery time
- **No. 11625:** Delivered ex stock

Notes:
No. 11624: Caution: when ordering, specify the **diameter and fit tolerance** (for example 8.53 H7)
No. 11625: When ordering, please only enter the diameter. The tolerance cannot be selected (e.g. 8.53 mm +0.005 mm)

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	12	9	7	8	7	17	17	17	17	13	13			11	5	5			

Min./max. optional Ø		mm	mm	mm	mm	z	f steel 1300 ● (mm/r)	11624... Ident. No.		11625... Ident. No.	
0.95-1.06 mm	Optional	34	6	13	1	3	0.12	911	○	-	-
0.95-1.06 mm	0 / +0,004 mm	34	5.5	13	1	3	0.12	-	-	500	○
1.07-1.18 mm	Optional	36	7.05	14	1	3	0.12	912	○	-	-
1.07-1.18 mm	0 / +0,004 mm	36	6.5	14	1	3	0.12	-	-	502	○
1.19-1.32 mm	Optional	38	8.1	13	2	3	0.12	913	○	-	-
1.19-1.32 mm	0 / +0,004 mm	38	7.5	13	2	3	0.12	-	-	504	○
1.33-1.41 mm	Optional	40	8.7	15	2	3	0.12	914	○	-	-
1.33-1.41 mm	0 / +0,004 mm	40	8	15	2	3	0.12	-	-	506	○
1.42-1.50 mm	Optional	40	8.75	22	2	3	0.12	992	○	-	-
1.42-1.50 mm	0 / +0,004 mm	40	8	22	2	3	0.12	-	-	508	○
1.51-1.70 mm	Optional	43	9.8	23	2	3	0.12	993	○	-	-
1.51-1.70 mm	0 / +0,004 mm	43	9	23	2	3	0.12	-	-	510	○
1.71-1.90 mm	Optional	46	10.9	20	2	4	0.12	915	○	-	-
1.71-1.90 mm	0 / +0,004 mm	46	10	20	2	4	0.12	-	-	512	○
1.91-2.12 mm	Optional	49	12	22	2	4	0.12	916	○	-	-
1.91-2.12 mm	0 / +0,004 mm	49	11	22	2	4	0.12	-	-	514	○
2.13-2.36 mm	Optional	53	13.1	21	3	4	0.12	917	○	-	-
2.13-2.36 mm	0 / +0,004 mm	53	12	21	3	4	0.12	-	-	516	○
2.37-2.65 mm	Optional	57	15.25	26	3	4	0.12	918	○	-	-
2.37-2.65 mm	0 / +0,004 mm	57	14	26	3	4	0.12	-	-	518	○
2.66-2.80 mm	Optional	61	16.4	30	3	6	0.12	994	○	-	-
2.66-2.80 mm	0 / +0,004 mm	61	15	30	3	6	0.12	-	-	520	○
2.81-3.00 mm	Optional	61	16.5	30	3	6	0.12	919	○	-	-
2.81-3.00 mm	0 / +0,004 mm	61	15	30	3	6	0.12	-	-	522	○
3.01-3.35 mm	Optional	65	17.6	33	4	6	0.12	921	○	-	-
3.01-3.35 mm	0 / +0,004 mm	65	16	33	4	6	0.12	-	-	524	○
3.36-3.75 mm	Optional	70	18	39	4	6	0.12	922	○	-	-
3.36-3.75 mm	0 / +0,004 mm	70	18	39	4	6	0.12	-	-	526	○
3.76-4.05 mm	Optional	75	19	46	4	6	0.12	923	○	-	-
3.76-4.05 mm	0 / +0,004 mm	75	19	46	4	6	0.12	-	-	528	○
4.06-4.25 mm	Optional	75	19	46	4	6	0.12	924	○	-	-
4.06-4.25 mm	0 / +0,004 mm	75	19	46	4	6	0.12	-	-	530	○
4.26-4.75 mm	Optional	80	21	51	5	6	0.12	925	○	-	-
4.26-4.75 mm	0 / +0,004 mm	80	21	51	5	6	0.12	-	-	532	○
4.76-5.05 mm	Optional	86	23	57	5	6	0.12	927	○	-	-
4.76-5.05 mm	0 / +0,004 mm	86	23	57	5	6	0.12	-	-	534	○
5.06-5.30 mm	Optional	86	23	57	5	6	0.12	929	○	-	-
5.06-5.30 mm	0 / +0,004 mm	86	23	57	5	6	0.12	-	-	536	○

Min./max. optional Ø		mm	mm	mm	mm	z	f steel 1300 ● (mm/r)	11624... Ident. No.		11625... Ident. No.	
5.31-5.60 mm	Optional	93	26	56	5	6	0.12	995	○	-	-
5.31-5.60 mm	0 / +0,004 mm	93	26	56	5	6	0.12	-	-	538	○
5.61-6.00 mm	Optional	93	26	56	6	6	0.12	931	○	-	-
5.61-6.00 mm	0 / +0,005 mm	93	26	56	6	6	0.12	-	-	540	○
6.01-6.70 mm	Optional	101	28	64	6	6	0.12	933	○	-	-
6.01-6.70 mm	0 / +0,005 mm	101	28	64	6	6	0.12	-	-	542	○
6.71-7.05 mm	Optional	109	31	72	8	6	0.12	935	○	-	-
6.71-7.05 mm	0 / +0,005 mm	109	31	72	8	6	0.12	-	-	544	○
7.06-7.50 mm	Optional	109	31	72	8	6	0.12	937	○	-	-
7.06-7.50 mm	0 / +0,005 mm	109	31	72	8	6	0.12	-	-	546	○
7.51-8.05 mm	Optional	117	33	80	8	6	0.15	939	○	-	-
7.51-8.05 mm	0 / +0,005 mm	117	33	80	8	6	0.15	-	-	548	○
8.06-8.50 mm	Optional	117	33	80	8	6	0.15	941	○	-	-
8.06-8.50 mm	0 / +0,005 mm	117	33	80	8	6	0.15	-	-	550	○
8.51-9.05 mm	Optional	125	36	84	10	6	0.15	943	○	-	-
8.51-9.05 mm	0 / +0,005 mm	125	36	84	10	6	0.15	-	-	552	○
9.06-9.50 mm	Optional	125	36	84	10	6	0.15	945	○	-	-
9.06-9.50 mm	0 / +0,005 mm	125	36	84	10	6	0.15	-	-	554	○
9.51-10.05 mm	Optional	133	38	92	10	6	0.15	954	○	-	-
9.51-10.05 mm	0 / +0,005 mm	133	38	92	10	6	0.15	-	-	556	○
10.06-10.60 mm	Optional	133	38	92	10	6	0.15	955	○	-	-
10.06-10.60 mm	0 / +0,005 mm	133	38	92	10	6	0.15	-	-	558	○
10.61-11.05 mm	Optional	142	41	101	10	6	0.15	957	○	-	-
10.61-11.05 mm	0 / +0,005 mm	142	41	101	10	6	0.15	-	-	560	○
11.06-11.80 mm	Optional	142	41	101	10	6	0.15	958	○	-	-
11.06-11.80 mm	0 / +0,005 mm	142	41	101	10	6	0.15	-	-	562	○
11.81-12.05 mm	Optional	151	44	110	10	6	0.15	959	○	-	-
11.81-12.05 mm	0 / +0,005 mm	151	44	110	10	6	0.15	-	-	564	○
12.06-12.60 mm	Optional	151	44	110	10	6	0.15	961	○	-	-
12.61-13.20 mm	Optional	151	44	110	10	6	0.15	963	○	-	-
13.21-13.55 mm	Optional	160	47	113	14	8	0.15	965	○	-	-
13.56-14.00 mm	Optional	160	47	113	14	8	0.15	967	○	-	-
14.01-14.50 mm	Optional	162	50	115	14	8	0.15	969	○	-	-
14.51-15.00 mm	Optional	162	50	115	14	8	0.18	971	○	-	-
15.01-15.50 mm	Optional	170	52	123	14	8	0.18	973	○	-	-
15.51-16.00 mm	Optional	170	52	123	14	8	0.18	975	○	-	-
16.01-16.50 mm	Optional	175	54	129	14	8	0.18	977	○	-	-
16.51-17.00 mm	Optional	175	54	129	14	8	0.18	979	○	-	-
17.01-17.50 mm	Optional	182	56	136	14	8	0.18	981	○	-	-
17.51-18.00 mm	Optional	182	56	136	14	8	0.18	983	○	-	-
18.01-18.50 mm	Optional	189	58	140	16	8	0.2	985	○	-	-
18.51-19.00 mm	Optional	189	58	140	16	8	0.2	987	○	-	-
19.01-19.50 mm	Optional	195	60	146	16	8	0.2	989	○	-	-
19.51-20.00 mm	Optional	195	60	146	16	8	0.2	991	○	-	-

Prod. Gr. 1BK

HSS/HSSE rivet hole reamers and machine taper reamers

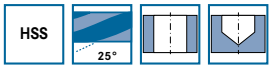
Application:
For the production of conical tolerances for tapered pins and rivet holes on conventional and CNC machines.

HSS | HSSE

Advantage:
- Wide range
- Very good surfaces can be achieved
- Different shank variants
- Very high feed rates can be achieved
- Other allowances available on request

ORION® HSS rivet hole reamer (DIN 311)

For universal use up to 1,000 N/mm²



Application:
For reaming rivet holes that must be perfectly aligned to one another. On both conventional machines and NC machines up to 1000 N/mm².

Execution:
- 25° left-hand spiral, cone-shaped section 1:10 on taper lead length

Advantage:
- good bore hole quality (dimensional tolerance, roundness, surface quality)
- excellent cutting performance due to stripping cut

Technical data:
- Min. diameter: 30.0 mm
- Max. diameter: 10.0 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	12	9	7	8	7	17	17	17	17	13	13			11	5	5			

mm	Lead angle length (mm)	mm	mm		z	f steel 1000 ● (mm/r)	11670... Ident. No.	
10	30	171	95	MK 1	4	0.15	100	●
11	33	176	100	MK 1	5	0.15	110	●
12	39	199	105	MK 2	5	0.15	120	●
13	39	199	105	MK 2	5	0.15	130	●
14	42	209	115	MK 2	5	0.15	140	●
15	45	219	125	MK 2	5	0.15	150	●
16	48	229	135	MK 2	5	0.2	160	●
17	51	251	135	MK 3	5	0.2	170	●
18	58	261	145	MK 3	5	0.2	180	●
19	58	261	145	MK 3	5	0.2	190	●
20	62	271	155	MK 3	5	0.25	200	●
21	62	271	155	MK 3	5	0.25	210	●
22	66	281	165	MK 3	5	0.25	220	●
23	66	281	165	MK 3	5	0.25	230	●
24	72	296	180	MK 3	5	0.25	240	●
25	72	296	180	MK 3	5	0.25	250	●
26	72	296	180	MK 3	5	0.25	260	●
27	78	311	195	MK 3	5	0.25	270	○
28	78	311	195	MK 3	5	0.25	280	●
30	78	311	195	MK 3	5	0.3	300	●

Prod. Gr. 104

ATORN High-helix taper pin shell reamers 1:50 (DIN 2179)

For universal use up to 1,000 N/mm²

Application:
for cutting tapered fit tolerances 1:50 for taper pins in accordance with DIN 258, DIN EN 22339, 28737, 28736 on conventional machines and NC machines up to 1000 N/mm².

Execution:
- 45° left-hand spiral, 1:50 taper and straight shank with retaining lugs

Advantage:
- good bore hole quality (dimensional tolerance, roundness, surface quality)

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	12	9	7	8	7	17	17	17	17	13	13	13		11	5	5	5		

mm	Min. cutting edge Ø (mm)	Max. cutting edge Ø (mm)	mm	mm	mm	z	f steel 1000 ● (mm/r)	ATORN 11674... Ident. No.	
1.5	1.4	2.14	70	37	2.1	2	0.1	015	●
2	1.9	2.86	86	48	3.15	2	0.1	020	●
2.5	2.4	3.36	86	48	3.15	3	0.1	025	○
3	2.9	4.06	100	58	4	3	0.1	030	●
4	3.9	5.26	112	68	5	3	0.1	040	●
5	4.9	6.36	122	73	6.3	3	0.1	050	●
6	5.9	8	160	105	8	3	0.1	060	●
6.5	6.4	8.78	188	119	8.5	3	0.15	065	○
8	7.9	10.8	207	145	10	3	0.15	080	●
10	9.9	13.4	245	175	12.5	3	0.2	100	●
12	11.8	16	290	210	16	3	0.2	120	●

Prod. Gr. 1BH

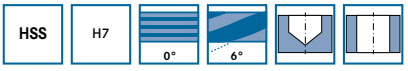
HSS hand reamers

Application:
For manually producing H7 or 1/100 tolerances and reworking existing tolerances

Advantage:
- Cost-effective alternative for manual work
- Long threaded start to correctly align the reamer
- Adjustable variants
- Straight and spiral designs
- The square shank serves as a carrier
- For universal use

ATORN ORION® HSS hand reamers

For universal use up to 1,000 N/mm²



No. 11602 015–11602 400, 11604 015–11604 400

No. 11603

Application:
No. 11602 015–11602 400, 11604 015–11604 400: For cutting H7 fit tolerances manually in through holes or with interrupted cutting conditions up to 1000 N/mm².
No. 11603: For cutting H7 fit tolerances manually in the blind hole up to 1000 N/mm².

Execution:
- **No. 11602 015–11602 400, 11604 015–11604 400:** 6° left-hand spiral, uneven pitch and long notch shape
- **No. 11603:** 7-8° left-hand spiral, uneven pitch and long notch shape

Advantage:
- Good bore hole quality (dimensional tolerance, roundness, surface quality)

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●	○	○	○	●	○	●	○	●	○	○		○	○	○			

						ATORN		ORION		ATORN	
					Form	B		B		A	
					Groove type	Left-hand twist, 6°		Left-hand twist, 6°		Straight	
mm		mm	mm	z	mm	11602... Ident. No.		11604... Ident. No.		11603... Ident. No.	
1.5	H7	41	20	4	1.12	015	●	015	●	-	-
2	H7	50	25	4	1.6	020	●	020	●	020	●
2.5	H7	58	29	4	2	025	●	025	●	-	-
3	H7	62	31	6	2.4	030	●	030	●	030	●
3.5	H7	71	35	6	2.7	035	●	035	●	-	-
4	H7	76	38	6	3	040	●	040	●	040	●
4.5	H7	81	41	6	3.4	045	●	045	●	-	-
5	H7	87	44	6	3.8	050	●	050	●	050	●
6	H7	93	47	6	4.9	060	●	060	●	060	●
7	H7	107	54	6	5.5	070	●	070	●	-	-
8	H7	115	58	6	6.2	080	●	080	●	080	●
9	H7	124	62	6	7	090	●	090	●	090	●
10	H7	133	66	6	8	100	●	100	●	100	●
11	H7	142	71	8	9	110	●	110	●	-	-
12	H7	152	76	8	9	120	●	120	●	120	●
13	H7	152	76	8	10	130	●	130	●	-	-
14	H7	163	81	8	11	140	●	140	●	140	●
15	H7	163	81	8	12	150	●	150	●	-	-
16	H7	175	87	8	12	160	●	160	●	160	●
17	H7	175	87	8	13	-	-	170	●	170	●
18	H7	188	93	8	14.5	180	●	180	●	180	●
19	H7	188	93	8	14.5	-	-	190	●	-	-
20	H7	201	100	10	16	-	-	200	●	200	●
20	H7	201	100	8	16	200	●	-	-	-	-
22	H7	215	107	10	18	220	●	220	●	-	-
24	H7	231	115	10	18	240	●	240	●	-	-
25	H7	231	115	10	20	250	●	250	●	-	-
26	H7	231	115	10	20	-	-	260	●	-	-
28	H7	247	124	10	22	-	-	280	●	-	-
30	H7	247	124	10	24	300	●	300	●	-	-
32	H7	265	133	12	24	320	●	320	●	-	-
35	H7	284	142	12	29	350	●	350	●	-	-
40	H7	305	152	12	32	400	○	400	●	-	-

ATORN® = Prod. Gr. 1BH
ORION = Prod. Gr. 104

ATORN HSS hand reamer set (DIN 206)

For universal use up to 1,000 N/mm²

Application:
For cutting H7 fit tolerances manually in through holes or with interrupted cutting conditions up to 1000 N/mm².

Execution:
- 6° left-hand spiral, uneven pitch and long notch shape

Advantage:
- Good bore hole quality (dimensional tolerance, roundness, surface quality)

Composition of set		Diameters 1.5/2/2.5/3/3.5/4/4.5/5/5.5/6/6.6/7/7.5/8/8.5/9/9.5/10
Tolerance of fit		H7
Number of pieces in assortment/set (PCS)		19
11602...	Ident. No.	900 ●

Prod. Gr. 1BH

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●	○	○	○	●	○	●	○	●	○	○		○	○	○			

ORION® Adjustable HSS hand reamer (DIN 859)

For universal use up to 1,000 N/mm²

HSS

Application:
For cutting custom fit tolerances with minimal oversize up to 1000 N/mm².

Execution:
- 7-8° left-hand spiral, with guide and counter-nut, from diameter 8 with slotted design, reamers are ground to the nominal size. The adjustability lies within the elasticity limits of steel and is 1/100 of the diameter.
- ISO-square according to DIN 10

Advantage:
- Individual cutting of fit tolerances by hand
- User-friendly adjustment

Notes:
Store reamers in untensioned state! Adjustability: dia. 6 mm–10 mm approx. 0.10 mm, adjustable diameter 11 mm–15 mm, approx. 0.15 mm, adjustable diameter 16 mm–22 mm, approx. 0.20 mm, adjustable diameter 23 mm–30 mm, approx. 0.30 mm adjustable

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●	○	○	○	●	○	●	○	●	○	○		○	○	○			

Cutting edge Ø (mm)	Length (mm)	Cutting edge length (mm)	Shank square (mm)	11606... Ident. No.	
6	93	47	4.5	060	●
7	107	54	5.6	070	●
8	115	58	6.3	080	●
9	124	62	7.1	090	●
10	133	66	8	100	●
11	142	71	9	110	●
12	152	76	10	120	●
13	152	76	10	130	●
14	163	81	11.2	140	●
15	163	81	11.2	150	●
16	175	87	12.5	160	●

Cutting edge Ø (mm)	Length (mm)	Cutting edge length (mm)	Shank square (mm)	11606... Ident. No.	
17	175	87	12.5	170	●
18	188	93	14	180	●
19	188	93	14	190	●
20	201	100	16	200	●
22	215	107	18	220	●
24	231	115	20	240	●
25	231	115	20	250	●
26	231	115	20	260	○
28	247	124	22.4	280	●
30	247	124	22.4	300	●

Prod. Gr. 104

ATORN Reamer, quick-adjustment

For universal use up to 1,000 N/mm²

HSS

Application:
For cutting custom fit tolerances with respective adjustment range up to 1000 N/mm².

Execution:
- Straight design, the blades are relief ground eccentrically and circular ground before cutting; the circular grinding step guarantees excellent guidance and ensures centric cutting, reamer adjustment range is marked both in millimetres and inches (with setting scale from 12 mm diameter [1 increment = 0.01 mm])
- ISO-square according to DIN 10

Advantage:
- Individual cutting of fit tolerances by hand
- User-friendly adjustment

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●	○	○	○	●	○	●	○	●	○	○		○	○	○			

						Reamer, quick-adjustment		Spare nuts for quick-adjustment reamer		Spare blade set for quick-adjustment reamer	
Min./max. adjustment range	Min./max. adjustment range (inch)	Size	Cutting edge length (mm)	Shank square (mm)	Number of blades (PCS)	11610... Ident. No.		11614... Ident. No.		11612... Ident. No.	
6.4-7.2 mm	1/4-9/32 in	000	32	3	4	010	●	480	○	010	○
7.2-8.0 mm	9/32-5/16 in	00	32	3.5	4	020	●	490	○	020	○
8.0-9.0 mm	5/16-23/64 in	0	32	4.3	5	030	●	500	○	030	○
9.0-10.0 mm	23/64-25/64 in	01	32	4.3	5	040	●	510	○	040	●
10.0-11.0 mm	25/64-7/16 in	02	32	4.9	5	050	●	520	○	050	○
11.0-12.0 mm	7/16-15/32 in	03	35	6.2	5	060	●	530	○	060	○
12.0-13.5 mm	15/32-17/32 in	04	42	6.2	5	070	●	540	●	070	○
13.5-15.5 mm	17/32-39/64 in	05	50	7	5	080	●	550	●	080	○
15.5-18.0 mm	39/64-45/64 in	06	60	8	5	090	●	560	●	090	○
18.0-21.0 mm	45/64-53/64 in	07	65	9	5	100	●	570	○	100	●
21.0-24.0 mm	53/64-61/64 in	08	70	10	5	110	●	580	○	110	○
24.0-27.5 mm	61/64-1-5/64 in	09	75	11	5	120	●	590	○	120	○
27.5-31.5 mm	1-5/64-1-15/64 in	10	80	12	6	130	●	600	○	130	●
31.5-37.5 mm	1-15/64-1-29/64 in	11	90	14.5	6	140	●	610	○	140	○
37.0-45.0 mm	1-29/64-1-49/64 in	12	100	16	6	150	●	620	○	150	○
45.0-55.0 mm	1-49/64-2-5/32 in	13	109	20	6	160	●	630	○	160	○

Prod. Gr. 111

ATORN HSS hand taper reamers 1: 50 (DIN 9)

For universal use up to 1,000 N/mm²

No. 11672

No. 11673

Application:

No. 11672: For cutting tapered fit tolerances 1:50 (without cutting interruption) manually up to 1000 N/mm².

No. 11673: For cutting tapered fit tolerances 1:50 (also suitable for cutting interruption) manually up to 1000 N/mm².

Execution:

- **No. 11672:** Straight grooves, with conical cutter, type A
- **No. 11673:** Twisted with conical cutter, type B

Advantage:

- Good bore hole quality (dimensional tolerance, roundness, surface quality)

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●	○	○	○	●	○	●	○	●	○	○		○	○	○			

						Form	A		B	
mm	Min. cutting edge Ø (mm)	Max. cutting edge Ø (mm)	mm	mm	mm	z	11672... Ident. No.		11673... Ident. No.	
1.5	1.4	2.14	57	37	2.4	3	015	●	-	-
2	1.9	2.86	68	48	2.4	3	020	●	-	-
2.5	2.4	3.36	68	48	2.4	4	025	●	-	-
3	2.9	4.06	80	58	3	5	030	●	030	●
4	3.9	5.26	93	68	3.8	5	040	●	040	●
5	4.9	6.36	100	73	4.9	5	050	●	050	●
6	5.9	8	135	105	6.2	6	060	●	060	●
8	7.9	10.8	180	145	8	6	080	●	080	●
10	9.9	13.4	215	175	10	6	100	●	100	●
12	11.8	16	255	210	11	8	120	●	120	●
13	12.8	17	255	210	12	8	-	-	130	●
14	13	18	255	194	12	8	-	-	140	●
16	15.8	20.4	280	230	14.5	8	-	-	160	●
20	19.8	24.8	310	250	18	10	-	-	200	●

Prod. Gr. 1BH

Mounting instructions SC HPC machine reamer modular
Mounting of solid carbide interchangeable heads

Note: To avoid the risk of injury, we recommend wearing gloves

1. Clean the interchangeable head with compressed air and a cloth on the tapered contact face and thread.

2. Clean the interchangeable head holder with compressed air and a cloth on the tapered contact face and thread.

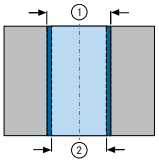
3. Then screw the interchangeable head clockwise by hand into the interchangeable head holder. Afterwards, clamp the interchangeable head holder and tool into the machine holder.

4. Position the torque wrench as horizontally as possible onto the interchangeable head without tilting the wrench surface.
Tighten the interchangeable head using the torque wrench and the appropriate open-end plug-in tool to the specified tightening torque.

Tightening torques of the interchangeable heads:

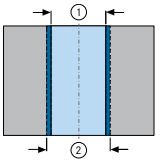
Separation point size WKS	Tightening torque [Nm]
6	5
8	12,5
10	15
12	20
16	25

Troubleshooting when reaming



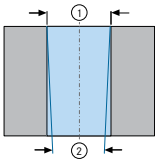
① Reaming dimension
② Nominal dimension

Bore hole too large
- Cutting speed too high
- Tool diameter too large
- Formation of built-up edges
- Reamer cut too short or uneven
- Excessive amount of oil in the cooling lubricant
- Radial run-out of the spindle or tool
- Misalignment between drill bit and reamer



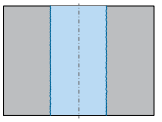
Bore hole too small
- Cutting speed too low
- Very thin-walled workpiece
- Tool wear limit reached
- Insufficient reaming allowance

① Reaming dimension ② Nominal dimension

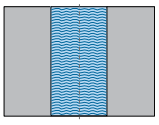


Bore hole is tapered
- Radial run-out of the spindle or tool
- Pre-bored hole too imprecise
- Misalignment between drill bit and reamer
- Incorrect angle

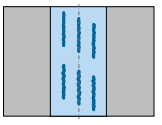
① Reaming dimension ② Incorrect dimension



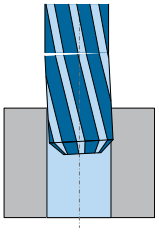
Poor surface quality
- Poor chip removal
- Cutting speed/feed too high
- Built-up edges due to insufficient or no cooling
- Breakouts at the tool cutting edge
- Existing poor surface created during pre-drilling



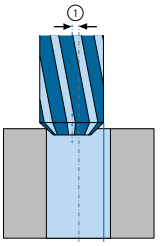
Feed scoring marks in the bore hole
- Breakouts at the tool cutting edge
- Cutting speed/feed too low
- Tool wear limit reached
- Formation of built-up edges
- Misalignment between drill bit and reamer



Chatter marks in the bore hole
- Formation of built-up edges
- Insufficient amount of oil in the cooling lubricant
- Insufficient reaming allowance
- Reamer clamped incorrectly or too loosely
- Radial run-out of the spindle or tool
- Circular grinding chamfer too narrow

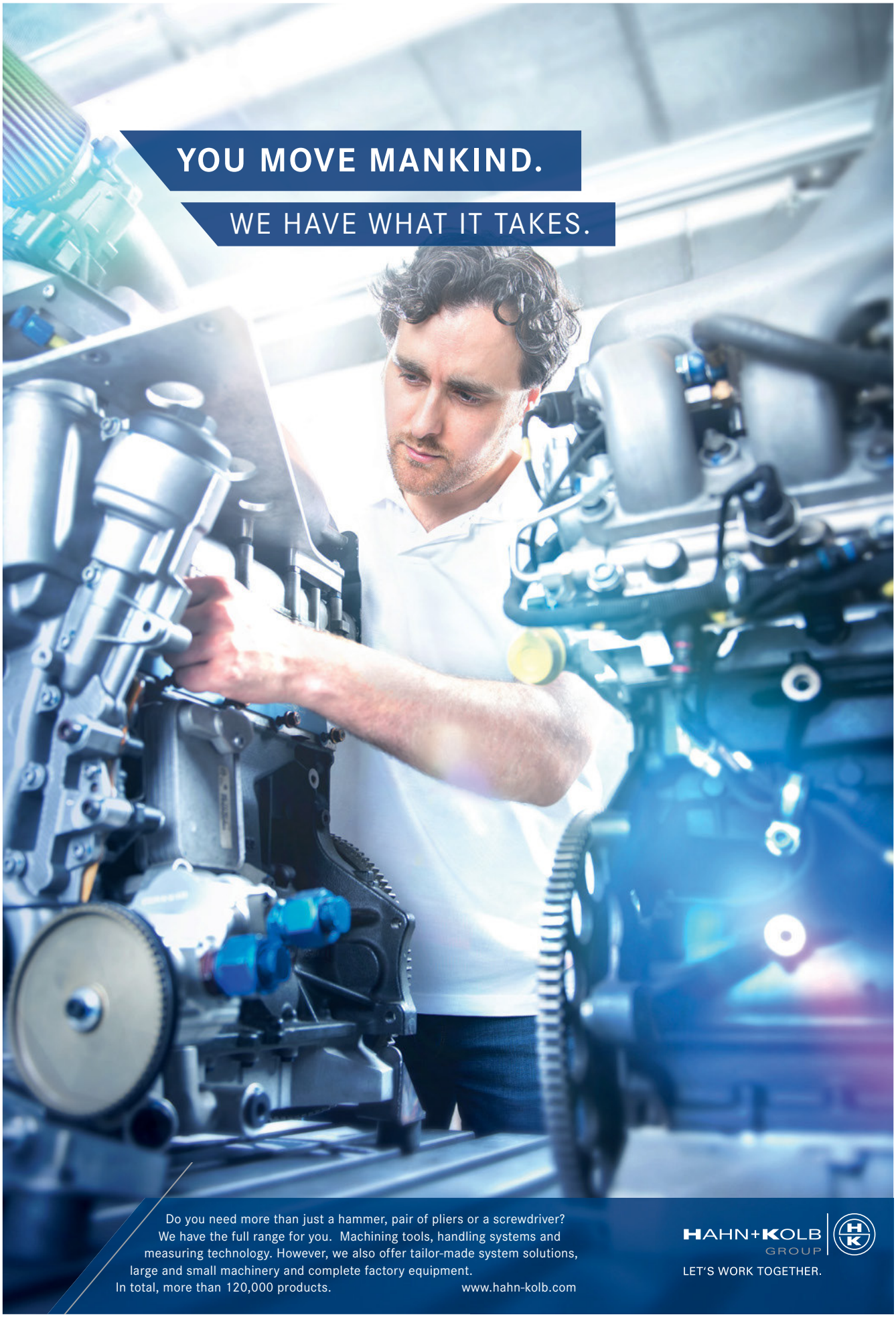


Reamer jams and breaks
- Misalignment between drill bit and reamer
- Feed too high
- Excessive reaming allowance
- Poor chip removal
- Circular grinding chamfer too wide
- Insufficient taper
- First cut incorrectly ground



Incorrect bore hole position
- Misalignment between drill bit and reamer
- Radial run-out of the spindle or tool
- If necessary, work with bottoming reamer

① Alignment offset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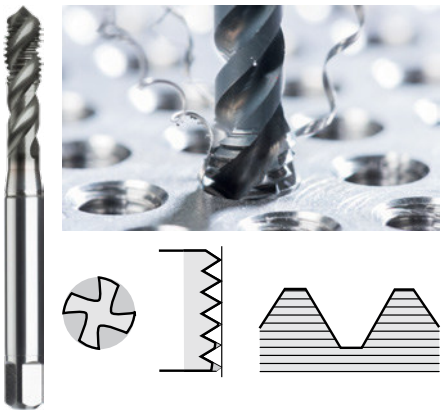
Female thread creation: Screw tapping

When creating a thread by tapping, a core hole and counterbore must be made in the material. The screw tap carries out the cutting motion. Thus, the thread pitch determines the feed rate. Material is cut out and the chips are removed via flutes.

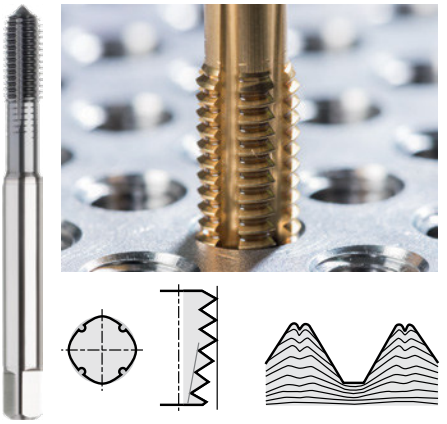


Advantages:
- high machining speed
- cost-effective tools
- simple tool handling and well-known procedure
- broad field of application
- use on simple machines possible
- regrindable tools

Disadvantages:
- clamping problems with very deep threads
- screw tap breakage with difficult materials
- average surface quality
- risk of axial cutting (taper)
- of the thread
- tapping chuck required

Female thread creation: Thread forming (thread tapping)

In contrast to tapping, where sections are cut out of the material, the process of thread forming does not involve cutting. The material is made to flow through the polygon shape of the thread former. The fibre pattern is not interrupted.

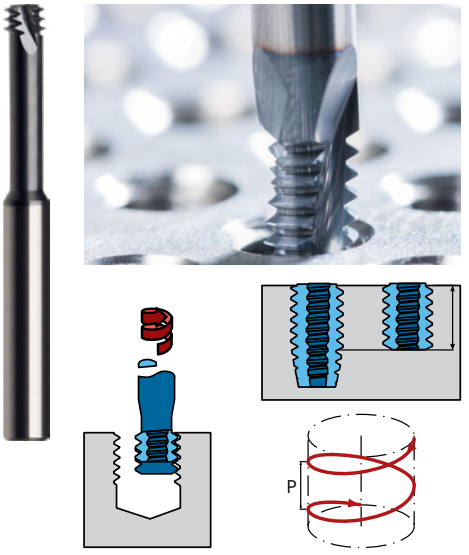


Advantages:
- Very high working speed and process reliability
- Very high surface quality
- One tool for through hole and blind hole
- No clamping problems
- Higher thread strength
- Tools are easier to use
- Long service life, less breakage
- Deep threads

Disadvantages:
- Higher torque
- Special pre-drilling diameter with tight tolerance
- Incomplete moulding of cores (claw)
- Minimum expansion of tool must be ensured
- Regrinding not possible
- Lubrication essential
- Where used in the food or medicine industries, there is a risk of germ build-up in the area of the moulding recess.

Female thread creation: Milling cutter

The development of computer-controlled machines has made the thread milling procedure another option for creating internal threads. The thread is produced by the helical diagonal immersion of a rotating tool. In the process, the axial movement of the tool during one revolution produces the pitch. A CNC machine with at least three axes is required (XYZ).



Advantages, tool cost minimisation:
- right-hand and left-hand thread can be manufactured with a tool
- thread milling cutters cover different threads with the same pitch
- for partial thread profiles, a wide range of threads can be produced with a cutting insert

Advantages, process reliability:
- Extremely high process reliability for very expensive components
- Reliable solution for problem materials with chip breaking issues and difficult chip formation
- First choice for thin-walled workpieces or unstable clamping
- High thread quality
- Thread can be produced down to the bottom of a blind hole
- Radius compensation programming enables thread tolerance to be adjusted easily

Disadvantages:
- Machine requirements (XYZ axes)
- In series production, usually longer machining times
- Limited experience of the user in thread milling

Thread production process at a glance

	Screw tapping	Thread forming	Milling cutter
Process reliability	o	+	++
Surface quality	o	++	+
Machining speed	+	++	o
Service life	o	++	+
Flexibility/universal use	o	+	++
Thread depth	o	++	++

o = limited suitability | + = well suited | ++ = very well suited

Tolerances for threads

standards ensure that male and female threads of the desired form fit together. depending on the application, the appropriate tolerance must be taken into account for the screw tap or thread former. in thread milling, the tolerance can be produced as desired using radius correction. the graphic shows the different tolerance classes and their use.

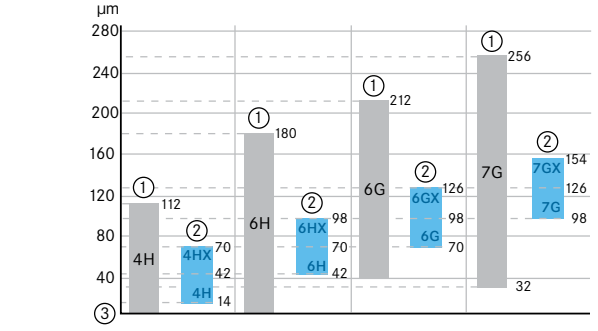
DIN EN 22857		Tolerance range of nut thread to be cut					DIN 802 part 1	Technical application
Application class of the screw tap							Tolerance class of the screw tap	
Name	Identification							
Class 1	ISO 1	4H	5H				4H	Screw connection with little play
Class 2	ISO 2			6H			6H	Standard screw connection
Class 3	ISO 3				6G		6G	Screw connection with a lot of play
–	–					7		As a preventive measure against warping in heat treatment

The graphic shows the position of the tolerance field of the nut thread in the different tolerance classes, e.g. 6H (marked in grey). The blue tolerance fields show the position of the tolerance field for the corresponding screw taps or thread formers.

It can be advantageous to produce screw taps and thread formers in a different tolerance class. This tolerance is indicated by an X after the tolerance class (e.g. 6HX instead of 6H). The X represents a manufacturer-specific tolerance and can differ between manufacturers.

Tough materials have recoiling properties. To counteract this effect, the X range is used in the ATORN thread cutting programme for these tough materials. Screw taps for titanium and nickel alloys, for example, are produced in the X range.

Where abrasive materials (those with friction or a grinding effect) are concerned, it also makes sense to produce tools in the X range. This results in a longer service life, because the screw taps are still within tolerance even having been subject to wear. The red ring screw tap for cast and short-chipping non-ferrous metals is produced in this tolerance range.



① Nut thread tolerance field ② Screw tap tolerance class ③ Tolerances

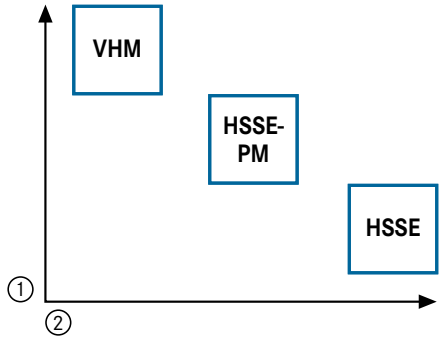
Cutting materials and cutting process during thread cutting

The following list of cutting materials is used for female thread machining in the screw tapping, thread moulding and thread milling processes. The graphic shows the toughness/breaking strength parameters in comparison to wear resistance/hardness.

SC — solid carbide
- Very high level of hardness
- Cutting material for applications up to 65 HRC
- Very high cutting speed, high precision

HSSE-PM — high speed steel, powder metal
- Cutting material for applications up to 1300 N/mm²
- Medium to high cutting speed
- High elasticity, high cutting speed

HSSE — high-speed steel
- Cutting material for applications up to 1300 N/mm²
- Low to medium cutting speeds
- 5% cobalt content
- Very high elasticity

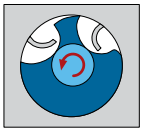


① Hardness/wear resistance/cutting speed
② Toughness/breakage resistance

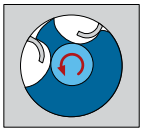
Screw tapping

Screw tapping produces extremely high torsional forces. Particularly when producing blind holes in long-chipping materials, the chips must be broken at the changeover point. The following procedure for blind hole tapping illustrates the relationship.

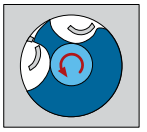
The thread is in the cutting process and guides the chips to the top.



after reaching the thread depth the switching process follows, in which the forces return to almost zero.

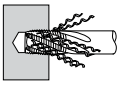
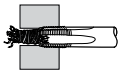
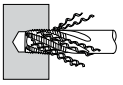
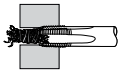
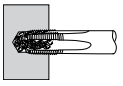


The chip must now be broken off through the back of the screw tap. The forces reach maximum level.



The chip is now broken off and the torque is drastically reduced.

For this reason, primarily HSSE and HSSE-PM cutting materials are used for screw taps. These cutting materials can work with all material groups except hardened materials. Solid carbide is only used as a cutting material in a few tapping applications.
If the material hardness is too high, such as in hardened material above 55 HRC, solid carbide must be used. However, solid carbide is also used as a cutting material with short-chipping materials, since torsion forces are low in these applications. The following graphic shows the various machining tasks and the appropriate cutting material for the application.

	Steel	Stainless steel	Cast metal	Non-ferrous metals	Special alloy	Hardened steels		
HSSE	ISO P	ISO M	ISO K	ISO N				
HSSE-PM	ISO P	ISO M	ISO K	ISO N	ISO S			
VHM			ISO K	ISO N		ISO H		

Coatings and surface treatments for tapping

Coatings form a protective layer between the workpiece and the cutting tool. Through the use of coatings and surface treatments, the following properties are achieved.

- Higher wear resistance
- Increased hardness
- Higher cutting speed and feed rate
- Corrosion protection
- Reduced friction
- Higher temperature resistance

We differentiate between the following coatings and surface treatments:

titanium nitride
universal layer for universal machining.
- Vickers hardness: 2200–2300 HV
- Friction coefficient: 0.5
- Temperature resistance: 500–600°C
- Colour: Gold

TiN

Titanium aluminium nitride
Universal layer for high-performance machining with high cutting speed.
- Vickers hardness: 3200 HV
- Friction coefficient of steel: 0.55
- Temperature resistance: 700-800°C
- Colour: Dark blue grey

TiAlN

Titanium carbon nitride
Its high level of hardness and excellent wear resistance make the TiCN layer suitable for machining difficult materials.
- Vickers hardness: 3500 HV
- Friction coefficient of steel: 0.2
- Temperature resistance: 400°C
- Colour: Blue grey (anthracite)

TiCN

ULTRA HL
This modern layer has been specially developed for thread machining and is currently the highest-performing layer due to being extremely smooth and very heat resistant while at the same time exhibiting low thermal conductivity. Particularly in processing stainless steel.
- Vickers hardness: 3000 HV
- Friction coefficient of steel: 0.15–0.20
- Temperature resistance: 800°C
- Colour: Dark grey

ULTRA HL

CARBO

A new type of special coating for high-performance machining of non-ferrous metals (aluminium alloys, wrought alloys), which are characterised by good emergency running properties and low edge build-up formation.

- Vickers hardness: 6000 HV
- Friction coefficient: 0.1
- Temperature resistance: 700°C
- Colour: Black

Vaporisation

This is a chemical surface treatment rather than a classic coating.

This steam treatment ensures that the lubricating film on the screw tap surface does not tear off during tapping.

Thread types and thread depths when tapping

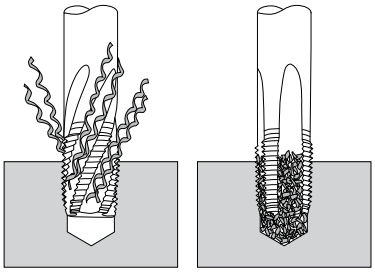
In thread machining, we distinguish between through holes and blind holes. The blind hole places the most demands on a screw tap, as the chips in long-chipping materials have to be transported upwards out of the hole and must be broken at the changeover point. As a result, spiralised screw taps must be used with long-chipping materials.

A spiralised design is not necessary with short-chipping materials, as the short chips fall into the blind hole and are rinsed out by the coolant.

As a rule, a thread depth of 3xD can be achieved in blind hole machining, depending on the material. maximum process reliability is achieved but with thread depths up to 2.5xD.

Through holes can be made with thread depths of up to 4xD. Here too, for process reliability can be expected for 3xD.

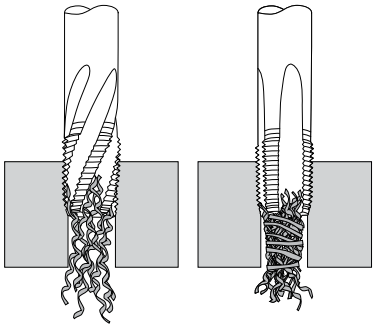
The through hole is a relatively non-critical process, as the chips are removed in the direction of feed. The chips are removed either through a spiral point or a left-hand spiral. Screw taps designed for both blind and through holes are another consideration. However, these only work with short-chipping materials or very low thread depths.



Blind hole machining with spiralised screw tap in long-chipping materials

Blind hole machining with straight-grooved screw tap in short-chipping materials

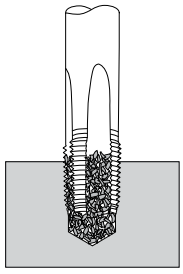
Max. thread depth 2.5xD of blind hole
(e.g. M6 = max. thread depth 15 mm)



Through-hole machining with left-hand spiralised screw tap in long-chipping materials

Through-hole machining with spiral point in long-chipping materials

Max. thread depth 3xD of blind hole
(e.g. M6 = max. thread depth 18 mm)



Blind hole and through-hole machining with straight-grooved screw tap

Blind and through-hole machining with straight-grooved screw tap
(e.g. M6 = max. thread depth 15 mm)

Screw tapping designs

We distinguish between two fundamental designs for screw tapping. DIN 371 with reinforced shank well as DIN 376 and DIN 374 with continuous shank.

DIN 371 reinforced shank

DIN 376 and DIN 374 straight shank

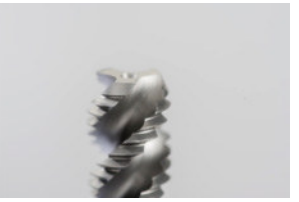
Cutting point shapes and their function

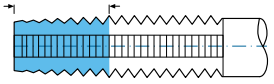
on a screw tap, the point plays an important role in the thread cutting process and is decisive when it comes to service life and thread quality.

We distinguish between the following five point shapes. Apart from point shape B with a spiral point, which is only a straight-grooved shape, all other point shapes can be combined with the different chip flutes.

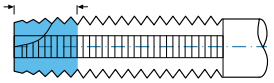
In principle: Longer points mean a longer service life. This a particular advantage at high quantities. However, the required torque also increases, producing higher forces. Short point shapes enable the thread to be cut nearly to the base of the hole.

Common point shapes are B, C and E.

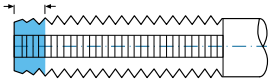




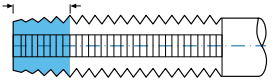
Long, 6–8 turns
for short through holes



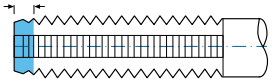
Medium, 3.5–5.5 turns
with spiral point, for all through holes and large thread depths in medium- and long-chipping materials



Short, 2–3 turns
for blind holes and generally for aluminium, grey cast iron and brass



Medium, 3.5–5 turns
for short through holes



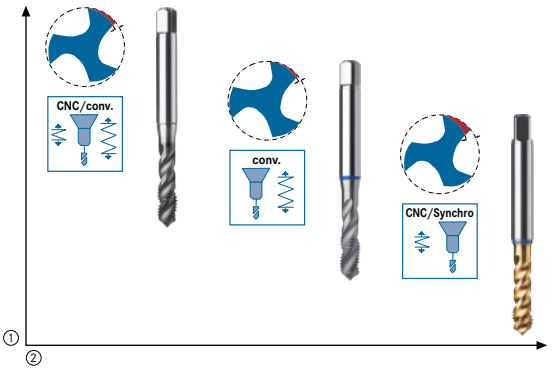
Extremely short, 1.5–2 turns
for blind holes with a very short thread run-out; avoid if possible

Usage conditions and clearance angle

The size of the clearance angle has an effect on the service life and guiding properties of the screw tap.

A large clearance angle minimises friction and increases the service life; a smaller clearance angle improves the guidance of the screw tap.

In principle, spiralised screw taps for blind holes have a smaller clearance angle than straight-grooved screw taps. If the clearance angle were too large, the chips would jam during the reverse motion, leading to breakage of the screw tap.



① guiding properties ② service life

CNC/conventional

These screw tap types are designed for both conventional and CNC machines, and they represent a compromise between the ideal guidance and an increase in the service life through increasing the clearance angle.

This mixed type is the most common and the best solution for the majority of machining tasks.

By moderate machining conditions, we mean e.g. cutting of threads on a CNC machine in a length compensation chuck or a synchronous chuck. With this machine tap type, for example, a thread can also be cut on a conventional drill with a length compensation chuck.

Conventional use

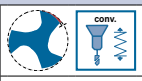
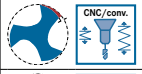
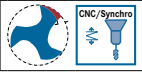
These threaded drill types are suitable for conventional machining in the small and medium quantity range in unstable clamping conditions. Its very long guide part and the low clearance angle make these screw taps ideal in unstable machining conditions on old machines with a standard length compensation chuck or cutting by hand.

CNC/synchro

In comparison with the conventional CNC types, these screw taps are characterised by a minimal guide part and a very large clearance angle. Their very free geometry ensures a long service life in the medium to high quantity range. However, correct tool clamping must be ensured

in the synchronous chuck or as a rigidly clamped tool. In addition, the thread must be created on a synchronous CNC machine with low play. These screw taps are all equipped with an H6 shank in order that they can be clamped rigidly in a surface chuck or shrink-fit chuck.

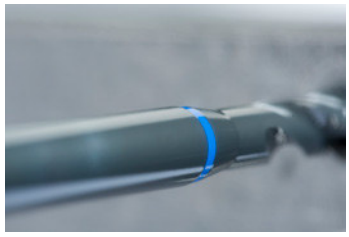
Clamping device recommendation for screw taps

	Length compensation chucks	Synchronous tapping chucks	Collet chucks	Shrink-fit chucks	Hydro-expansion chucks	Surface chucks
Length compensation range	9-15 mm	0.5-1 mm	0	0	0	0
Suitable for usage conditions	Unstable	Unstable-stable (synchronous)	Stable (synchronous)	Stable (synchronous)	Stable (synchronous)	Stable (synchronous)
Suitable for conventional machines	◉	○	○	○	○	○
Suitable for CNC machines	○	●	◉	◉	◉	◉
Suitable for conventional screw taps (low relief grinding) 	◉	○	○	○	○	○
Suitable for standard screw taps (medium relief grinding) 	○	◉	◉	◉	◉	◉
Suitable for synchronous screw taps (high relief grinding) 		●	◉	◉	◉	◉

● = very well suited ◉ = suitable ○ = limited suitability

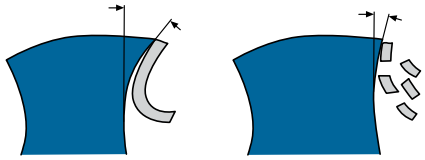
Screw tap colour ring system

With the screw tap colour ring system, users can find the right screw tap for their task quickly and reliably. Each colour ring represents an ideal clamping geometry for the material to be processed. The colour system is based on the ISO code for indexable inserts and therefore can be understood worldwide. Extremely universal tools do not have a ring. The various geometries and their purposes are illustrated in the graphic below.

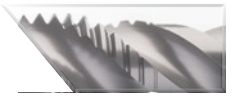


UNI MAX	UNI < 1000 N/mm²	UNI < 1000 N/mm²	High-strength > 1000 N/mm²	non-ferrous metals	stainless steel	cast and short-chipping non-ferrous metals	titanium and nickel alloy	hard

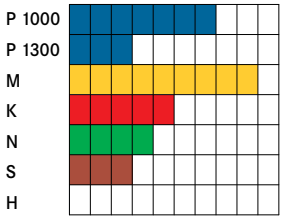
each material has its specific characteristics and needs individual chip geometries. this means that the chip angle, clearance angle and guide length must be set to achieve an optimal result. stainless steels and steels need positive cutting to reliably penetrate the material and safely remove the chips. for processing very hard materials, the cutter must be as stable as possible.

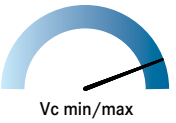


Screw tap UNI MAX 45HL Control
for universal use up to 1,200 N/mm²

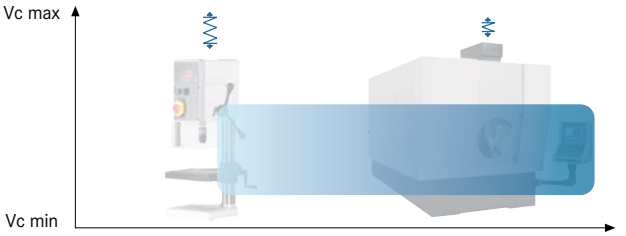


Performance:





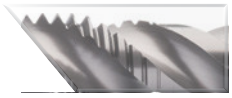
Conditions of use:



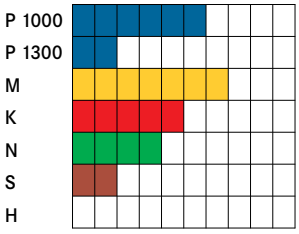
UNI MAX 45HL Control

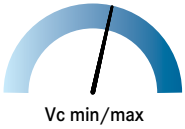
	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13250230-300	M3-M30	HSSE	ULTRA HL	ISO 2X (6HX)	B	External	0°		228
13252230-300	M3-M30	HSSE	ULTRA HL	ISO 2X (6HX)	C	External	45° (right)		228
13067020-300	M2-M30	HSSE	Vaporised	ISO 2X (6HX)	B	External	0°		217, 229
13078020-300	M2-M30	HSSE	Vaporised	ISO 2X (6HX)	C	External	45° (right)		217, 229
13103	MF6-MF24	HSSE	ULTRA HL	ISO 2 (6H)	B	External	0°		261
13315	MF6-MF24	HSSE	ULTRA HL	ISO 2 (6H)	C	External	45° (right)		261
13208	G 1/16-G 7/8 inch	HSSE	ULTRA HL	ISO 2 (6H)	B	External	0°		269
13377	G 1/16-G 1 inch	HSSE	ULTRA HL	ISO 2 (6H)	C	External	45° (right)		269

UNI MAX 45 Control screw tap
For universal use up to 1100 N/mm²

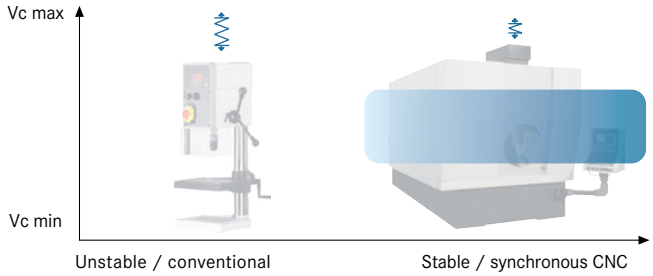


Performance:





Conditions of use:



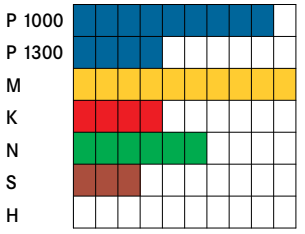
UNI MAX 45 Control

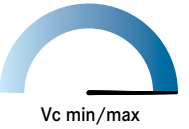
	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13067020-300	M2-M30	HSSE	Vaporised	ISO 2X (6HX)	B	External	0°		217, 229
13078020-300	M2-M30	HSSE	Vaporised	ISO 2X (6HX)	C	External	45° (right)		217, 229
13067400-460	MF4-MF24	HSSE	Vaporised	ISO 2 (6H)	B	External	0°		262
13078400-460	MF4-MF24	HSSE	Vaporised	ISO 2 (6H)	C	External	45° (right)		262
13067600-616	G 1/16-G 1 inch	HSSE	Vaporised		B	External	0°		269-270
13078600-616	G 1/16-G 1 inch	HSSE	Vaporised		C	External	45° (right)		269-270

Screw tap UNI MAX 50HL Speed

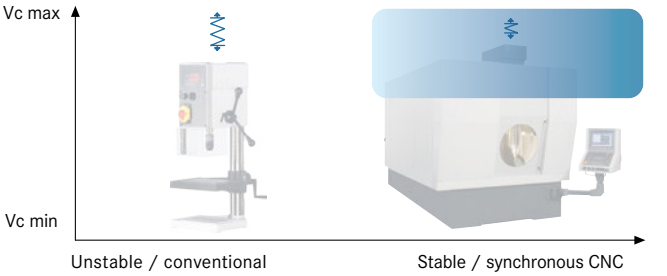
For universal heavy-duty applications up to 1200 N/mm² in series production

Performance:





Conditions of use:

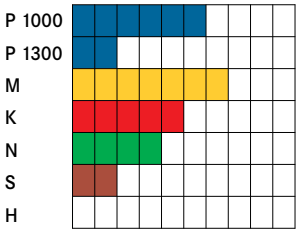


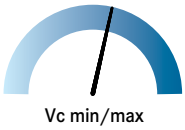
UNI MAX 50HL Speed

	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13201020-100	M2-M30	HSSE-PM	ULTRA HL	ISO 2X (6HX)	B	External	0°		232
13201730-800	M3-M20	HSSE-PM	ULTRA HL	ISO 3X (6GX)	B	External	0°		232
13202020-100	M2-M30	HSSE-PM	ULTRA HL	ISO 2X (6HX)	C	External	50° (right)		232
13202730-800	M3-M20	HSSE-PM	ULTRA HL	ISO 3X (6GX)	C	External	50° (right)		232
13202820-900	M3-M20	HSSE-PM	ULTRA HL	ISO 3X (6GX)	C	External	50° (right)		232
13211086-203	MF8-MF20	HSSE-PM	ULTRA HL	ISO 2X (6HX)	B	External	0°		262-263
13204086-203	MF8-MF20	HSSE-PM	ULTRA HL	ISO 2X (6HX)	C	External	50° (right)		262-263

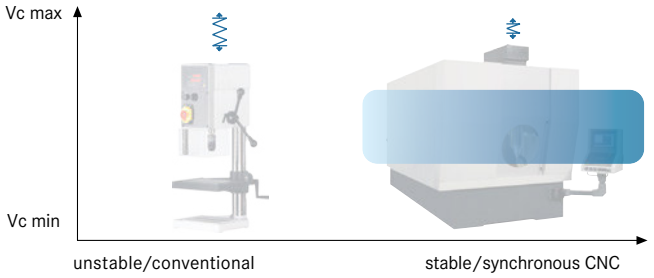
UNI MAX 40 + 45 Control screw tap
for universal use up to 1,000 N/mm²

Performance:





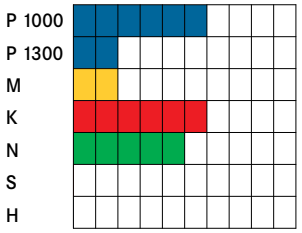
Conditions of use:

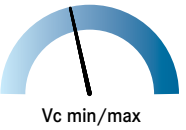


	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13217020-100	M2-M10	HSSE V3	Vaporised	ISO 2 (6H)	B	External	0°		230-231
13218020-100	M2-M10	HSSE V3	Vaporised	ISO 2 (6H)	C	External	40° (right)		230-231
13218530-960	M2-M36	HSSE V3	Vaporised	ISO 2 (6H)	C	External	45° (right)		230-231
13217230-560	M3-M36	HSSE V3	Vaporised	ISO 2 (6H)	B	External	0°		231
13218230-760	M3-M36	HSSE V3	Vaporised	ISO 2 (6H)	C	External	40° (right)		231
13219030-243	MF3-MF24	HSSE V3	Vaporised	ISO 2 (6H)	B		0°		263
13220030-303	MF3-MF30	HSSE V3	Vaporised	ISO 2 (6H)	C		40° (right)		263

UNI 40 Control screw tap, black ring
for universal use up to 1,000 N/mm²

Performance:





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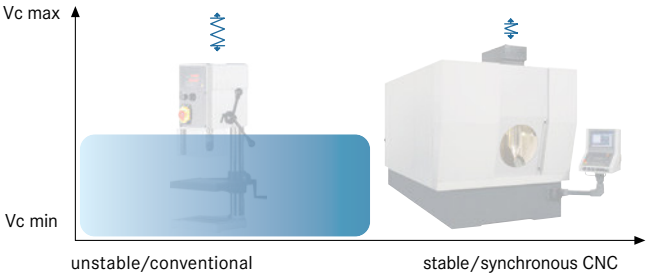
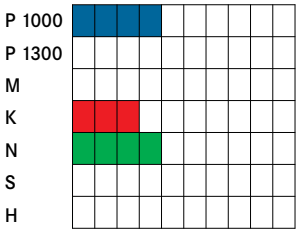
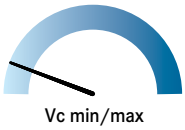


	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13121010-100	M1-M68	HSSE	Vaporised	ISO 2 (6H)	B	External	0°		233-234
13125010-100	M1-M30	HSSE	Vaporised	ISO 2 (6H)	C	External	40° (right)		233-234
13121430-500	M3-M20	HSSE	TiN	ISO 2 (6H)	B	External	0°		233-234
13125430-500	M3-M20	HSSE	TiN	ISO 2 (6H)	C	External	40° (right)		233-234
13049430-500	M3-M20	HSSE	ULTRA HL	ISO 2 (6H)	B	External	0°		235
13049030-100	M3-M20	HSSE	ULTRA HL	ISO 2 (6H)	C	External	40°		235
13050730-800	M3-M20	HSSE-PM	ULTRA HL	ISO 2 (6H)	B	External	0°		235
13050330-400	M3-M20	HSSE-PM	ULTRA HL	ISO 2 (6H)	C	External	40°		235
13207310-400	G 1/8-G 1 1/4 inch	HSSE	Vaporised	ISO 2 (6H)	B	External	0°		270
13378310-400	G 1/8-G 1 1/4 inch	HSSE	Vaporised	ISO 2 (6H)	C	External	40° (right)		270
13121630-760	M3-M16	HSSE	Vaporised	ISO 2 (6H)	B	External	0°		234
13125630-760	M3-M16	HSSE	Vaporised	ISO 2 (6H)	C	External	40° (right)		234
13121900-916	UNC 7/16-UNC 1 inch	HSSE	Vaporised	ISO 2 (6H)	B	External	0°		273
13125900-916	UNC 7/16-UNC 1 inch	HSSE	Vaporised	ISO 2 (6H)	C	External	40° (right)		273
13121930-946	UNF 7/16-UNF 1 inch	HSSE	Vaporised	ISO 2 (6H)	B	External	0°		274
13125930-946	UNF 7/16-UNF 1 inch	HSSE	Vaporised	ISO 2 (6H)	C	External	40° (right)		274
13055110-400	M1-M30	HSSE	Vaporised	6H	E	External	40° (right)		236
13059520-700	M2-M20	HSSE	Vaporised	6H	B	External	0°		237
13062520-700	M2-M20	HSSE	Vaporised	6H	C	External	40°		237

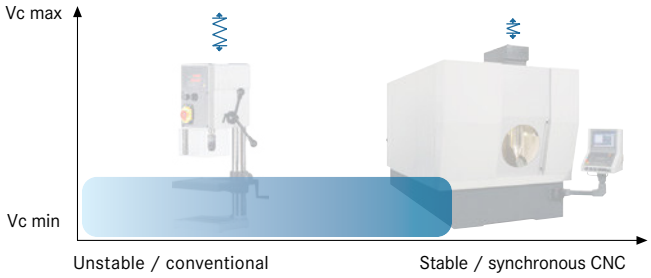
Screw tap P Max 1000 Control
For universal use up to 1000 N/mm²

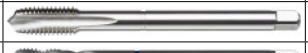
Performance:





Conditions of use:

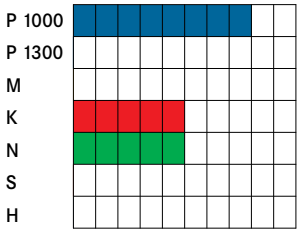


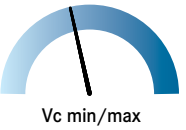
	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13063	M2-M24	HSSE	Uncoated	ISO 2 (6H)	B	External	0°		238
13270020-100	M2-M36	HSSE	Uncoated	ISO 2 (6H)	C	External	0°		239
13106014-100	M1,4-M24	HSSE	Uncoated	ISO 2 (6H)	B	External	0°		240
13267020-100	M2-M36	HSSE	Uncoated	ISO 2 (6H)	C	External	40° (right)		240
13101	M1,6-M36	HSSE	Uncoated	ISO 2 (6H)	B	External	0°		241
13326020-100	M2-M20	HSSE	Uncoated	ISO 2 (6H)	C	External	40° (right)		241
13320	MF3-MF36	HSSE	Uncoated	ISO 2 (6H)	C	External	0°		264
13144	MF3-MF40	HSSE	Uncoated	ISO 2 (6H)	B	External	0°		265-266
13335	MF8-MF20	HSSE	Uncoated	ISO 2 (6H)	C	External	40° (right)		265-266

Screw tap P Max 1000

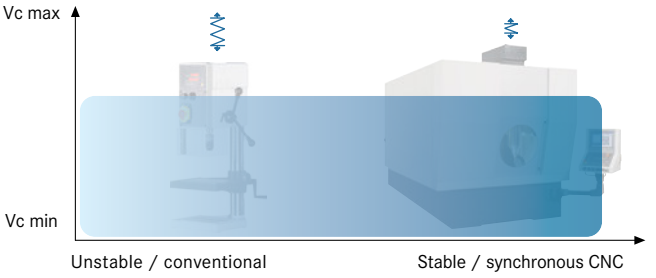
For universal use up to 1000 N/mm²

Performance:





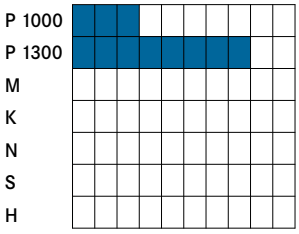
Conditions of use:

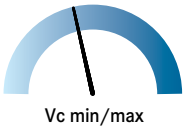


	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13113010-100	M1-M10	HSSE	Vaporised	ISO 2 (6H)	B	External	0°		242-243
13264020-100	M2-M20	HSSE	Vaporised	ISO 2 (6H)	C	External	40° (right)		242-243
13115430-500	M3-M24	HSSE	TiN	ISO 2 (6H)	B	External	0°		243
13307030-100	M3-M20	HSSE	TiN	ISO 2 (6H)	C	External	40° (right)		243
13115030-100	M3-M20	HSSE	TiCN	ISO 2 (6H)	B	External	0°		243
13269030-100	M3-M24	HSSE	TiCN	ISO 2 (6H)	C	External	40° (right)		243
13117	M2-M36	HSSE	Vaporised	ISO 2 (6H)	B	External	0°		244
13283	M3-M36	HSSE	Vaporised	ISO 2 (6H)	C	External	40° (right)		244
13108	M3 L-M10 L	HSSE	TiN	ISO 2 (6H)	B	External	0°		245
13161	MF5-MF50	HSSE	Vaporised	ISO 2 (6H)	B	External	0°		266
13332	MF4-MF30	HSSE	Vaporised	ISO 2 (6H)	C	External	40° (right)		266
13207	G 1/8-G 1 1/4 inch	HSSE	Vaporised	ISO 2 (6H)	B	External	0°		271
13378	G 1/16-G 1 inch	HSSE	Vaporised	ISO 2 (6H)	C	External	40° (right)		271
13359	NPT 1/8-NPT 1 inch	HSSE	Uncoated	ISO 2 (6H)	C	External	15° (right)		276
13347	UNC Nr.4-UNC 3/8 inch	HSSE	Vaporised	2B	B	External	0°		274-275
13348025-110	UNC Nr.2-UNC 1 inch	HSSE	Vaporised	2B	C	External	40° (right)		274-275
13357040-110	UNF Nr.4-UNF 5/8 inch	HSSE	Vaporised	2B	B	External	0°		275
13358070-110	UNF 7/16-UNF 1 inch	HSSE	Vaporised	2B	C	External	40° (right)		275

Screw tap P Max 1300
For universal use up to 1300 N/mm²

Performance:





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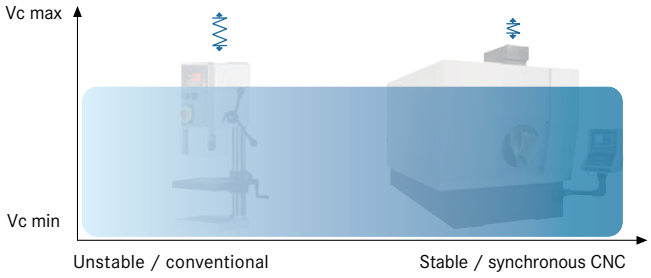
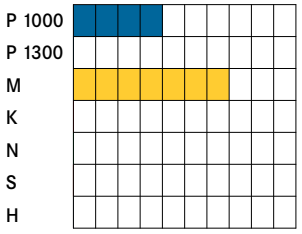
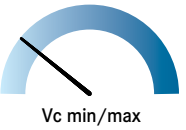


	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13130020-100	M2-M24	HSSE	Vaporised	ISO 2 (6H)	B	External	0°		246
13306020-100	M2-M12	HSSE	Vaporised	ISO 2 (6H)	C	External	40° (right)		246
13128030-100	M3-M20	HSSE	TiCN	ISO 2 (6H)	B	External	0°		247
13305030-100	M3-M20	HSSE	TiCN	ISO 2 (6H)	C	External	40° (right)		247
13308	M3-M30	HSSE	Vaporised	ISO 2 (6H)	C	External	40° (right)		248

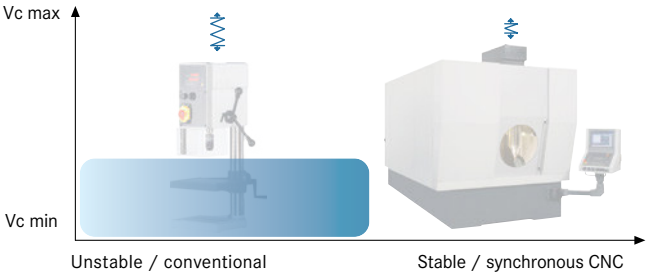
Screw tap M MAX 40 Control
For use on stainless steel

Performance:



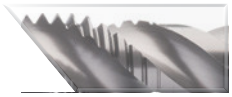


Conditions of use:



	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13136030-100	M3-M30	HSSE	Vaporised	ISO 2 (6H)	B	External	0°		249-250
13288020-100	M2-M30	HSSE	Vaporised	ISO 2 (6H)	C	External	40° (right)		249-250
13107030-100	M3-M30	HSSE	TiN	ISO 2 (6H)	B	External	0°		250
13277030-100	M3-M20	HSSE	TiN	ISO 2 (6H)	C	External	40° (right)		250
13143	MF4-MF50	HSSE	Vaporised	ISO 2 (6H)	B	External	0°		267
13324	MF4-MF30	HSSE	Vaporised	ISO 2 (6H)	C	External	15° (right)		267
13360	NPT 1/8-NPT 3/4 inch	HSSE	Vaporised	ISO 2 (6H)	C	External	15° (right)		271-272
13361	NPT 1/8-NPT 3/4 inch	HSSE	TiN	ISO 2 (6H)	C	External	15° (right)		271-272

Screw tap M MAX 45 SPEED
For use on stainless steels



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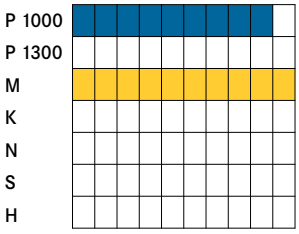
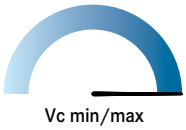
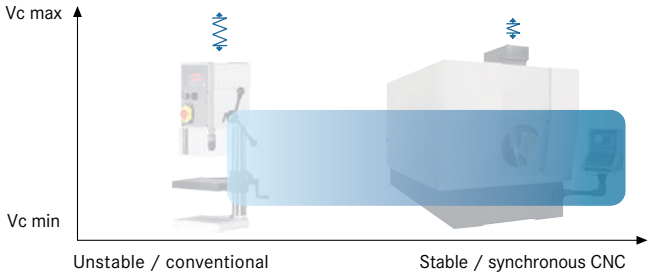




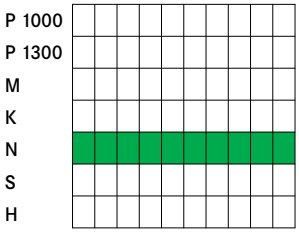
Conditions of use:

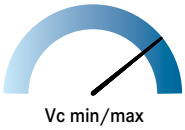


	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13068020-300	M2-M30	HSSE	Vaporised	ISO 2X (6HX)	B	External	0°		251
13075020-300	M2-M30	HSSE	Vaporised	ISO 2X (6HX)	C	External	45° (right)		251
13061020-300	M2-M30	HSSE	ULTRA HL	ISO 2X (6HX)	B	External	0°		252
13079020-300	M2-M30	HSSE	ULTRA HL	ISO 2X (6HX)	C	External	45° (right)		252

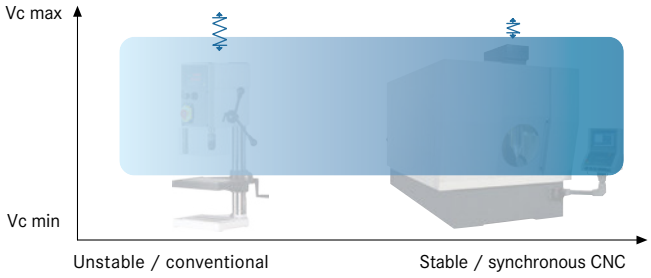
Screw tap N Max Control
For use in non-ferrous metals

Performance:



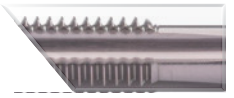


Conditions of use:

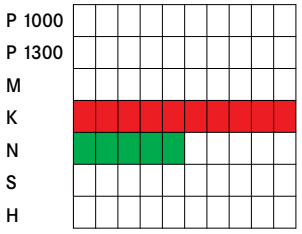


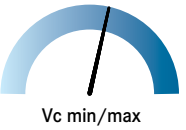
	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13118020-100	M2-M24	HSSE	Vaporised	ISO 2X (6HX)	B	External	0°		256
13266020-100	M2-M24	HSSE	Uncoated	ISO 2 (6H)	C	External	45° (right)		256
13345030-100	M3-M16	HSSE-PM	Carbo coating	ISO 2 (6H)	B	External	0°		257
13349030-100	M3-M24	HSSE-PM	Carbo coating	ISO 2 (6H)	C	External	40° (right)		257
13083030-100	M3-M16	HSSE	Uncoated	ISO 2 (6H)	B	External	0°		258
13254030-100	M3-M20	HSSE	Uncoated	ISO 2 (6H)	C	External	15° (right)		258

Screw tap K max Control
For use in cast iron and short-chipping non-ferrous metals

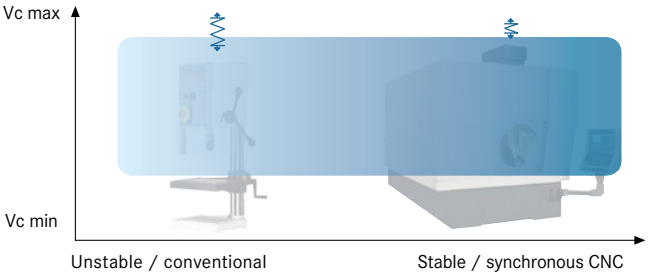


Performance:





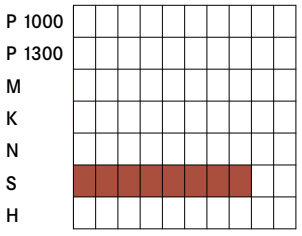
Conditions of use:

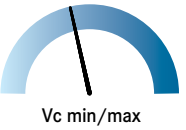


	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13290030-100	M3-M24	HSSE	TiAlN	ISO 2X (6HX)	C	External	0°		253
13291	M5-M10	HSSE-PM	TiAlN	ISO 2X (6HX)	C	Internal	0°		253

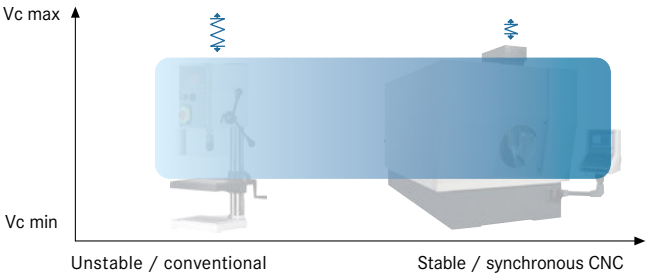
Screw tap S max Control
For use in titanium and nickel alloys

Performance:





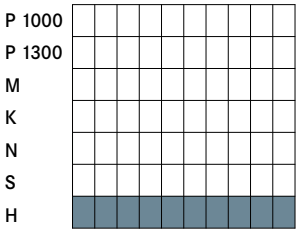
Conditions of use:

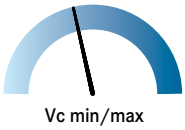


	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13134020-100	M2-M16	HSSE-PM	TiCN	ISO 2X (6HX)	B	External	0°		254
13286030-100	M3-M16	HSSE-PM	Vaporised	ISO 2X (6HX)	C	External	30° (right)		254
13287030-100	M3-M16	HSSE-PM	TiCN	ISO 2 (6H)	C	External	30° (right)		254
13203030-100	M3-M12	HSSE-PM	TiAlN	ISO 2 (6H)	B	External	0°		255

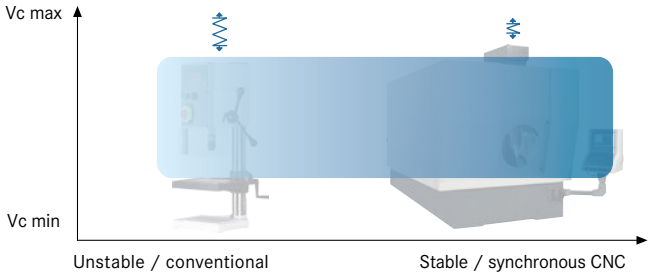
Screw tap H max Control
For use in hard machining from 55-65 HRC

Performance:



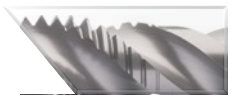


Conditions of use:

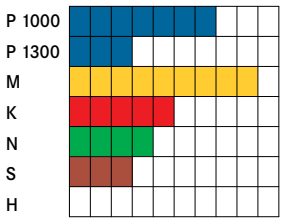


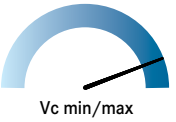
	Ø	Cutting material	Surface	Tol.	Lead angle shape	Coolant supply	Twist angle		page
13251030-100	M3-M12	SC	TiCN	ISO 2X (6HX)	D	External	0°		259
13253060-100	M6-M12	HSSE-PM	TiCN	ISO 2 (6H)	D	External	0°		259
13152086-126	MF8-MF12	HSSE-PM	TiCN	ISO 2 (6H)	D	External	0°		268-269
13153060-126	MF6-MF12	SC	TiCN	ISO 2 (6H)	D	External	0°		268-269

Screw tap UNI MAX 45HL Control
for universal use up to 1,200 N/mm²

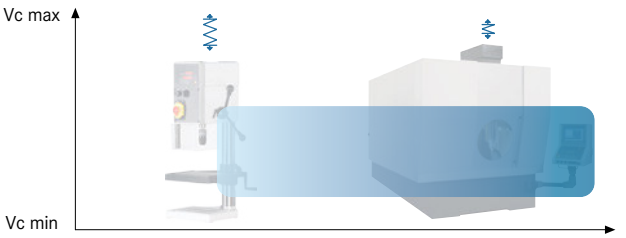


Performance:





Conditions of use:



UNI MAX 45HL Control

ATORN Machine tap HSSE-PM Ultra HL
For universal use in series production, up to 1,200 N/mm²

M | ≤3xd | ≤2,5xd | HSSE | ULTRA HL | ISO 2 x | C (2-3) | B (3,5-5) | CNC/conv.

No. 13250

No. 13252

UNI MAX 45HL Control

Application:

No. 13250: For producing metric threads on CNC machines or conventional machines in **through holes** in steel, stainless steel, non-ferrous metals, cast iron and special alloys up to 1200 N/mm².

No. 13252: For producing metric threads on CNC machines or conventional machines in **blind holes** in steel, stainless steel, non-ferrous metals, cast iron and special alloys up to 1200 N/mm².

Advantage:

- ideal for long service life requirements and materials that are difficult to machine, such as stainless steel
- Innovative cutting geometry and ULTRA HL coating guarantee high process reliability even under difficult machining conditions

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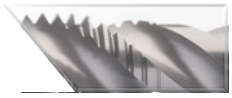
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13250230-300; 13250320-500; 13252320-500	18	12	8	11	10	19	19	17	19	17	18	13		18	7	6	6		
13252230-300	20	14	10	8	9	22	22	17	19	17	18	13		18	7	6	6		

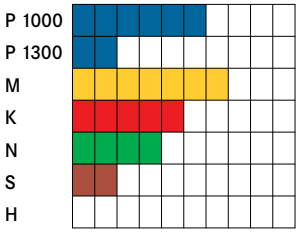
Cutting material								HSSE		HSSE	
Surface								ULTRA HL		ULTRA HL	
Tol.								ISO 2X (6HX)		ISO 2X (6HX)	
Lead angle shape								B		C	
Twist angle								0°		45° (right)	
Coolant supply								External		External	
	mm	mm	mm	mm	mm	DIN		13250... Ident. No.		13252... Ident. No.	
M2	0.4	1.6	45	2.8	2.1	371		220	●	220	●
M2.5	0.45	2.05	50	2.8	2.1	371		225	●	225	●
M3	0.5	2.5	56	3.5	2.7	371		230	●	230	●
M4	0.7	3.3	63	4.5	3.4	371		240	●	240	●
M5	0.8	4.2	70	6	4.9	371		250	●	250	●
M6	1	5	80	6	4.9	371		260	●	260	●
M8	1.25	6.8	90	8	6.2	371		280	●	280	●
M10	1.5	8.5	100	10	8	371		300	●	300	●
M12	1.75	10.2	110	9	7	376		320	●	320	●
M14	2	12	110	11	9	376		340	●	340	●
M16	2	14	110	12	9	376		360	●	360	●
M18	2.5	15.5	125	14	11	376		380	●	380	●
M20	2.5	17.5	140	16	12	376		400	●	400	●
M24	3	21	160	18	14.5	376		440	●	440	●
M30	3.5	26.5	180	22	18	376		500	●	500	●
M36	4	32.00	200.00	28	22	376		-	-	560	●
M39	4	35.00	200.00	32	24	376		-	-	590	●

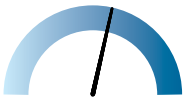
Prod. Gr. 1KA

UNI MAX 45 Control screw tap
For universal use up to 1100 N/mm²

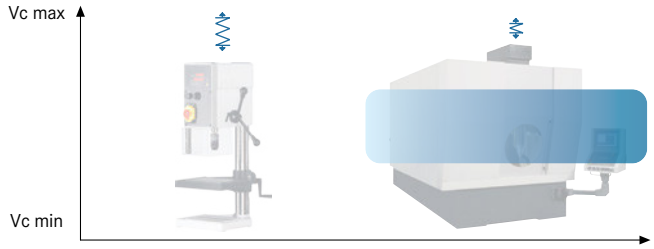


Performance:





Conditions of use:



UNI MAX 45 Control

ATORN Machine tap HSSE, vaporised
For universal use in series production, up to 1,200 N/mm²

No. 13067

No. 13078

UNI MAX 45HL Control

Application:

No. 13067: For producing metric threads on CNC machines or conventional machines in **through holes** in steel, stainless steel, non-ferrous metals, cast iron and special alloys up to 1200 N/mm².

No. 13078: For producing metric threads on CNC machines or conventional machines in **blind holes** in steel, stainless steel, non-ferrous metals, cast iron and special alloys up to 1200 N/mm².

Advantage:

- Ideal for long service life requirements and materials that are difficult to machine, such as stainless steel
- Innovative cutting geometry ensures high process reliability even under difficult machining conditions

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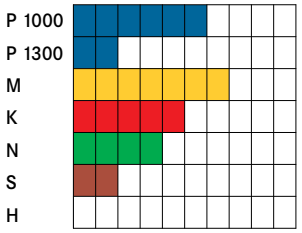
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13067020-300	18	12	6	8	8	8	18	6	16	10	14	15		15	3	3	3		

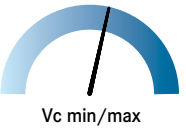
							Cutting material	HSSE		HSSE	
							Surface	Vaporised		Vaporised	
							Tol.	ISO 2X (6HX)		ISO 2X (6HX)	
							Lead angle shape	B		C	
							Twist angle	0°		45° (right)	
							Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13067... Ident. No.			13078... Ident. No.	
M2	0.4	1.60	45.00	2.80	2.10	371	020	●		020	●
M2.5	0.45	2.05	50.00	2.80	2.10	371	025	●		025	●
M3	0.5	2.50	56.00	3.50	2.70	371	030	●		030	●
M4	0.7	3.30	63.00	4.50	3.40	371	040	●		040	●
M5	0.8	4.20	70.00	6	4.90	371	050	●		050	●
M6	1	5.00	80.00	6	4.90	371	060	●		060	●
M8	1.25	6.80	90.00	8	6.20	371	080	●		080	●
M10	1.5	8.50	100.00	10	8	371	100	●		100	●
M12	1.75	10.20	110.00	9	7	376	120	●		120	●
M14	2	12.00	110.00	11	9	376	140	●		140	●
M16	2	14.00	110.00	12	9	376	160	●		160	●
M20	2.5	17.50	140.00	16	12	376	200	●		200	●
M24	3	21.00	160.00	18	14.50	376	240	●		240	●
M30	3.5	26.50	180.00	22	18	376	300	●		300	●

Prod. Gr. 1KA

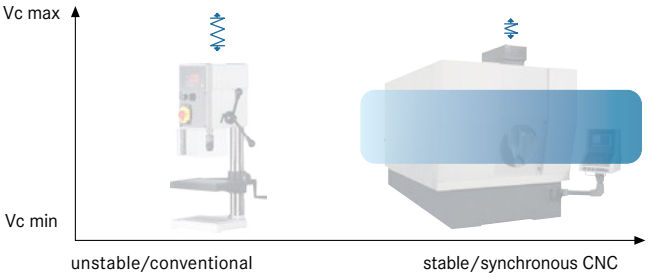
UNI MAX 40 + 45 Control screw tap
for universal use up to 1,000 N/mm²

Performance:





Conditions of use:



ATORN Machine tap HSSE V3
for universal use up to 1,200 N/mm2

Application:

No. 13217: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals, cast and special alloys material groups up to a strength of 1200 N/mm².

No. 13218: For producing metric threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals and cast material groups up to a strength of 1200 N/mm²

Advantage:

- **No. 13217 020–13218 100:**
  - Universal use for maximum flexibility of application
  - Innovative cutter geometry ensures high process reliability even in difficult machining conditions
- **No. 13218 520–13218 960:**
  - Universal use for maximum flexibility
  - Innovative cutting geometry ensures high process reliability even under difficult machining conditions

No. 13217

No. 13218 020–13218 100

No. 13218 520–13218 960

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	6	8	8	8	18	6	16	10	14	15		15	3	3	3		

							Cutting material	HSSE V3		HSSE V3		HSSE V3	
							Surface	Vaporised		Vaporised		Vaporised	
							Tol.	ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	B		C		C	
							Twist angle	0°		40° (right)		45° (right)	
							Coolant supply	External		External		External	
	mm	mm	mm	mm	mm		DIN	13217... Ident. No.		13218... Ident. No.		13218... Ident. No.	
M2	0.4	1.6	45	2.8	2.1		371	020	●	020	●	520	●
M2.5	0.45	2.05	50	2.8	2.1		371	025	●	025	●	525	●
M3	0.5	2.5	56	3.5	2.7		371	030	●	030	●	530	●
M3.5	0.6	2.9	56	4	3		371	035	●	035	●	535	●
M4	0.7	3.3	63	4.5	3.4		371	040	●	040	●	540	●
M5	0.8	4.2	70	6	4.9		371	050	●	050	●	550	●
M6	1	5	80	6	4.9		371	060	●	060	●	560	●
M8	1.25	6.8	90	8	6.2		371	080	●	080	●	580	●
M10	1.5	8.5	100	10	8		371	100	●	100	●	600	●

						Cutting material	HSSE V3		HSSE V3		HSSE V3	
						Surface	Vaporised		Vaporised		Vaporised	
						Tol.	ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
						Lead angle shape	B		C		C	
						Twist angle	0°		40° (right)		45° (right)	
						Coolant supply	External		External		External	
	mm	mm	mm	mm	mm	DIN	13217... Ident. No.		13218... Ident. No.		13218... Ident. No.	
M12	1.75	10.2	110	9	7	376	-	-	-	-	620	●
M14	2	12	110	11	9	376	-	-	-	-	640	●
M16	2	14	110	12	9	376	-	-	-	-	660	●
M18	2.5	15.5	125	14	11	376	-	-	-	-	680	●
M20	2.5	12.5	140	16	12	376	-	-	-	-	700	●
M22	2.5	19.5	140	18	14.5	376	-	-	-	-	720	●
M24	3	21	160	18	14.5	376	-	-	-	-	840	●
M27	3	24	160	20	16	376	-	-	-	-	870	●
M30	3.5	26.5	180	22	18	376	-	-	-	-	900	●
M33	3.5	29.5	180	25	20	376	-	-	-	-	930	●
M36	4	32	200	28	22	376	-	-	-	-	960	●

Prod. Gr. 1KA

ATORN Machine tap HSSE V3 (DIN 376)

for universal use up to 1,200 N/mm2

M | ≤3xd | ≤2,5xd | HSSE V3 | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

Application:

No. 13217: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals, cast and special alloys material groups up to a strength of 1200 N/mm².

No. 13218: For producing metric threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1200 N/mm²

Advantage:

- Universal use for maximum flexibility of application
- Innovative cutter geometry ensures high process reliability even in difficult machining conditions

No. 13217

No. 13218

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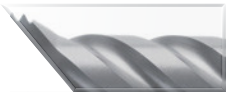
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	6	8	8	8	18	6	16	10	14	15		15	3	3	3		

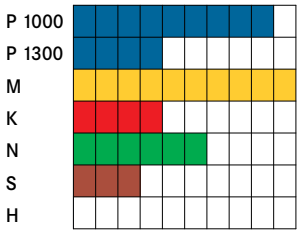
						Cutting material	HSSE V3		HSSE V3	
						Surface	Vaporised		Vaporised	
						Tol.	ISO 2 (6H)		ISO 2 (6H)	
						Lead angle shape	B		C	
						Twist angle	0°		40° (right)	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13217... Ident. No.		13218... Ident. No.	
M3	0.5	2.5	56	2.2	-	376	230	●	230	●
M4	0.7	3.3	63	2.8	2.1	376	240	●	240	●
M5	0.8	4.2	70	3.5	2.7	376	250	●	250	●
M6	1	5	80	4.5	3.4	376	260	●	260	●
M8	1.25	6.8	90	6	4.9	376	280	●	280	●
M10	1.5	8.5	100	7	5.5	376	300	●	300	●
M12	1.75	10.2	110	9	7	376	320	●	320	●
M14	2	12	110	11	9	376	340	●	340	●
M16	2	14	110	12	9	376	360	●	360	●
M18	2.5	15.5	125	14	11	376	380	●	380	●
M20	2.5	17.5	140	16	12	376	400	●	400	●
M22	2.5	19.5	140	18	14.5	376	420	●	420	●
M24	3	21	160	18	14.5	376	440	●	440	●
M27	3	24	160	20	16	376	470	○	470	●
M30	3.5	26.5	180	22	18	376	500	●	500	●
M33	3.5	29.5	180	25	18	376	530	●	730	●
M36	4	32	200	28	22	376	560	●	760	●

Prod. Gr. 1KA

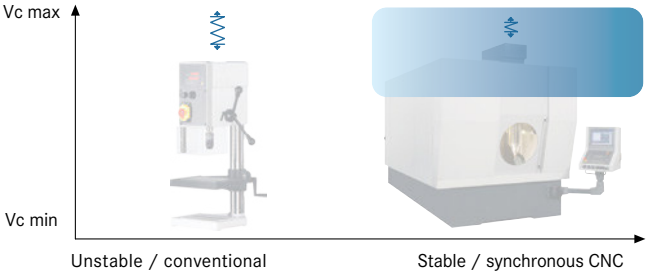
Screw tap UNI MAX 50HL Speed
For universal heavy-duty applications up to 1200 N/mm² in series production



Performance:



Conditions of use:



UNI MAX 50HL Speed — Vc min/max

ATORN Machine tap HSSE-PM Ultra HL
For universal use in series production, up to 1,200 N/mm²

M | ≤3xd | ≤2,5xd | HSSE-PM | ULTRA HL | ISO 2 x | ISO 3 x | B (3,5-5) | C (2-3) | CNC/conv.

No. 13201

No. 13202

UNI MAX 50HL Speed — Vc min/max

Application:

No. 13201 020–13201 300: For manufacturing metric threads on CNC or conventional machines in **through holes** in steel, stainless steel, non-ferrous metal, cast iron and special alloy material groups up to -1200 N/mm².

No. 13201 730–13201 900: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals, cast and special alloys material groups up to a strength of 1200 N/mm².

No. 13202 020–13202 300: For manufacturing metric threads in **blind holes** on CNC or conventional machines in the steel, stainless steel, non-ferrous metal and cast iron material groups up to -1200 N/mm²

No. 13202 730–13202 900: For producing metric threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals and cast material groups up to a strength of 1200 N/mm²

Advantage:

- Innovative cutter geometry ensures high process reliability even in difficult machining conditions
- **No. 13201 020–13201 300, 13202 020–13202 300:** Universal application for maximum flexibility
- **No. 13201 730–13201 900, 13202 730–13202 900:** Universal use for maximum flexibility of application

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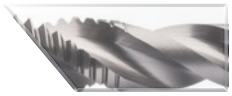
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	22	16	12	12	12	14	30	17	24	12	20	30	16	18	7	6	6		

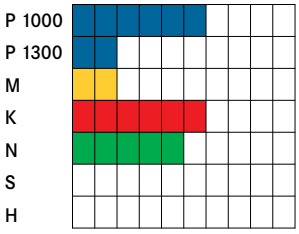
							Cutting material	HSSE-PM		HSSE-PM		HSSE-PM		HSSE-PM	
							Surface	ULTRA HL		ULTRA HL		ULTRA HL		ULTRA HL	
							Tol.	ISO 2X (6HX)		ISO 2X (6HX)		ISO 3X (6GX)		ISO 3X (6GX)	
							Lead angle shape	B		C		B		C	
							Twist angle	0°		50° (right)		0°		50° (right)	
							Coolant supply	External		External		External		External	
	mm	mm	mm	mm	mm	DIN	13201... Ident. No.		13202... Ident. No.		13201... Ident. No.		13202... Ident. No.	
M2	0.4	1.6	45	2.8	2.1	371	020	●	020	●	-	-	-	-
M2.5	0.45	2.05	50	2.8	2.1	371	025	●	025	●	-	-	-	-
M3	0.5	2.5	56	3.5	2.7	371	030	●	030	●	730	●	730	●
M4	0.7	3.3	63	4.5	3.4	371	040	●	040	●	740	●	740	●
M5	0.8	4.2	70	6	4.9	371	050	●	050	●	750	●	750	●
M6	1	5	80	6	4.9	371	060	●	060	●	760	●	760	●
M8	1.25	6.8	90	8	6.2	371	080	●	080	●	780	●	780	●
M10	1.5	8.5	100	10	8	371	100	●	100	●	800	●	800	●
M12	1.75	10.2	110	9	7	376	120	●	120	●	820	●	820	●
M14	2	12	110	11	9	376	140	●	140	●	-	-	-	-
M16	2	14	110	12	9	376	160	●	160	●	860	●	860	●
M20	2.5	17.5	140	16	12	376	200	●	200	●	900	●	900	●
M24	3	21	160	18	14.5	376	240	●	240	●	-	-	-	-
M27	3	24	160	20	16	376	270	○	270	●	-	-	-	-
M30	3.5	26.5	180	22	18	376	300	○	300	●	-	-	-	-

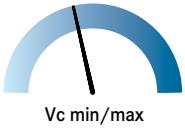
Prod. Gr. 1KA

UNI 40 Control screw tap, black ring
for universal use up to 1,000 N/mm²

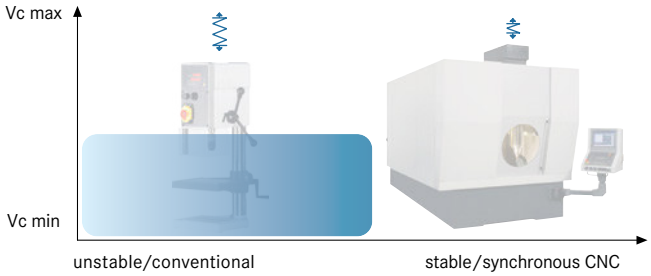


Performance:





Conditions of use:



UNI 40 Control — Vc min/max

ATORN HSSE machine tap
For universal use up to 1,000 N/mm²

M | ≤3xd | ≤2,5xd | HSSE | TiN | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

Application:

No. 13121: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm².

No. 13125: For producing metric threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm²

Execution:

- Structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = over-long shank (from M12)

Advantage:

- Universal use for maximum flexibility in use
- Innovative cutter geometry ensures high process reliability even in difficult machining conditions

Notes:

No. 13121 120–13121 420, 13121 845–13121 852: From M56 through and blind hole with cut shape C

No. 13121 010–13121 420, 13121 845–13121 852

No. 13121 430–13121 600

No. 13125 010–13125 420, 13125 845–13125 852

No. 13125 430–13125 600

UNI 40 Control — Vc min/max

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	8	8	8		18		19		18	15		15					

								HSSE		HSSE		HSSE		HSSE		HSSE		HSSE	
Cutting material								HSSE		HSSE		HSSE		HSSE		HSSE		HSSE	
Surface								Vaporised		Vaporised		Vaporised		Vaporised		TiN		TiN	
Tol.								4H		ISO 2 (6H)		ISO 2 (6H)		4H		ISO 2 (6H)		ISO 2 (6H)	
Lead angle shape								B		B		C		C		B		C	
Twist angle								0°		0°		40° (right)		40° (right)		0°		40° (right)	
Coolant supply								External		External		External		External		External		External	
	mm	mm	mm	mm	mm	DIN	13121... Ident. No.		13121... Ident. No.		13125... Ident. No.		13125... Ident. No.		13121... Ident. No.		13125... Ident. No.	
M1	0.25	0.75	40	2.5	2.1	371	010	●	-	-	-	-	010	●	-	-	-	-
M1.2	0.25	0.95	40	2.5	2.1	371	012	●	-	-	-	-	012	●	-	-	-	-
M1.4	0.3	1.1	40	2.5	2.1	371	014	●	-	-	-	-	014	●	-	-	-	-
M1.6	0.35	1.25	40	2.5	2.1	371	-	-	016	●	016	●	-	-	-	-	-	-
M1.7	0.35	1.35	40	2.5	2.1	371	-	-	017	●	017	●	-	-	-	-	-	-
M1.8	0.35	1.45	40	2.5	2.1	371	-	-	018	●	018	●	-	-	-	-	-	-
M2	0.4	1.6	45	2.8	2.1	371	-	-	020	●	020	●	-	-	-	-	-	-
M2.2	0.45	1.75	45	2.8	2.1	371	-	-	022	●	022	●	-	-	-	-	-	-
M2.3	0.4	1.9	45	2.8	2.1	371	-	-	023	●	023	●	-	-	-	-	-	-
M2.5	0.45	2.05	50	2.8	2.1	371	-	-	025	●	025	●	-	-	-	-	-	-
M2.6	0.45	2.15	50	2.8	2.1	371	-	-	026	●	026	●	-	-	-	-	-	-

						Cutting material	HSSE		HSSE		HSSE		HSSE		HSSE		HSSE	
						Surface	Vaporised		Vaporised		Vaporised		Vaporised		TiN		TiN	
						Tol.	4H		ISO 2 (6H)		ISO 2 (6H)		4H		ISO 2 (6H)		ISO 2 (6H)	
						Lead angle shape	B		B		C		C		B		C	
						Twist angle	0°		0°		40° (right)		40° (right)		0°		40° (right)	
						Coolant supply	External		External		External		External		External		External	
	mm	mm	mm	mm	mm	DIN	13121... Ident. No.		13121... Ident. No.		13125... Ident. No.		13125... Ident. No.		13121... Ident. No.		13125... Ident. No.	
M3	0.5	2.5	56	3.5	2.7	371	-	-	030	●	030	●	-	-	430	●	430	●
M4	0.7	3.3	63	4.5	3.4	371	-	-	040	●	040	●	-	-	440	●	440	●
M5	0.8	4.2	70	6	4.9	371	-	-	050	●	050	●	-	-	450	●	450	●
M6	1	5.0	80	6	4.9	371	-	-	060	●	060	●	-	-	460	●	460	●
M8	1.25	6.8	90	8	6.2	371	-	-	080	●	080	●	-	-	480	●	480	●
M10	1.5	8.5	100	10	8	371	-	-	100	●	100	●	-	-	500	●	500	●
M12	1.75	10.2	110	9	7	376	-	-	120	●	120	●	-	-	520	●	520	●
M14	2	12.0	110	11	9	376	-	-	140	●	140	●	-	-	-	-	-	-
M16	2	14.0	110	12	9	376	-	-	160	●	160	●	-	-	560	●	560	●
M18	2.5	15.5	125	14	11	376	-	-	180	●	180	●	-	-	-	-	-	-
M20	2.5	17.5	140	16	12	376	-	-	200	●	200	●	-	-	600	●	600	●
M22	2.5	19.5	140	18	14.5	376	-	-	220	●	220	●	-	-	-	-	-	-
M24	3	21.0	160	18	14.5	376	-	-	240	●	240	●	-	-	-	-	-	-
M27	3	24.0	160	20	16	376	-	-	270	●	270	●	-	-	-	-	-	-
M30	3.5	26.5	180	22	18	376	-	-	300	●	300	●	-	-	-	-	-	-
M33	3.5	29.5	180	25	20	376	-	-	330	●	330	●	-	-	-	-	-	-
M36	4	32.0	200	28	22	376	-	-	360	●	360	●	-	-	-	-	-	-
M39	4	35.0	200	32	24	376	-	-	390	●	390	●	-	-	-	-	-	-
M42	4.5	37.5	200	32	24	376	-	-	420	●	420	●	-	-	-	-	-	-
M45	4.5	40.5	250	36	29	376	-	-	845	●	845	●	-	-	-	-	-	-
M48	5	43.0	250	36	29	376	-	-	848	●	848	●	-	-	-	-	-	-
M52	5	47.0	250	40	32	376	-	-	852	●	852	●	-	-	-	-	-	-

Prod. Gr. 1KA

ATORN HSSE machine tap, extra long

For universal use up to 1,000 N/mm²

M | ≤3xd | ≤2,5xd | HSSE | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

No. 13121

No. 13125

Application:

No. 13121: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm².

No. 13125: For producing metric threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals and cast material groups up to a strength of 1000 N/mm².

Advantage:

- Universal use for maximum flexibility
- Innovative cutting geometry ensures high process reliability even under difficult machining conditions

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	8	8	8		18		19		18	15		15					

						Cutting material	HSSE		HSSE
						Surface	Vaporised		Vaporised
						Tol.	ISO 2 (6H)		ISO 2 (6H)
						Lead angle shape	B		C
						Twist angle	0°		40° (right)
						Coolant supply	External		External
	mm	mm	mm	mm	mm		13121... Ident. No.		13125... Ident. No.	
M3	0.5	2.5	112	3.5	2.7		630	●	630	●
M4	0.7	3.3	126	4.5	3.4		640	●	640	●
M5	0.8	4.2	140	6	4.9		650	●	650	●
M6	1	5	160	6	4.9		660	●	660	●
M8	1.25	6.8	180	8	6.2		680	●	680	●
M10	1.5	8.5	200	10	8		700	●	700	●
M12	1.75	10.2	220	9	7		720	●	720	●
M14	2	12	220	11	9		740	●	740	●
M16	2	14	220	12	9		760	●	760	●

Prod. Gr. 1KA

ATORN HSSE/HSSE-PM ULTRA HL machine tap

For universal use up to 1,000 N/mm²

M | ≤3xd | ≤2,5xd | HSSE-PM | HSSE | ULTRA HL | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

No. 13049 430–13049 600, 13050 730–13050 900

No. 13049 030–13049 200, 13050 330–13050 500

UNI 40 Control — Vc min/max

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Application:

No. 13049 030–13049 200, 13050 330–13050 500: For producing metric threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm²

No. 13049 430–13049 600: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm².

No. 13050 730–13050 800: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1,200 N/mm².

No. 13050 820–13050 900: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1200 N/mm².

Execution:

- **No. 13049 030–13050 800:** Structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = over-long shank (from M12)
- **No. 13050 820–13050 900:** Structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = protruding shank (from M12)

Advantage:

- Innovative cutter geometry and newly developed ULTRA HL coating ensures high process reliability even in difficult machining conditions

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13049030-100; 13049120-200; 13049430-500; 13049520-600	18	12	8	8	8		18		19		18	15		15					
13050330-400; 13050420-500; 13050730-800; 13050820-900	22	15	8	11	11		25		28		20	20		22					

Cutting material							HSSE		HSSE		HSSE-PM		HSSE-PM	
Surface							ULTRA HL		ULTRA HL		ULTRA HL		ULTRA HL	
Tol.							ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
Lead angle shape							B		C		B		C	
Twist angle							0°		40°		0°		40°	
Coolant supply							External		External		External		External	
	mm	mm	mm	mm	mm	DIN	13049... Ident. No.		13049... Ident. No.		13050... Ident. No.		13050... Ident. No.	
M3	0.5	2.5	56	3.5	2.7	371	430	●	030	●	730	●	330	●
M4	0.7	3.3	63	4.5	3.4	371	440	●	040	●	740	●	340	●
M5	0.8	4.2	70	6	4.9	371	450	●	050	●	750	●	350	●
M6	1	5	80	6	4.9	371	460	●	060	●	760	●	360	●
M8	1.25	6.8	90	8	6.2	371	480	●	080	●	780	●	380	●
M10	1.5	8.5	100	10	8	371	500	●	100	●	800	●	400	●
M12	1.75	10.2	110	9	7	376	520	●	120	●	820	●	420	●
M16	2	14	110	12	9	376	560	●	160	●	860	●	460	●
M20	2.5	17.5	140	16	12	376	600	●	200	●	900	●	500	●

Prod. Gr. 1KA

ATORN HSSE machine tap

For universal use up to 1,000 N/mm²

M | ≤2,5xd | HSSE | E (1,5-2) | CNC/conv.

UNI 40 Control — Vc min/max

p. 211 p. 215 p. 24 p. 849 p. 339

Application:

For producing metric threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm²

Execution:

- Structural dimensions according to: DIN 371 = reinforced shank (to M10), DIN 376 = protruding shank (from M12)

Advantage:

- Universal use for maximum flexibility
- Innovative cutting geometry ensures high process reliability even under difficult machining conditions

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	8	8	8		18		19		18	15		15					

						Cutting material	HSSE	
						Surface	Vaporised	
						Tol.	6H	
						Lead angle shape	E	
						Twist angle	40° (right)	
						Coolant supply	External	
	mm	mm	mm	mm	mm	DIN	13055... Ident. No.	
M4	0.7	3.3	63	4.5	3.4	371	140	●
M5	0.8	4.2	70	6	4.9	371	150	●
M6	1	5	80	6	4.9	371	160	●
M8	1.25	6.8	90	8	6.2	371	180	●
M10	1.5	8.5	140	10	8	371	200	●
M12	1.75	10.3	110	9	7	376	220	●
M16	2	14	110	12	9	376	260	●
M20	2.5	17.5	140	22	12	376	300	●
M24	3	21	160	18	14.5	376	340	●
M27	3	24	160	20	16	376	370	●
M30	3.5	26.5	180	22	18	376	400	●

Prod. Gr. 1KA

ATORN Machine tap, HSSE, oversize

For universal use up to 1,000 N/mm²

No. 13043

No. 13051

p. 211 p. 215 p. 24 p. 849 p. 339

Application:

No. 13043: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm²

No. 13051: For producing metric threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm²

Execution:

- Structural dimensions according to: DIN 371 = reinforced shank (to M10), DIN 376 = protruding shank (from M12)

Advantage:

- **No. 13043:**
  - Universal use for maximum flexibility
  - Innovative cutting geometry ensures high process reliability even under difficult machining conditions

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	8	8	8		18		19		18	15		15					

						Cutting material	HSSE		HSSE	
						Surface	Vaporised		Vaporised	
						Tol.	6G		6G	
						Lead angle shape	B		C	
						Twist angle	0°		40° (right)	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13043... Ident. No.		13051... Ident. No.	
M4	0.7	3.3	63	4.5	3.4	371	540	●	540	●
M5	0.8	4.2	70	6	4.9	371	550	●	550	●
M6	1	5	80	6	4.9	371	560	●	560	●
M8	1.25	6.8	90	8	6.2	371	580	●	580	●
M10	1.5	8.5	100	10	8	371	600	●	600	●
M12	1.75	10.3	110	9	7	376	620	●	620	●

Prod. Gr. 1KA

ATORN HSSE machine tap

For universal use up to 1,000 N/mm²

No. 13059

No. 13062

p. 211 p. 215 p. 24 p. 849 p. 339

Application:

No. 13059: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm²

No. 13062: For producing metric threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm²

Execution:

- Structural dimensions according to: DIN 371 = reinforced shank (to M10), DIN 376 = protruding shank (from M12)

Advantage:

- **No. 13059:**
  - Universal use for maximum flexibility
  - Innovative cutting geometry ensures high process reliability even under difficult machining conditions

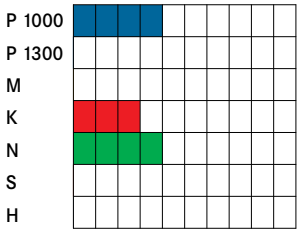
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	8	8	8		18		19		18	15		15					

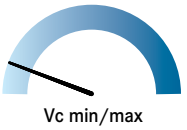
							Cutting material	HSSE		HSSE	
							Surface	Vaporised		Vaporised	
							Tol.	6H		6H	
							Lead angle shape	B		C	
							Twist angle	0°		40°	
							Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13059... Ident. No.		13062... Ident. No.		
M-L3	0.5	2.5	56	3.5	2.7	371	530	●	530	●	
M-L4	0.7	3.3	63	4.5	3.4	371	540	●	540	●	
M-L5	0.8	4.2	70	6	4.9	371	550	●	550	●	
M-L6	1	5	80	6	4.9	371	560	●	560	●	
M-L8	1.25	6.8	90	8	6.2	371	580	●	580	●	
M-L10	1.5	8.5	100	10	8	371	600	●	600	●	
M-L12	1.75	10.3	110	9	7	376	620	●	620	●	

Prod. Gr. 1KA

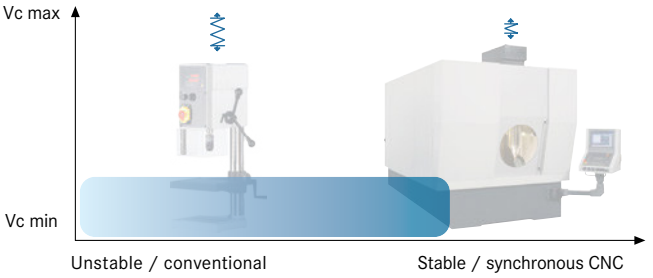
Screw tap P Max 1000 Control
For universal use up to 1000 N/mm²

Performance:





Conditions of use:



ATORN ORION® HSS machine tap, short (DIN 352)
For universal conventional use up to 1,000 N/mm²

Application:
For producing metric threads on CNC machines or conventional machines and by hand in **through holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

Execution:
- Machine tap, short design

Advantage:
- Easy accessibility thanks to short design

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13063	16	11		9		18	18	15	18	15	15	13		16					
13064	15	10		9		18	18	15	18	15	15	13		16					

							ATORN		ORION	
						Cutting material	HSSE		HSSE	
						Surface	Uncoated		Uncoated	
						Tol.	ISO 2 (6H)		ISO 2 (6H)	
						Lead angle shape	B		B	
						Twist angle	0°		0°	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13063... Ident. No.		13064... Ident. No.	
M2	0.4	1.6	36	2.8	2.1	352	020	●	020	●
M2.5	0.45	2.05	36	2.8	2.1	352	025	●	025	●
M3	0.5	2.5	40	3.5	2.7	352	030	●	030	●
M4	0.7	3.3	45	4.5	3.4	352	040	●	040	●
M5	0.8	4.2	50	6	4.9	352	050	●	050	●
M6	1	5	50	6	4.9	352	060	●	060	●
M8	1.25	6.8	56	6	4.9	352	080	●	080	●
M10	1.5	8.5	70	7	5.5	352	100	●	100	●
M12	1.75	10.2	75	9	7	352	120	●	120	●
M16	2	14	80	12	9	352	160	●	160	●
M18	2.5	15.5	95	14	11	352	180	●	-	-
M20	2.5	17.5	95	16	12	352	200	●	-	-
M22	2.5	19.5	100	18	14.5	352	220	●	-	-
M24	3	21	110	18	14.5	352	240	●	-	-

ORION = Prod. Gr. 1DB
ATORN® = Prod. Gr. 1KA

HSSE machine tap

For universal conventional use up to 1,000 N/mm²

Application:

For producing metric threads on conventional machines in **blind holes and through holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

Execution:

- **No. 13270:** Structural dimensions according to: DIN 371 = reinforced shank (up to M10), DIN 376 = protruding shank (from M12)
- **No. 13323:** Dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = transition-fit shank (from M12)

Advantage:

- **No. 13270:** Long service life and good process reliability due to innovative cutting geometry and universal use for maximum application versatility
- **No. 13323:** Long service life and high process reliability thanks to innovative cutting geometry, and universal use for maximum flexibility in use.

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16	11		9		18	18	15	18	15	15	13		16					

								ATORN		ORION	
							Cutting material	HSSE		HSSE	
							Surface	Uncoated		Uncoated	
							Tol.	ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	C		C	
							Twist angle	0°		0°	
							Coolant supply	External		External	
	mm	mm	mm	mm	mm		DIN	13270... Ident. No.		13323... Ident. No.	
M2	0.4	1.6	45	2.8	2.1		371	020	●	-	-
M2.5	0.45	2.05	50	2.8	2.1		371	025	●	-	-
M3	0.5	2.5	56	3.5	2.7		371	030	●	030	●
M4	0.7	3.3	63	4.5	3.4		371	040	●	040	●
M5	0.8	4.2	70	6	4.9		371	050	●	050	●
M6	1	5	80	6	4.9		371	060	●	060	●
M8	1.25	6.8	90	8	6.2		371	080	●	080	●
M10	1.5	8.5	100	10	8		371	100	●	100	●
M12	1.75	10.2	110	9	7		376	120	●	120	●
M14	2	12	110	11	9		376	140	●	-	-
M16	2	14	110	12	9		376	160	●	-	-
M18	2.5	15.5	125	14	11		376	180	●	-	-
M20	2.5	17.5	140	16	12		376	200	●	-	-
M24	3	21	160	18	14.5		376	240	●	-	-
M30	3.5	26.5	180	22	18		376	300	●	-	-
M36	4	32	200	28	22		376	360	●	-	-

ORION = Prod. Gr. 1DB
ATORN = Prod. Gr. 1KA

ORION ATORN HSSE machine tap

For universal conventional use up to 1,000 N/mm²

M | ≤3xd | ≤2,5xd | HSSE | ISO 2 | B (3,5-5) | C (2-3) | conv.

No. 13105–13106

No. 13267–13268

P 1000 Control

Vc min/max

p. 211 p. 215 p. 24 p. 849 p. 339

Application:

No. 13105: For producing metric threads in the through hole on conventional machines for the material groups of steel (stainless steel), non-ferrous metals and (cast iron) up to a strength of 1000 N/mm².

No. 13106: For producing metric threads on conventional machines in **through holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

No. 13267: For producing metric threads on conventional machines in **blind holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

No. 13268: For cutting metric threads in blind holes on conventional machines in the material groups steel, (stainless steel), non-ferrous metals and (cast materials) up to a strength of 1000 N/mm².

Execution:

- **No. 13105–13106:** structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = over-long shank (from M12)
- **No. 13267–13268:** Structural dimensions according to: DIN 371 = reinforced shank (up to M10), DIN 376 = protruding shank (from M12)

Advantage:

- **No. 13105:** standard geometry with excellent price/performance ratio
- **No. 13106:** good service life and process reliability thanks to innovative cutting geometry and universal use for the greatest flexibility in applications
- **No. 13267:** Long service life and good process reliability due to innovative cutting geometry and universal use for maximum application versatility
- **No. 13268:** Standard geometry with very good price/performance ratio

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13105030-100; 13105120; 13106014-100; 13106120-240	16	11		9		18	18	15	18	15	15	13		16					
13267020-100; 13267120-360; 13268030-100; 13268120	16	12		9		18	18	15	18	15	15	13		16					

							ATORN				ORION			
						Cutting material	HSSE		HSSE		HSSE		HSSE	
						Surface	Uncoated		Uncoated		Uncoated		Uncoated	
						Tol.	ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
						Lead angle shape	B		C		B		C	
						Twist angle	0°		40° (right)		0°		40° (right)	
						Coolant supply	External		External		External		External	
	mm	mm	mm	mm	mm	DIN	13106... Ident. No.		13267... Ident. No.		13105... Ident. No.		13268... Ident. No.	
M1.4	0.3	1.1	40	2.5	2.1	371	014	●	-	-	-	-	-	-
M1.6	0.35	1.25	40	2.5	2.1	371	016	●	-	-	-	-	-	-
M1.7	0.35	1.3	40	2.5	2.1	371	017	●	-	-	-	-	-	-
M1.8	0.35	1.45	40	2.5	2.1	371	018	●	-	-	-	-	-	-
M2	0.4	1.6	45	2.8	2.1	371	020	●	020	●	-	-	-	-
M2.2	0.45	1.75	45	2.8	2.1	371	022	●	-	-	-	-	-	-
M2.3	0.4	1.9	45	2.8	2.1	371	023	●	-	-	-	-	-	-
M2.5	0.45	2.05	50	2.8	2.1	371	025	●	025	●	-	-	-	-
M2.6	0.45	2.15	50	2.8	2.1	371	026	●	-	-	-	-	-	-
M3	0.5	2.5	56	3.5	2.7	371	030	●	030	●	030	●	030	●
M3.5	0.6	2.9	56	4	3	371	035	●	035	●	-	-	-	-
M4	0.7	3.3	63	4.5	3.4	371	040	●	040	●	040	●	040	●
M5	0.8	4.2	70	6	4.9	371	050	●	050	●	050	●	050	●
M6	1	5	80	6	4.9	371	060	●	060	●	060	●	060	●
M8	1.25	6.8	90	8	6.2	371	080	●	080	●	080	●	080	●
M10	1.5	8.5	100	10	8	371	100	●	100	●	100	●	100	●
M12	1.75	10.2	110	9	7	376	120	●	120	●	120	●	120	●
M14	2	12	110	11	9	376	140	●	140	●	-	-	-	-
M16	2	14	110	12	9	376	160	●	160	●	-	-	-	-
M20	2.5	17.5	140	16	12	376	200	●	200	●	-	-	-	-
M24	3	21	160	18	14.5	376	240	●	240	●	-	-	-	-
M18	2.5	15.5	125	14	11	376	-	-	180	●	-	-	-	-
M30	3.5	26.5	180	22	18	376	-	-	300	●	-	-	-	-
M36	4	32	180	28	22	376	-	-	360	●	-	-	-	-

ORION = Prod. Gr. 1DB
ATORN = Prod. Gr. 1KA

ATORN HSSE machine tap (DIN 376)

For universal conventional use up to 1,000 N/mm²

M | ≤3xd | ≤2,5xd | HSSE | ISO 2 | B (3,5-5) | C (2-3) | conv.

No. 13101

No. 13326

p. 211 p. 215 p. 24 p. 849 p. 339

Application:

No. 13101: For producing metric threads on conventional machines in **through holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

No. 13326: For producing metric threads on conventional machines in **blind holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

Execution:

- **No. 13101:** With protruding shank
- **No. 13326:** With transition-fit shank

Advantage:

- **No. 13101:** Long service life and high level of process reliability thanks to innovative cutting geometry and universal application for maximum flexibility in use
- **No. 13326:** Long service life and high process reliability thanks to innovative cutting geometry, and universal use for maximum flexibility in use.

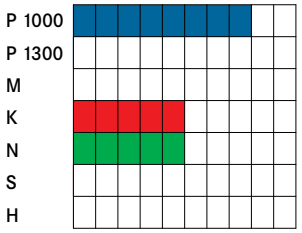
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13101	15	11		9		18	18	15	18	15	15	13		16					
13326020-100; 13326120-200	16	11		9		18	18	15	18	15	15	13		16					

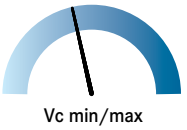
							Cutting material	HSSE		HSSE	
							Surface	Uncoated		Uncoated	
							Tol.	ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	B		C	
							Twist angle	0°		40° (right)	
							Coolant supply	External		External	
	mm	mm	mm	mm	mm		DIN	13101... Ident. No.		13326... Ident. No.	
M1.6	0.35	1.25	40	1.2	-		376	016	●	-	-
M1.8	0.35	1.45	40	1.2	-		376	018	●	-	-
M2	0.4	1.6	45	1.6	-		376	020	●	020	●
M2.2	0.45	1.75	45	1.6	-		376	022	●	-	-
M2.3	0.4	1.9	45	1.6	-		376	023	●	-	-
M2.5	0.45	2.05	50	1.8	-		376	025	●	025	●
M2.6	0.45	2.15	50	1.8	-		376	026	●	-	-
M3	0.5	2.5	56	2.2	-		376	030	●	030	●
M3.5	0.6	2.9	56	2.5	2.1		376	035	●	-	-
M4	0.7	3.3	63	2.8	2.1		376	040	●	040	●
M5	0.8	4.2	70	3.5	2.7		376	050	●	050	●
M6	1	5	80	4.5	3.4		376	060	●	060	●
M8	1.25	6.8	90	6	4.9		376	080	●	080	●
M10	1.5	8.5	100	7	5.5		376	100	●	100	●
M12	1.75	10.2	110	9	7		376	120	●	120	●
M14	2	12	110	11	9		376	140	●	140	●
M16	2	14	110	12	9		376	160	●	160	●
M18	2.5	15.5	125	14	11		376	180	●	180	●
M20	2.5	17.5	140	16	12		376	200	●	200	●
M22	2.5	19.5	140	18	14.5		376	220	●	-	-
M24	3	21	160	18	14.5		376	240	●	-	-
M27	3	24	160	20	16		376	270	●	-	-
M30	3.5	26.5	180	22	18		376	300	●	-	-
M33	3.5	29.5	180	25	20		376	330	●	-	-
M36	4	32	200	28	22		376	360	●	-	-

Prod. Gr. 1KA

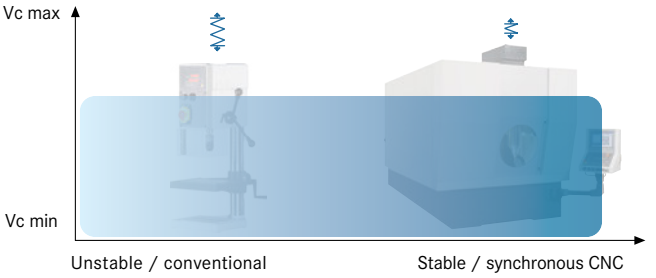
Screw tap P Max 1000
For universal use up to 1000 N/mm²

Performance:





Conditions of use:



ORION® ATORN Vaporised HSSE machine tap
For universal use up to 1,000 N/mm²

M | ≤3xd | ≤2,5xd | HSSE | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

No. 13113–13119

No. 13264–13318

Application:

No. 13113–13119: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

No. 13264–13318: For producing metric threads on CNC machines or conventional machines in **blind holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

Execution:

- **No. 13113:** structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = over-long shank (from M12)
- **No. 13119:** Dimensions to: DIN 371 = reinforced shank (to M10), DIN 376 = protruding shank (from M12)
- **No. 13264:** Structural dimensions according to: DIN 371 = reinforced shank (up to M10), DIN 376 = protruding shank (from M12)
- **No. 13318:** Dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = transition-fit shank (from M12)

Advantage:

- **No. 13113:** good service life and process reliability thanks to innovative cutting geometry and universal use for the greatest flexibility in applications
- **No. 13119:** Standard geometry with very good price/performance ratio
- **No. 13264:** Long service life and good process reliability due to innovative cutting geometry and universal use for maximum application versatility
- **No. 13318:** Standard geometry with an excellent price-performance ratio

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13113010-100; 13264020-100; 13264120-200; 13318020-100; 13318120	17	12		10		19	19	17	19	17	17	15		18					
13119030-100	16	11		9		18	18	15	18	15	15	13		16					

							ATORN				ORION			
Cutting material							HSSE		HSSE		HSSE		HSSE	
Surface							Vaporised		Vaporised		Vaporised		Vaporised	
Tol.							ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
Lead angle shape							B		C		B		C	
Twist angle							0°		40° (right)		0°		40° (right)	
Coolant supply							External		External		External		External	
	mm	mm	mm	mm	mm	DIN	13113... Ident. No.		13264... Ident. No.		13119... Ident. No.		13318... Ident. No.	
M1	0.25	0.75	40	2.5	2.1	371	010	●	-	-	-	-	-	-
M1.4	0.3	1.1	40	2.5	2.1	371	014	●	-	-	-	-	-	-
M1.6	0.35	1.25	40	2.5	2.1	371	016	●	-	-	-	-	-	-
M1.7	0.35	1.3	40	2.5	2.1	371	017	●	-	-	-	-	-	-
M1.8	0.35	1.45	40	2.5	2.1	371	018	●	-	-	-	-	-	-
M2	0.4	1.6	45	2.8	2.1	371	020	●	020	●	-	-	020	●
M2.5	0.45	2.05	50	2.8	2.1	371	025	●	-	-	-	-	025	●
M3	0.5	2.5	56	3.5	2.7	371	030	●	030	●	030	●	030	●

							ATORN				ORION			
Cutting material							HSSE		HSSE		HSSE		HSSE	
Surface							Vaporised		Vaporised		Vaporised		Vaporised	
Tol.							ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
Lead angle shape							B		C		B		C	
Twist angle							0°		40° (right)		0°		40° (right)	
Coolant supply							External		External		External		External	
	mm	mm	mm	mm	mm	DIN	13113... Ident. No.		13264... Ident. No.		13119... Ident. No.		13318... Ident. No.	
M3.5	0.6	2.9	56	4	3	371	035	●	-	-	-	-	-	-
M4	0.7	3.3	63	4.5	3.4	371	040	●	040	●	040	●	040	●
M5	0.8	4.2	70	6	4.9	371	050	●	050	●	050	●	050	●
M6	1	5	80	6	4.9	371	060	●	060	●	060	●	060	●
M8	1.25	6.8	90	8	6.2	371	080	●	080	●	080	●	080	●
M10	1.5	8.5	100	10	8	371	100	●	100	●	100	●	100	●
M12	1.75	10.2	110	9	7	376	-	-	120	●	-	-	120	●
M14	2	12	110	11	9	376	-	-	140	●	-	-	-	-
M16	2	14	110	12	9	376	-	-	160	●	-	-	-	-
M20	2.5	17.5	140	16	12	376	-	-	200	●	-	-	-	-

ORION = Prod. Gr. 1DB
ATORN® = Prod. Gr. 1KA

ATORN HSSE TiN machine tap

For universal use up to 1,000 N/mm²

Application:

No. 13115: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

No. 13269–13307: For producing metric threads on CNC machines or conventional machines in **blind holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

Execution:

- **No. 13115 030–13115 640, 13307 030–13307 200:** structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = over-long shank (from M12)
- **No. 13269:** Structural dimensions according to: DIN 371 = reinforced shank (up to M10), DIN 376 = protruding shank (from M12)

Advantage:

- **No. 13115 030–13115 100:** good service life and process reliability thanks to innovative cutting geometry and universal use for the greatest flexibility in applications
- **No. 13115 120–13115 640:** good service life and process reliability thanks to innovative cutting geometry and coating as well as universal use for the greatest flexibility in applications
- **No. 13269:** Long service life and good process reliability due to innovative cutting geometry and universal use for maximum application versatility
- **No. 13307:** Long service life and high level of process reliability thanks to innovative cutter geometry and coating and universal application for maximum flexibility in use

No. 13115 030–13115 200

No. 13115 430–13115 640

No. 13269

No. 13307

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	13		10		19	19	17	19	17	17	15		18					

							HSSE		HSSE		HSSE		HSSE	
Cutting material							TiCN		TiN		TiCN		TiN	
Surface							ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
Tol.							B		C		C		B	
Lead angle shape							0°		40° (right)		40° (right)		0°	
Twist angle							External		External		External		External	
Coolant supply							13115... Ident. No.		13307... Ident. No.		13269... Ident. No.		13115... Ident. No.	
	mm	mm	mm	mm	mm	DIN								
M3	0.5	2.5	56	3.5	2.7	371	030	●	030	●	030	●	430	●
M4	0.7	3.3	63	4.5	3.4	371	040	●	040	●	040	●	440	●
M5	0.8	4.2	70	6	4.9	371	050	●	050	●	050	●	450	●
M6	1	5	80	6	4.9	371	060	●	060	●	060	●	460	●
M8	1.25	6.8	90	8	6.2	371	080	●	080	●	080	●	480	●
M10	1.5	8.5	100	10	8	371	100	●	100	●	100	●	500	●
M12	1.75	10.2	110	9	7	376	120	●	120	●	120	●	520	●
M16	2	14	110	12	9	376	160	●	160	●	160	●	560	●
M20	2.5	17.5	140	16	12	376	200	●	200	●	200	●	600	●
M24	3	21	160	18	14.5	376	-	-	-	-	240	●	640	●

Prod. Gr. 1KA

ORION ATORN Vaporised HSSE machine tap (DIN 376)

For universal use up to 1,000 N/mm²

M | ≤3xd | ≤2,5xd | HSSE | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

No. 13117–13119

No. 13283–13321

P MAX 1000 Control | Vc min/max

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Application:

No. 13117–13119: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

No. 13283–13321: For producing metric threads on CNC machines or conventional machines in **blind holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

Execution:

- **No. 13117 020–13117 360, 13283 030–13283 360:** with over-long shank
- **No. 13119:** With protruding shank
- **No. 13321:** With transition-fit shank

Advantage:

- **No. 13117 020–13117 360, 13283 030–13283 360:** good service life and process reliability thanks to innovative cutting geometry and universal use for the greatest flexibility in applications
- **No. 13119 106–13119 300, 13321 030–13321 300:** Standard geometry with very good price/performance ratio

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13117; 13119105-300	16	11		9		18	18	15	18	15	15	13		16					
13283; 13321030-300	17	12		10		19	19	17	19	17	17	15		18					

							ATORN				ORION			
						Cutting material	HSSE		HSSE		HSSE		HSSE	
						Surface	Vaporised		Vaporised		Vaporised		Vaporised	
						Tol.	ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
						Lead angle shape	B		C		C		B	
						Twist angle	0°		40° (right)		40° (right)		0°	
						Coolant supply	External		External		External		External	
mm	mm	mm	mm	mm	mm	DIN	13117... Ident. No.		13283... Ident. No.		13321... Ident. No.		13119... Ident. No.	
M2	0.4	1.6	45	1.4	2.1	376	020	●	-	-	-	-	-	-
M3	0.5	2.5	56	2.2	2.7	376	030	●	030	●	030	●	-	-
M4	0.7	3.3	63	2.8	2.1	376	040	●	040	●	040	●	-	-
M5	0.8	4.2	70	3.5	2.7	376	050	●	050	●	050	●	-	-
M6	1	5	80	4.5	3.4	376	060	●	060	●	060	●	106	●
M8	1.25	6.8	90	6	4.9	376	080	●	080	●	080	●	108	●
M10	1.5	8.5	100	7	5.5	376	100	●	100	●	100	●	110	●
M12	1.75	10.2	110	9	7	376	120	●	120	●	120	●	120	●
M14	2	12	110	11	9	376	140	●	140	●	-	-	-	-
M16	2	14	110	12	9	376	160	●	160	●	160	●	160	●
M18	2.5	15.5	125	14	11	376	180	●	180	●	-	-	-	-
M20	2.5	17.5	140	16	12	376	200	●	200	●	200	●	200	●
M22	2.5	19.5	140	18	14.5	376	220	●	-	-	-	-	-	-
M24	3	21	160	18	14.5	376	240	●	240	●	240	●	240	●
M27	3	24	160	20	16	376	270	●	270	●	-	-	-	-
M30	3.5	26.5	180	22	18	376	300	●	300	●	300	●	300	●
M36	4	32	200	28	22	376	360	●	360	●	-	-	-	-

ORION = Prod. Gr. 1DB
ATORN = Prod. Gr. 1KA

HSSE TiN left-hand machine tap

For universal use up to 1,000 N/mm²

M-L | ≤3xd | HSSE | TiN | ISO 2 | B (3,5-5) | CNC/conv.

Application:

For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

Execution:

- structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = over-long shank (from M12)

Advantage:

- good service life and process reliability thanks to innovative cutting geometry and coating as well as universal use for the greatest flexibility in applications

P MAX 1000 Control | Vc min/max

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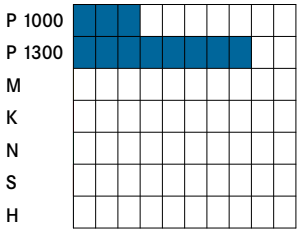
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	**12**		10		**19**	**19**	**17**	**19**	**17**	**17**	**15**		18					

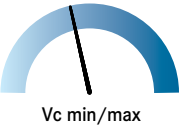
Cutting material								HSSE		HSSE	
Surface								TiN		TiN	
Tol.								ISO 2 (6H)		ISO 2 (6H)	
Lead angle shape								B		B	
Twist angle								0°		0°	
Coolant supply								External		External	
	mm	mm	mm	mm	mm	DIN		13108... Ident. No.		13109... Ident. No.	
M-L3	0.5	2.5	56	3.5	2.7	371		**030**	●	-	-
M-L4	0.7	3.3	63	4.5	3.4	371		**040**	●	-	-
M-L5	0.8	4.2	70	6	4.9	371		**050**	●	-	-
M-L6	1	5	80	6	4.9	371		**060**	●	-	-
M-L8	1.25	6.8	90	8	6.2	371		**080**	●	-	-
M-L10	1.5	8.5	100	10	8	371		**100**	●	-	-
M-L12	1.75	10.2	110	9	7	376		-	-	**120**	●
M-L16	2	14	110	12	9	376		-	-	**160**	●

Prod. Gr. 1KA

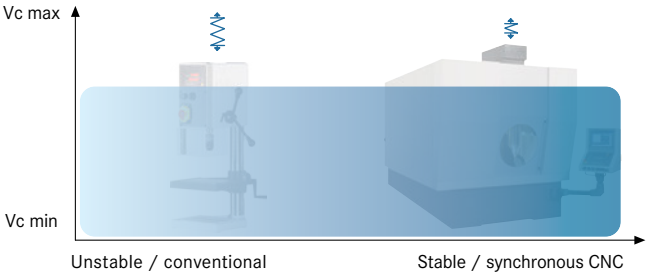
Screw tap P Max 1300
For universal use up to 1300 N/mm²

Performance:





Conditions of use:



ORION ATORN HSSE machine tap
For use in high-strength steel up to 1,300 N/mm²

No. 13130–13149

No. 13306

No. 13319

Application:

No. 13130–13149: For producing metric threads on CNC machines or conventional machines in **through holes** in the high-strength steel material group up to a strength of 1300 N/mm².

No. 13306–13319: For producing metric threads on CNC machines or conventional machines in **blind holes** in the high-strength steel material group up to a strength of 1300 N/mm².

Execution:

- **No. 13130:** Dimensions to: DIN 371 = reinforced shank (to M10), DIN 376 = protruding shank (from M12)
- **No. 13149 030–13149 120, 13319 030–13319 120:** Dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = transition-fit shank (from M12)
- **No. 13306:** structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = over-long shank (from M12)

Advantage:

- **No. 13130:** Long service life and process reliability through innovative cutting geometry for use in high-strength steel
- **No. 13149 030–13149 120, 13319 030–13319 120:** Standard geometry with an excellent price-performance ratio
- **No. 13306:** good service life and process reliability thanks to innovative cutting geometry and coating for use in high-strength steel

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16	12	9																

								ATORN		ORION		ATORN		ORION	
							Cutting material	HSSE		HSSE		HSSE		HSSE	
							Surface	Vaporised		Vaporised		Vaporised		Uncoated	
							Tol.	ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	B		B		C		C	
							Twist angle	0°		0°		40° (right)		40° (right)	
							Coolant supply	External		External		External		External	
	mm	mm	mm	mm	mm	DIN		13130... Ident. No.		13149... Ident. No.		13306... Ident. No.		13319... Ident. No.	
M2	0.4	1.6	45	2.8	2.1	371		020	●	-	-	020	●	-	-
M2.5	0.45	2.05	50	2.8	2.1	371		025	●	-	-	025	●	-	-
M3	0.5	2.5	56	3.5	2.7	371		030	●	030	●	030	●	030	●
M4	0.7	3.3	63	4.5	3.4	371		040	●	040	●	040	●	040	●
M5	0.8	4.2	70	6	4.9	371		050	●	050	●	050	●	050	●
M6	1	5	80	6	4.9	371		060	●	060	●	060	●	060	●
M8	1.25	6.8	90	8	6.2	371		080	●	080	●	080	●	080	●
M10	1.5	8.5	100	10	8	371		100	●	100	●	100	●	100	●
M12	1.75	10.2	110	9	7	376		120	●	120	●	120	●	120	●
M16	2	14	110	12	9	376		160	●	-	-	-	-	-	-
M20	2.5	17.5	140	16	12	376		200	●	-	-	-	-	-	-
M24	3	21	160	18	14.5	376		240	●	-	-	-	-	-	-

ORION = Prod. Gr. 1DB
ATORN = Prod. Gr. 1KA

ATORN HSSE TiCN machine tap

For use in high-strength steel up to 1,300 N/mm²

M | ≤3xd | ≤2,5xd | HSSE | TiCN | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

No. 13128

No. 13305

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Application:

No. 13128: For producing metric threads on CNC machines or conventional machines in **through holes** in the high-strength steel material group up to a strength of 1300 N/mm².

No. 13305: For producing metric threads on CNC machines or conventional machines in **blind holes** in the high-strength steel material group up to a strength of 1300 N/mm².

Execution:

- **No. 13128:** Dimensions to: DIN 371 = reinforced shank (to M10), DIN 376 = protruding shank (from M12)
- **No. 13305:** structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = over-long shank (from M12)

Advantage:

- **No. 13128:** Long service life and process reliability through innovative cutting geometry for use in high-strength steel
- **No. 13305:** good service life and process reliability thanks to innovative cutting geometry for use in high-strength steel

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	13	**10**																

							Cutting material	HSSE		HSSE	
							Surface	TiCN		TiCN	
							Tol.	ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	B		C	
							Twist angle	0°		40° (right)	
							Coolant supply	External		External	
	mm	mm	mm	mm	mm		DIN	**13128...** Ident. No.		**13305...** Ident. No.	
M3	0.5	2.5	56	3.5	2.7		371	**030**	●	**030**	●
M4	0.7	3.3	63	4.5	3.4		371	**040**	●	**040**	●
M5	0.8	4.2	70	6	4.9		371	**050**	●	**050**	●
M6	1	5	80	6	4.9		371	**060**	●	**060**	●
M8	1.25	6.8	90	8	6.2		371	**080**	●	**080**	●
M10	1.5	8.5	100	10	8		371	**100**	●	**100**	●
M12	1.75	10.2	110	9	7		376	**120**	●	**120**	●
M16	2	14	110	12	9		376	**160**	●	**160**	●
M20	2.5	17.5	140	16	12		376	**200**	●	**200**	●

Prod. Gr. 1KA

ATORN Vaporised HSSE machine tap (DIN 376)

For use in high-strength steel up to 1,300 N/mm²

Application:

For producing metric threads on CNC machines or conventional machines in **blind holes** in the high-strength steel material group up to a strength of 1300 N/mm² in individual part and series production.

Execution:

- With protruding shank

Advantage:

- good service life and process reliability thanks to innovative cutting geometry and coating for use in high-strength steel

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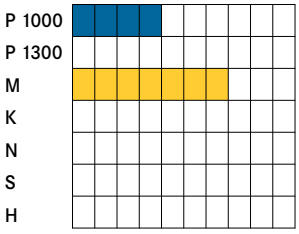
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16	12	9																

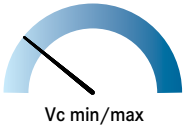
							Cutting material	HSSE
							Surface	Vaporised
							Tol.	ISO 2 (6H)
							Lead angle shape	C
							Twist angle	40° (right)
							Coolant supply	External
	mm	mm	mm	mm	mm	DIN	Ident. No.	
M3	0.5	2.5	56	2.2	-	376	030	●
M4	0.7	3.3	63	2.8	2.1	376	040	●
M5	0.8	4.2	70	3.5	3.4	376	050	●
M6	1	5	80	4.5	3.4	376	060	●
M8	1.25	6.8	90	6	4.9	376	080	●
M10	1.5	8.5	100	7	5.5	376	100	●
M12	1.75	10.2	110	9	7	376	120	●
M14	2	12	110	11	9	376	140	●
M16	2	14	110	12	9	376	160	●
M18	2.5	15.5	125	14	11	376	180	●
M20	2.5	17.5	140	16	12	376	200	●
M24	3	21	160	18	14.5	376	240	●
M30	3.5	26.5	180	22	18	376	300	●

Prod. Gr. 1KA

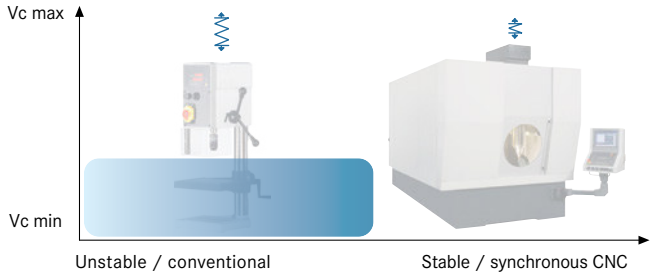
Screw tap M MAX 40 Control
For use on stainless steel

Performance:





Conditions of use:



ATORN ORION® Vaporised HSSE machine tap
For use on stainless steels

Application:

No. 13136–13145: For producing metric threads on CNC or conventional machines in **through holes** in the stainless steel material group.

No. 13279–13288: For producing metric threads on CNC machines or conventional machines in **blind holes** in the stainless steel material group.

Execution:

- **No. 13136:** Dimensions to: DIN 371 = reinforced shank (to M10), DIN 376 = protruding shank (from M12)
- **No. 13145:** Dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = transition-fit shank (from M12)
- **No. 13279:** Structural dimensions according to: DIN 371 = reinforced shank (up to M10), DIN 376 = protruding shank (from M12)
- **No. 13288:** structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = over-long shank (from M12)

Advantage:

- **No. 13136:** Long service life and process reliability through innovative cutting geometry in machining stainless steel
- **No. 13145 120–13145 240:** Standard geometry with an excellent price-performance ratio
- **No. 13279:** Standard geometry with very good price/performance ratio
- **No. 13288:** long service life and high process reliability thanks to innovative cutting geometry for machining stainless steel

No. 13136–13145

No. 13279

No. 13288

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16	12		9	10														

								ATORN				ORION			
							Cutting material	HSSE		HSSE		HSSE		HSSE	
							Surface	Vaporised		Vaporised		Vaporised		Vaporised	
							Tol.	ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	C		B		B		C	
							Twist angle	40° (right)		0°		0°		40° (right)	
							Coolant supply	External		External		External		External	
	mm	mm	mm	mm	mm	DIN		13288... Ident. No.		13136... Ident. No.		13145... Ident. No.		13279... Ident. No.	
M2	0.4	1.6	45	2.8	2.1	371		020	●	-	-	-	-	-	-
M2.5	0.45	2.05	50	2.8	2.1	371		025	●	-	-	-	-	-	-
M3	0.5	2.5	56	3.5	2.7	371		030	●	030	●	030	●	030	●
M4	0.7	3.3	63	4.5	3.4	371		040	●	040	●	040	●	040	●
M5	0.8	4.2	70	6	4.9	371		050	●	050	●	050	●	050	●
M6	1	5	80	6	4.9	371		060	●	060	●	060	●	060	●
M8	1.25	6.8	90	8	6.2	371		080	●	080	●	080	●	080	●
M10	1.5	8.5	100	10	8	371		100	●	100	●	100	●	100	●
M12	1.75	10.2	110	9	7	376		120	●	120	●	120	●	120	●
M14	2	12	110	11	9	376		140	●	140	●	-	-	-	-
M16	2	14	110	12	9	376		160	●	160	●	160	●	-	-
M18	2.5	15.5	125	14	11	376		180	●	180	●	-	-	-	-

								ATORN				ORION			
							Cutting material	HSSE		HSSE		HSSE		HSSE	
							Surface	Vaporised		Vaporised		Vaporised		Vaporised	
							Tol.	ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	C		B		B		C	
							Twist angle	40° (right)		0°		0°		40° (right)	
							Coolant supply	External		External		External		External	
	mm	mm	mm	mm	mm	mm	DIN	13288... Ident. No.		13136... Ident. No.		13145... Ident. No.		13279... Ident. No.	
M20	2.5	17.5	140	16	12	376		200	●	200	●	200	●	-	-
M24	3	21	160	18	14.5	376		240	●	240	●	240	●	-	-
M30	3.5	26.5	180	22	18	376		300	●	300	●	-	-	-	-

ORION = Prod. Gr. 1DB
ATORN = Prod. Gr. 1KA

ATORN HSSE TiN machine tap

For use on stainless steels

No. 13107

No. 13277

p. 211 p. 215 p. 40 p. 849 p. 339

Application:

No. 13107: For producing metric threads on CNC or conventional machines in **through holes** in the stainless steel material group.

No. 13277: For producing metric threads on CNC machines or conventional machines in **blind holes** in the stainless steel material group.

Execution:

- **No. 13107:** structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = over-long shank (from M12)
- **No. 13277:** Structural dimensions according to: DIN 371 = reinforced shank (up to M10), DIN 376 = protruding shank (from M12)

Advantage:

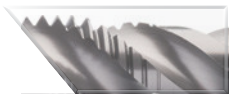
- **No. 13107:** long service life and high process reliability thanks to innovative cutting geometry for machining stainless steel
- **No. 13277:** Long service life and good process reliability due to innovative cutting geometry when machining stainless steel

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	13		13	11														

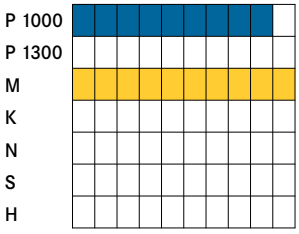
								ATORN			
							Cutting material	HSSE		HSSE	
							Surface	TiN		TiN	
							Tol.	ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	B		C	
							Twist angle	0°		40° (right)	
							Coolant supply	External		External	
	mm	mm	mm	mm	mm	mm	DIN	13107... Ident. No.		13277... Ident. No.	
M3	0.5	2.5	56	3.5	2.7	371		030	●	030	●
M4	0.7	3.3	63	4.5	3.4	371		040	●	040	●
M5	0.8	4.2	70	6	4.9	371		050	●	050	●
M6	1	5	80	6	4.9	371		060	●	060	●
M8	1.25	6.8	90	8	6.2	371		080	●	080	●
M10	1.5	8.5	100	10	8	371		100	●	100	●
M12	1.75	10.2	110	9	7	376		120	●	120	●
M14	2	12	110	11	9	376		140	●	-	-
M16	2	14	110	12	9	376		160	●	160	●
M18	2.5	15.5	125	14	11	376		180	●	-	-
M20	2.5	17.5	140	16	12	376		200	●	200	●
M24	3	21	160	18	14.5	376		240	●	-	-
M30	3.5	26.5	180	22	18	376		300	●	-	-

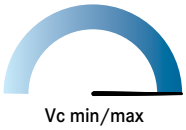
Prod. Gr. 1KA

Screw tap M MAX 45 SPEED
For use on stainless steels

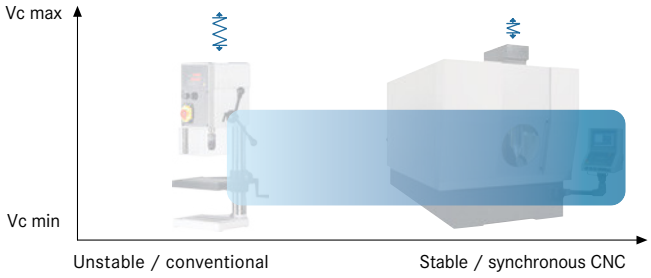


Performance:





Conditions of use:



ATORN Vaporised HSSE machine tap
For use on stainless steels

Application:

No. 13068: For producing metric threads on CNC or conventional machines in **through holes**, in stainless steel and Steel

No. 13075: For producing metric threads on CNC or conventional machines in **blind holes**, in stainless steel and Steel

Advantage:

- Ideal for long service life requirements for steel and stainless steel
- Innovative cutting geometry ensures high process reliability in stainless steel

No. 13068

No. 13075

p. 211 p. 215 p. 40 p. 849 p. 339

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16	12		8	7														

								ATORN			
							Cutting material	HSSE		HSSE	
							Surface	Vaporised		Vaporised	
							Tol.	ISO 2X (6HX)		ISO 2X (6HX)	
							Lead angle shape	B		C	
							Twist angle	0°		45° (right)	
							Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN		13068... Ident. No.		13075... Ident. No.	
M2	0.4	1.60	45.00	2.80	2.10	371		020	●	020	●
M2.5	0.45	2.05	50.00	2.80	2.10	371		025	●	025	●
M3	0.5	2.50	56.00	3.50	2.70	371		030	●	030	●
M4	0.7	3.30	63.00	4.50	3.40	371		040	●	040	●
M5	0.8	4.20	70.00	6	4.90	371		050	●	050	●
M6	1	5.00	80.00	6	4.90	371		060	●	060	●
M8	1.25	6.80	90.00	8	6.20	371		080	●	080	●
M10	1.5	8.50	100.00	10	8	371		100	●	100	●
M12	1.75	10.20	110.00	9	7	376		120	●	120	●
M14	2	12.00	110.00	11	9	376		140	●	140	●
M16	2	14.00	110.00	12	9	376		160	●	160	●
M20	2.5	17.50	140.00	16	12	376		200	●	200	●
M24	3	21.00	160.00	18	14.50	376		240	●	240	●
M30	3.5	26.50	180.00	22	18	376		300	●	300	●

Prod. Gr. 1KA

ATORN Machine tap, HSSE Ultra HL

For use on stainless steels

M | ≤3xd | ≤2,5xd | HSSE | ULTRA HL | ISO 2 x | B (3,5-5) | C (2-3) | CNC/conv.

No. 13061

No. 13079

p. 211 p. 215 p. 40 p. 849 p. 339

Application:

No. 13061: For producing metric threads on CNC or conventional machines in **through holes**, in stainless steel and Steel

No. 13079: For producing metric threads on CNC machines or conventional machines in **blind holes** in the stainless steel material group.

Advantage:

- Ideal for long service life requirements for steel and stainless steel
- Innovative cutting geometry ensures high process reliability in stainless steel

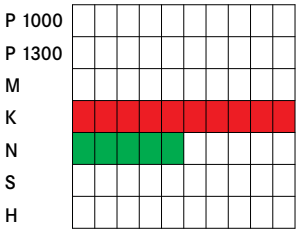
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	20	16		11	10														

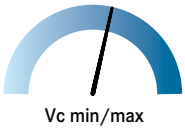
							Cutting material	HSSE		HSSE	
							Surface	ULTRA HL		ULTRA HL	
							Tol.	ISO 2X (6HX)		ISO 2X (6HX)	
							Lead angle shape	B		C	
							Twist angle	0°		45° (right)	
							Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN		13061... Ident. No.		13079... Ident. No.	
M2	0.4	1.60	45.00	2.80	2.10	371		020	●	020	●
M2.5	0.45	2.05	50.00	2.80	2.10	371		025	●	025	●
M3	0.5	2.50	56.00	3.50	2.70	371		030	●	030	●
M4	0.7	3.30	63.00	4.50	3.40	371		040	●	040	●
M5	0.8	4.20	70.00	6	4.90	371		050	●	050	●
M6	1	5.00	80.00	6	4.90	371		060	●	060	●
M8	1.25	6.80	90.00	8	6.20	371		080	●	080	●
M10	1.5	8.50	100.00	10	8	371		100	●	100	●
M12	1.75	10.20	110.00	9	7	376		120	●	120	●
M14	2	12.00	110.00	11	9	376		140	●	140	●
M16	2	14.00	110.00	12	9	376		160	●	160	●
M18	2.5	15.50	125.00	14	11	376		180	●	180	●
M20	2.5	17.50	140.00	16	12	376		200	●	200	●
M24	3	21.00	160.00	18	14.50	376		240	●	240	●
M30	3.5	26.50	180.00	22	18	376		300	●	300	●

Prod. Gr. 1KA

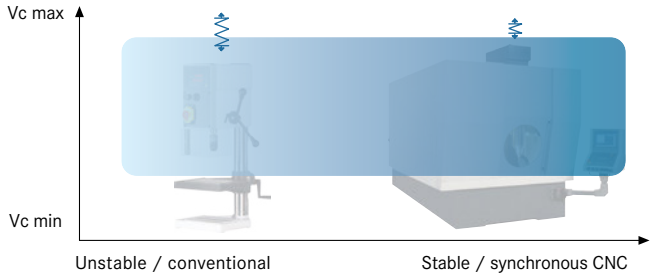
Screw tap K max Control
For use in cast iron and short-chipping non-ferrous metals

Performance:





Conditions of use:



ATORN HSSE machine tap
For use in cast iron and short-chipping, non-ferrous metals

Application:
For producing metric threads on CNC or conventional machines in **through holes and blind holes** in the non-ferrous metals (short-chipping) and cast iron material groups.

Execution:
- structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = overlong shank (from M12)

Advantage:
- long service life and high degree of process reliability thanks to innovative cutting geometry for machining cast iron and short-chip non-ferrous metals
- **No. 13291:** optimum chip removal thanks to inner cooling

No. 13290

No. 13291
High-efficiency HSSE-PM tap with internal cooling ensures secure chip removal and outstanding service life

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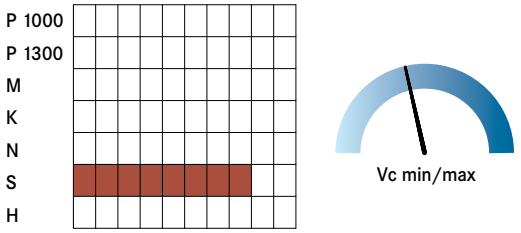
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						22		20		19		17	16	21					

							Cutting material	HSSE		HSSE-PM	
							Surface	TiAlN		TiAlN	
							Tol.	ISO 2X (6HX)		ISO 2X (6HX)	
							Lead angle shape	C		C	
							Twist angle	0°		0°	
							Coolant supply	External		Internal	
	mm	mm	mm	mm	mm		DIN	13290... Ident. No.		13291... Ident. No.	
M3	0.5	2.5	56	3.5	2.7		371	030	●	-	-
M4	0.7	3.3	63	4.5	3.4		371	040	●	-	-
M5	0.8	4.2	70	6	4.9		371	050	●	050	●
M6	1	5	80	6	4.9		371	060	●	060	●
M8	1.25	6.8	90	8	6.2		371	080	●	080	●
M10	1.5	8.5	100	10	8		371	100	●	100	●
M12	1.75	10.2	110	9	7		376	120	●	-	-
M16	2	14	110	12	9		376	160	●	-	-
M18	2.5	15.5	125	14	11		376	180	●	-	-
M20	2.5	17.5	140	16	12		376	200	●	-	-
M24	3	21	160	18	14.5		376	240	●	-	-

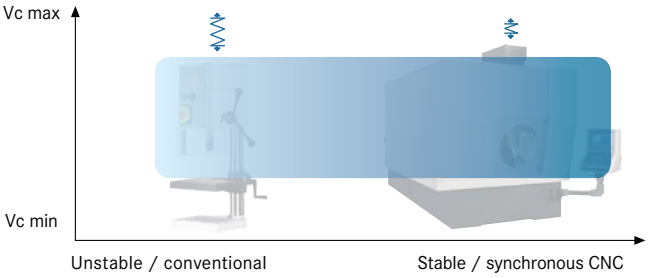
Prod. Gr. 1KA

Screw tap S max Control
For use in titanium and nickel alloys

Performance:



Conditions of use:



ATORN HSSE-PM machine tap
For use in titanium and nickel alloys up to 1,000 N/mm²

Application:

No. 13134: For producing metric threads on CNC machines or conventional machines in **through holes** in the titanium and nickel alloy material group **up to 1000 N/mm²**.

No. 13286–13287: For producing metric threads on CNC machines or conventional machines in **blind holes** in the titanium and nickel alloy material group **up to 1000 N/mm²**.

Execution:

- **No. 13134:** Dimensions to: DIN 371 = reinforced shank (to M10), DIN 376 = protruding shank (from M12)
- **No. 13286–13287:** structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = over-long shank (from M12)

Advantage:

- **No. 13134:** Long service life and process reliability through innovative cutting geometry and coating for use in titanium-and-nickel alloys
- **No. 13286–13287:** good service life and process reliability thanks to innovative cutting geometry and coating for use in titanium and nickel alloys

No. 13134

No. 13286

No. 13287

p. 211 p. 215 p. 40 p. 849 p. 339

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
															6	5			

							Cutting material	HSSE-PM		HSSE-PM		HSSE-PM	
							Surface	TiCN		Vaporised		TiCN	
							Tol.	ISO 2X (6HX)		ISO 2X (6HX)		ISO 2 (6H)	
							Lead angle shape	B		C		C	
							Twist angle	0°		30° (right)		30° (right)	
							Coolant supply	External		External		External	
	mm	mm	mm	mm	mm		DIN	13134... Ident. No.		13286... Ident. No.		13287... Ident. No.	
M2	0.4	1.6	45	2.8	2.1		371	020	●	-	-	-	-
M2.5	0.45	2.05	50	2.8	2.1		371	025	●	-	-	-	-
M3	0.5	2.5	56	3.5	2.7		371	030	●	030	●	030	●
M3.5	0.6	2.9	56	4	3		371	035	●	-	-	-	-
M4	0.7	3.3	63	4.5	3.4		371	040	●	040	●	040	●
M5	0.8	4.2	70	6	4.9		371	050	●	050	●	050	●
M6	1	5.0	80	6	4.9		371	060	●	-	-	-	-
M8	1.25	6.8	90	8	6.2		371	080	●	080	●	080	●
M10	1.5	8.5	100	10	8		371	100	●	100	●	100	●
M12	1.75	10.2	110	9	7		376	120	●	120	●	120	●
M16	2	14	110	12	9		376	160	●	160	●	160	●
M6	1	5	80	6	4.9		371	-	-	060	●	060	●

Prod. Gr. 1KA

ATORN HSSE-PM machine tap

For use in titanium and nickel alloys over 1,000 N/mm²

M | ≤3xd | ≤1xd | ≤2xd | HSSE-PM | TiAlN | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

No. 13203

No. 13313

S MAX Control — Vc min/max

Application:

No. 13203: For manufacturing metric threads on CNC or conventional machines in **through holes** in the titanium and nickel alloy material group **over 1000 N/mm²**.

No. 13313: For producing metric threads on CNC machines or conventional machines in **blind holes** in the titanium and nickel alloy material group **over 1000 N/mm²**.

Execution:

- Dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = transition-fit shank (from M12)

Advantage:

- Long service life and high process reliability thanks to innovative cutting geometry and coating for use with titanium and nickel alloys

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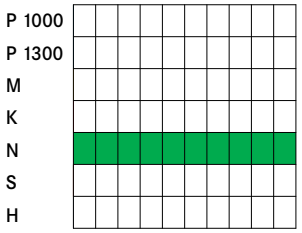
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
															6	5			

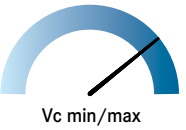
							Cutting material	HSSE-PM		HSSE-PM	
							Surface	TiAlN		TiAlN	
							Tol.	ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	B		C	
							Twist angle	0°		15° (right)	
							Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13203... Ident. No.			13313... Ident. No.	
M3	0.5	2.5	56	3.5	2.7	371	030	●		-	-
M4	0.7	3.3	63	4.5	3.4	371	040	●		040	●
M5	0.8	4.2	70	6	4.9	371	050	●		050	●
M6	1	5	80	6	4.9	371	060	●		060	●
M8	1.25	6.8	90	8	6.2	371	080	●		080	●
M10	1.5	8.5	100	10	8	371	100	●		100	●
M12	1.75	10.2	110	9	7	376	120	●		120	●
M16	2	14	110	12	9	376	-	-		160	●

Prod. Gr. 1KA

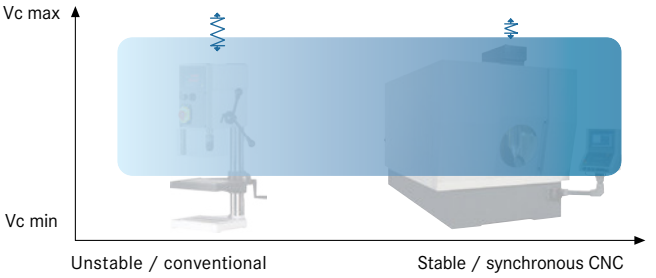
Screw tap N Max Control
For use in non-ferrous metals

Performance:





Conditions of use:



N MAX Control | Vc min/max

ATORN HSSE machine tap
For use on non-ferrous metals

M | ≤3xd | ≤2,5xd | HSSE | ISO 2 | ISO 2 x | B (3,5-5) | C (2-3) | CNC/conv.

No. 13118

No. 13266

N MAX Control | Vc min/max

Application:

No. 13118: For producing metric threads on CNC or conventional machines in **through holes** in the non-ferrous metals material group.

No. 13266: For producing metric threads on CNC or conventional machines in **blind holes** in the non-ferrous metals material group.

Execution:

- **No. 13118:** structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = over-long shank (from M12)
- **No. 13266:** Structural dimensions according to: DIN 371 = reinforced shank (up to M10), DIN 376 = protruding shank (from M12)

Advantage:

- **No. 13118:** long service life and high degree of process reliability thanks to innovative cutting geometry in machining non-ferrous metal
- **No. 13266:** Long service life and good process reliability due to innovative cutting geometry when machining non-ferrous metal

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16					18	18	15	18	15	15	13							

								Cutting material	HSSE		HSSE	
								Surface	Vaporised		Uncoated	
								Tol.	ISO 2X (6HX)		ISO 2 (6H)	
								Lead angle shape	B		C	
								Twist angle	0°		45° (right)	
								Coolant supply	External		External	
	mm	mm	mm	mm	mm		DIN	13118... Ident. No.			13266... Ident. No.	
M2	0.4	1.6	45	2.8	2.1		371	020	●		020	●
M3	0.5	2.5	56	3.5	2.7		371	030	●		030	●
M4	0.7	3.3	63	4.5	3.4		371	040	●		040	●
M5	0.8	4.2	70	6	4.9		371	050	●		050	●
M6	1	5	80	6	4.9		371	060	●		060	●
M8	1.25	6.8	90	8	6.2		371	080	●		080	●
M10	1.5	8.5	100	10	8		371	100	●		100	●
M12	1.75	10.2	110	9	7		376	120	●		120	●
M16	2	14	110	12	9		376	160	●		160	●
M18	2.5	15.5	125	14	11		376	-	-		180	●
M20	2.5	17.5	140	16	12		376	200	●		200	●
M22	2.5	19.5	140	18	14.5		376	220	●		-	-
M24	3	21	160	18	14.5		376	240	●		240	●

Prod. Gr. 1KA

ATORN HSSE PM Carbo machine tap

For use on non-ferrous metals

M | ≤3xd | ≤2,5xd | HSSE-PM | CARBO | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

No. 13345

No. 13349

N MAX Control | Vc min/max

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Application:

No. 13345: For producing metric threads on CNC or conventional machines in **through holes** in the non-ferrous metals material group.

No. 13349: For producing metric threads on CNC or conventional machines in **blind holes** in the non-ferrous metals material group.

Execution:

- Dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = transition-fit shank (from M12)

Advantage:

- Specialised use with optimised chip geometry for use in NF metals.
- **No. 13345 030–13349 100:** Innovative carbo coating for very good gliding properties and emergency operating function if coolant supply is interrupted.
- **No. 13349 120–13349 240:** Innovative carbo coating for very good sliding properties and emergency operating function if coolant supply is interrupted.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	19					24	22	18	22	18	18	16							

							Cutting material	HSSE-PM		HSSE-PM	
							Surface	Carbo coating		Carbo coating	
							Tol.	ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	B		C	
							Twist angle	0°		40° (right)	
							Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13345... Ident. No.			13349... Ident. No.	
M3	0.5	2.5	56	3.5	2.7	371	030	●		030	●
M4	0.7	3.3	63	4.5	3.4	371	040	●		040	●
M5	0.8	4.2	70	6	4.9	371	050	●		050	●
M6	1	5	80	6	4.9	371	060	●		060	●
M8	1.25	6.8	90	8	6.2	371	080	●		080	●
M10	1.5	8.5	100	10	8	371	100	●		100	●
M12	1.75	10.2	110	9	7	376	120	●		120	●
M16	2	14	110	12	9	376	160	●		160	●
M14	2	12	110	11	9	376	-	-		140	●
M20	2.5	17.5	140	16	12	376	-	-		200	●
M24	3	21	160	18	14.5	376	-	-		240	●

Prod. Gr. 1KA

ATORN HSSE machine taps with interrupted teeth

For use on non-ferrous metals

No. 13083

No. 13254

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Application:

No. 13083 030–13083 160, 13254 120–13254 200: For producing metric threads on CNC or conventional machines in **through holes** in the non-ferrous metals material group.

No. 13254 030–13254 100: For producing metric threads on CNC or conventional machines in **blind holes** in the non-ferrous metals material group.

Execution:

- **No. 13083:** Dimensions pursuant to: DIN 371 = reinforced shank (up to M10), DIN 376 = transition-fit shank (from M12)
- **No. 13254:** structural dimensions in accordance with: DIN 371 = reinforced shank (up to M10), DIN 376 = over-long shank (from M12)

Advantage:

- **No. 13083:**
  - Innovative cutting geometry with exposed teeth reduces the torque, improves lubricant distribution and ensures very high process reliability and chip removal
  - Specialised insert with optimised chipping geometry for use in NF metals with adhesive or lubricating properties
- **No. 13254:**
  - innovative cutting geometry with interrupted thread reduces torque, improves lubricant distribution and ensures extremely good process reliability and chip removal
  - specialised application with optimised chip geometry, for use in non-ferrous metals with adhesive or lubricating properties

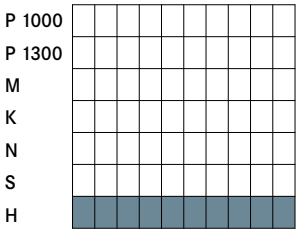
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16					18	18	15	18	15	15	13							

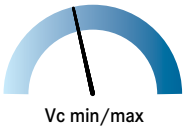
							Cutting material	HSSE		HSSE	
							Surface	Uncoated		Uncoated	
							Tol.	ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	B		C	
							Twist angle	0°		15° (right)	
							Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13083... Ident. No.		13254... Ident. No.		
M3	0.5	2.5	56	3.5	2.7	371	030	●	030	●	
M4	0.7	3.3	63	4.5	3.4	371	040	●	040	●	
M5	0.8	4.2	70	6	4.9	371	050	●	050	●	
M6	1	5	80	6	4.9	371	060	●	060	●	
M8	1.25	6.8	90	8	6.2	371	080	●	080	●	
M10	1.5	8.5	100	10	8	371	100	●	100	●	
M12	1.75	10.2	110	9	7	376	120	●	120	●	
M16	2	14.0	110	12	9	376	160	●	160	●	
M20	2.5	17.5	140	16	12	376	-	-	200	●	

Prod. Gr. 1KA

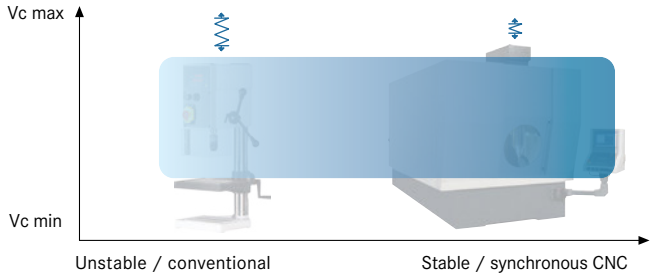
Screw tap H max Control
For use in hard machining from 55-65 HRC

Performance:





Conditions of use:



ATORN HSSE-PM and SC TiCN machine taps
For machining from 55 HRC-63 HRC

Application:
For producing metric threads on CNC machines in **through holes and blind holes** in the hardened steel material group **up to 63 HRC**.

Execution:
- with reinforced shank

Advantage:
- good service life and process reliability thanks to innovative cutting geometry and coating for machining hardened steel

No. 13251

No. 13253

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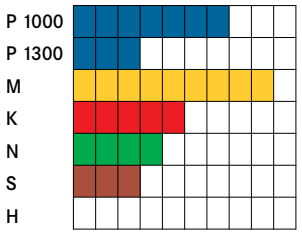
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13251030-100; 13251120																		5	2
13253060-100; 13253120																		3	

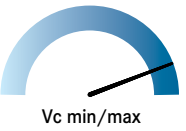
Cutting material							HSSE-PM		SC	
Surface							TiCN		TiCN	
Tol.							ISO 2 (6H)		ISO 2X (6HX)	
Lead angle shape							D		D	
Twist angle							0°		0°	
Coolant supply							External		External	
	mm	mm	mm	mm	mm	DIN	13253... Ident. No.		13251... Ident. No.	
M3	0.5	2.6	56	3.5	2.7	371 similar	030	●	030	●
M4	0.7	3.4	63	4.5	3.4	371 similar	040	●	040	●
M5	0.8	4.3	70	6	4.9	371 similar	050	●	050	●
M6	1	5.1	80	6	4.9	371 similar	060	●	060	●
M8	1.25	6.9	90	8	6.2	371 similar	080	●	080	●
M10	1.5	8.6	100	10	8	371 similar	100	●	100	●
M12	1.75	10.4	110	12	9	371 similar	120	●	120	●
M16	2	14.1	110	16	-	376 similar	160	●	160	●

Prod. Gr. 1KA

Screw tap and drill tap for hand-held power tools
for universal use on hand-held power tools

Performance:





Use:

ATORN HSSE screw tap with polygon shank for use in cordless drill drivers and drills
For universal use up to 1,100 N/mm²

M | ≤3xd | HSSE | B (3,5-5) | C (2-3)

Application:
Specially designed for thread cutting in manual operation with high service life requirements.

Advantage:
- Suitable for universal use with polygon shanks in cordless drills, drills or tapping chucks. Full power transmission

No. 13101

No. 13102

UNI MAX 45 Control | Vc min/max

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Cutting material						HSSE		HSSE	
Surface						Vaporised		Vaporised	
Lead angle shape						B		C	
Twist angle						0°		45° (right)	
Coolant supply						External		External	
	mm	mm	mm	mm	mm	13101... Ident. No.		13102... Ident. No.	
M4	0.7	3.3	63	4.5	3.4	004	●	004	●
M5	0.8	4.2	70	6	4.9	005	●	005	●
M6	1	5	80	6	4.9	006	●	006	●
M8	1.25	6.8	90	8	6.2	008	●	008	●
M10	1.5	8.5	100	10	8	010	●	010	●
M12	1.75	10.2	110	9	7	012	●	012	●

Prod. Gr. 1KA

ATORN Drill-and-tap combination tool with polygon shank
For universal use up to 1,100 N/mm²

M | HSSE

Application:
Specially developed to allow drilling and thread cutting in a single operation in applications requiring a long service life.

Advantage:
- Suitable for universal use with polygon shanks in cordless drills, drills or tapping chucks. Full power transmission
- Innovative rake ensures high process reliability even under difficult machining conditions

UNI MAX 45 Control | Vc min/max

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					Cutting material	HSSE	
					Surface	Vaporised	
					Coolant supply	External	
	mm	mm	mm	mm	mm	13007... Ident. No.	
M4	0.7	3.3	66	5	3.8	004	●
M5	0.8	4.2	75	6	4.9	005	●
M6	1	5	91	8	6.2	006	●
M8	1.25	6.8	103	10	8	008	●
M10	1.5	8.5	125	12	9	010	●
M12	1.75	10.2	135	12	9	012	●

Prod. Gr. 1KA

ATORN Machine tap, HSSE Ultra HL (DIN 374)

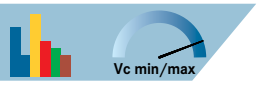
For universal use up to 1,000 N/mm²

MF | ≤3xd | ≤2,5xd | HSSE | ULTRA HL | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

No. 13103

No. 13315

UNI MAX 45HL Control



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Application:

No. 13103: For producing fine metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1000 N/mm².

No. 13315: For producing fine metric threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1000 N/mm².

Execution:

- With transition-fit shank

Advantage:

- Ideal for long service life requirements and materials that are difficult to machine, such as stainless steel
- Innovative cutting geometry and ULTRA HL coating guarantee high process reliability even under difficult machining conditions

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	8	11	10	19	19	17	19	17	18	13		18	7	6	6		

						Cutting material	HSSE		HSSE	
						Surface	ULTRA HL		ULTRA HL	
						Tol.	ISO 2 (6H)		ISO 2 (6H)	
						Lead angle shape	B		C	
						Twist angle	0°		45° (right)	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13103... Ident. No.		13315... Ident. No.	
MF6	0.75	5.2	80	4.5	3.4	374	065	●	065	●
MF8	0.75	7.2	80	6	4.9	374	-	-	083	●
MF8	1	7	90	6	4.9	374	086	●	086	●
MF10	1	9	90	7	5.5	374	103	●	103	●
MF10	1.25	8.8	100	7	5.5	374	-	-	106	●
MF12	1	11	100	9	7	374	120	●	120	●
MF12	1.5	10.5	100	9	7	374	126	●	126	●
MF12	1.25	10.8	100	9	7	374	-	-	123	●
MF14	1.5	12.5	100	11	9	374	146	●	146	●
MF16	1.5	14.5	100	12	9	374	165	●	165	●
MF18	1.5	16.5	110	14	11	374	183	●	183	●
MF20	1.5	18.5	125	16	12	374	-	-	203	●
MF24	1.5	22.5	140	18	14.5	374	243	●	243	●
MF24	2	22	140	18	14.5	374	246	●	-	-

Prod. Gr. 1KC

ATORN Vaporised HSSE machine tap (DIN 374)

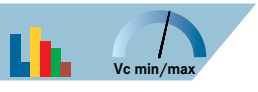
For universal use up to 1,000 N/mm²

MF | ≤3xd | ≤3xd | HSSE | ISO 2 | B (3,5-5) | C (2-3)

No. 13067

No. 13078

UNI MAX 45 Control



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Application:

No. 13067: For producing fine metric threads on CNC machines or conventional machines in **through holes** in steel, stainless steel, non-ferrous metals, cast iron and special alloys up to 1,200 N/mm².

No. 13078: For producing fine metric threads on CNC machines or conventional machines in **blind holes** in steel, stainless steel, non-ferrous metals, cast iron and special alloys up to 1,200 N/mm².

Advantage:

- Ideal for long service life requirements and materials that are difficult to machine, such as stainless steel
- Innovative rake ensures high process reliability even under difficult machining conditions

						Cutting material	HSSE		HSSE	
						Surface	Vaporised		Vaporised	
						Tol.	ISO 2 (6H)		ISO 2 (6H)	
						Lead angle shape	B		C	
						Twist angle	0°		45° (right)	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13067... Ident. No.		13078... Ident. No.	
MF4	0.5	3.5	63	2.8	2.1	374	400	●	400	●
MF5	0.5	4.5	70	3.5	2.7	374	403	●	403	●
MF6	0.5	5.5	80	4.5	3.4	374	406	●	406	●
MF6	0.75	5.2	80	4.5	3.4	374	407	●	407	●
MF8	0.75	7.2	80	6	4.9	374	410	●	410	●
MF8	1	7	90	6	4.9	374	411	●	411	●
MF9	1	8	90	7	5.5	374	414	●	414	●
MF10	0.75	9.2	90	7	5.5	374	417	●	417	●
MF10	1	9	90	7	5.5	374	418	●	418	●
MF10	1.25	8.8	100	7	5.5	374	419	●	419	●
MF11	1	10	90	8	6.2	374	422	●	422	●
MF12	1	11	100	9	7	374	425	●	425	●
MF12	1.25	10.8	100	9	7	374	428	●	428	●
MF12	1.5	10.5	100	9	7	374	429	●	429	●
MF14	1	13	100	11	9	374	432	●	432	●
MF14	1.25	12.8	100	11	9	374	433	●	433	●
MF14	1.5	12.5	100	11	9	374	434	●	434	●
MF16	1	15	100	12	9	374	437	●	437	●
MF16	1.5	14.5	100	12	9	374	438	●	438	●
MF18	1	17	110	14	11	374	441	●	441	●
MF18	1.5	16.5	110	14	11	374	442	●	442	●
MF18	2	16	125	14	11	374	443	●	443	●
MF20	1	19	125	16	12	374	446	●	446	●
MF20	1.5	18.5	125	16	12	374	447	●	447	●
MF20	2	18	140	16	12	374	450	●	450	●
MF22	1	21	125	18	14.5	374	453	●	453	●
MF22	1.5	20.5	125	18	14.5	374	454	●	454	●
MF22	2	20	140	18	14.5	374	455	●	455	●
MF24	1	23	140	18	14.5	374	458	●	458	●
MF24	1.5	22.5	140	18	14.5	374	459	●	459	●
MF24	2	22	140	18	14.5	374	460	●	460	●

Prod. Gr. 1KC

ATORN Machine tap HSSE-PM Ultra HL (DIN 374)

for universal use up to 1,200 N/mm2

Application:

No. 13204: For producing fine metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals, cast and special alloy material groups up to a strength of 1200 N/mm².

No. 13211: For producing fine metric threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1200 N/mm².

Advantage:

- Universal use for maximum flexibility of application
- Innovative cutter geometry ensures high process reliability even in difficult machining conditions

No. 13211

No. 13204

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	22	16	12	12	12	14	30	17	24	12	20	30	16	18	7	6	6		

						Cutting material	HSSE-PM		HSSE-PM	
						Surface	ULTRA HL		ULTRA HL	
						Tol.	ISO 2X (6HX)		ISO 2X (6HX)	
						Lead angle shape	C		B	
						Twist angle	50° (right)		0°	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13204... Ident. No.		13211... Ident. No.	
MF8	1	7	90	6	4.9	374	086	●	086	●
MF10	1	9	90	7	5.5	374	103	●	103	●
MF10	1.25	8.8	100	7	5.5	374	106	●	106	●
MF12	1	11	100	9	7	374	120	●	120	●
MF12	1.25	10.8	100	9	7	374	123	●	123	●

						Cutting material	HSSE-PM		HSSE-PM	
						Surface	ULTRA HL		ULTRA HL	
						Tol.	ISO 2X (6HX)		ISO 2X (6HX)	
						Lead angle shape	C		B	
						Twist angle	50° (right)		0°	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13204... Ident. No.		13211... Ident. No.	
MF12	1.5	10.5	100	9	7	374	126	●	126	●
MF14	1.5	12.5	100	11	9	374	146	●	146	●
MF16	1.5	14.5	100	12	9	374	165	●	165	●
MF18	1.5	16.5	110	14	11	374	183	●	183	●
MF20	1.5	18.5	125	16	12	374	203	●	203	●

Prod. Gr. 1KC

ATORN Machine tap HSSE V3 (DIN 374)

For universal use up to 1,000 N/mm²

MF | ≤3xd | ≤2,5xd | HSSE V3 | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

Application:

No. 13219: For producing fine metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1200 N/mm².

No. 13220: For producing fine metric threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1200 N/mm².

Advantage:

- Universal use for maximum flexibility of application
- Innovative cutter geometry ensures high process reliability even in difficult machining conditions

No. 13219

No. 13220

p. 211 p. 215 p. 24 p. 849 p. 339

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	6	8	8	8	18	6	16	10	14	15		15	3	3	3		

						Cutting material	HSSE V3		HSSE V3	
						Surface	Vaporised		Vaporised	
						Tol.	ISO 2 (6H)		ISO 2 (6H)	
						Lead angle shape	B		C	
						Twist angle	0°		40° (right)	
	mm	mm	mm	mm	mm	DIN	13219... Ident. No.		13220... Ident. No.	
MF3	0.35	2.65	56	2.2	-	374	030	●	030	●
MF4	0.5	3.5	63	2.8	2.1	374	045	●	045	●
MF5	0.5	4.5	70	3.5	2.7	374	050	●	050	●
MF6	0.5	5.5	80	4.5	3.4	374	060	●	060	●
MF6	0.75	5.2	80	4.5	3.4	374	065	●	065	●
MF8	0.75	7.2	80	6	4.9	374	083	●	083	●
MF8	1	7	90	6	4.9	374	086	●	086	●
MF10	1	9	90	7	5.5	374	103	●	103	●
MF12	1	11	100	9	7	374	120	●	120	●
MF12	1.5	10.5	100	9	7	374	126	●	126	●
MF14	1.5	12.5	100	11	9	374	146	●	146	●
MF16	1.5	14.5	100	12	9	374	165	●	165	●
MF18	1.5	16.5	110	14	11	374	183	●	183	●
MF20	1.5	18.5	125	16	12	374	203	●	203	●
MF22	1.5	20.5	125	18	14.5	374	223	●	223	●
MF24	1.5	22.5	140	18	14.5	374	243	●	243	●
MF27	1.5	25.5	140	20	16	374	-	-	270	●
MF30	1.5	28.5	150	22	18	374	-	-	303	●

Prod. Gr. 1KC

ATORN HSSE machine tap (DIN 374)

for universal use up to 1,000 N/mm2

MF | ≤2xd | HSSE | ISO 2 | C (2-3) | CNC/conv.

Application:

For producing fine metric threads on CNC machines or conventional machines in **through holes and blind holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

Execution:

- With transition-fit shank

Advantage:

- Long service life and high process reliability thanks to innovative cutting geometry, and universal use for maximum flexibility in use.

P 1000 Control — Vc min/max

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16	11		9		18	18	15	18	15	15	13	14	16					

							Cutting material	HSSE	
							Surface	Uncoated	
							Tol.	ISO 2 (6H)	
							Lead angle shape	C	
							Twist angle	0°	
							Coolant supply	External	
	mm	mm	mm	mm	mm	DIN	13320... Ident. No.	
MF3	0.35	2.65	56	2.2	-	374	030	●
MF4	0.5	3.5	63	2.8	2.1	374	045	●
MF5	0.5	4.5	70	3.5	2.7	374	050	●
MF6	0.5	5.5	80	4.5	3.4	374	060	●
MF6	0.75	5.2	80	4.5	3.4	374	065	●
MF8	0.5	7.5	80	6	4.9	374	080	●
MF8	0.75	7.2	80	6	4.9	374	083	●
MF8	1	7	90	6	4.9	374	086	●
MF9	1	8	90	7	5.5	374	090	●
MF10	0.75	9.2	90	7	5.5	374	100	●
MF10	1	9	90	7	5.5	374	103	●
MF10	1.25	8.8	100	7	5.5	374	106	●
MF12	1	11	100	9	7	374	120	●
MF12	1.25	10.8	100	9	7	374	123	●
MF12	1.5	10.5	100	9	7	374	126	●
MF14	1	13	100	11	9	374	140	●
MF14	1.25	12.8	100	11	9	374	143	●
MF14	1.5	12.5	100	11	9	374	146	●
MF15	1	14	100	12	9	374	154	●
MF16	1	15	100	12	9	374	160	●
MF16	1.5	14.5	100	12	9	374	165	●
MF18	1	17	110	14	11	374	180	●
MF18	1.5	16.5	110	14	11	374	183	●
MF20	1	19	125	16	12	374	200	●
MF20	2	18	140	16	12	374	206	●
MF22	1.5	20.5	125	18	14.5	374	223	●
MF24	1	23	140	18	14.5	374	240	●
MF24	1.5	22.5	140	18	14.5	374	243	●
MF24	2	22	140	18	14.5	374	246	●
MF26	1.5	24.5	140	18	14.5	374	260	●
MF27	1.5	25.5	140	20	16	374	270	●
MF27	2	25	140	20	16	374	273	●
MF30	1.5	28.5	150	22	18	374	303	●
MF30	2	28	150	22	18	374	306	●
MF36	1.5	34.5	170	28	22	374	360	●

Prod. Gr. 1KC

ORION ATORN HSSE machine tap (DIN 374)

For universal use up to 1,000 N/mm²

MF | ≤3xd | ≤2,5xd | HSSE | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

No. 13144–13147

No. 13335

P 1000 Control — Vc min/max

p. 211 p. 215 p. 24 p. 849 p. 339

Application:

No. 13144–13147: For producing fine metric threads on CNC machines or conventional machines in **through holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

No. 13335: For producing fine metric threads on CNC machines or conventional machines in **blind holes** in the steel, (stainless steel), non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm².

Execution:

- **No. 13144:** With protruding shank
- **No. 13147–13335:** With transition-fit shank

Advantage:

- **No. 13144:** Long service life and process reliability through innovative cutting geometry and universal use for maximum application flexibility
- **No. 13147:** Long service life and high process reliability thanks to innovative cutting geometry, and universal use for maximum flexibility in use.
- **No. 13335:** Standard geometry with an excellent price-performance ratio

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16	11		9		18	18	15	18	15	15	13	14	16					

								ATORN		ORION			
							Cutting material	HSSE		HSSE		HSSE	
							Surface	Uncoated		Uncoated		Uncoated	
							Tol.	ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	B		B		C	
							Twist angle	0°		0°		40° (right)	
							Coolant supply	External		External		External	
	mm	mm	mm	mm	mm		DIN	13144... Ident. No.		13147... Ident. No.		13335... Ident. No.	
MF3	0.35	2.65	56	2.2	-		374	030	●	-	-	-	-
MF4	0.5	3.5	63	2.8	2.1		374	045	●	-	-	-	-
MF5	0.5	4.5	70	3.5	2.7		374	050	●	-	-	-	-
MF6	0.5	5.5	80	4.5	3.4		374	060	●	-	-	-	-
MF6	0.75	5.2	80	4.5	3.4		374	065	●	-	-	-	-
MF7	0.75	6.2	80	5.5	4.3		374	070	●	-	-	-	-
MF8	0.5	7.5	80	6	4.9		374	080	●	-	-	-	-
MF8	0.75	7.2	80	6	4.9		374	083	●	-	-	-	-
MF8	1	7	90	6	4.9		374	086	●	086	●	086	●
MF9	1	8	90	7	5.5		374	090	●	-	-	-	-
MF10	0.75	9.2	90	7	5.5		374	100	●	-	-	-	-
MF10	1	9	90	7	5.5		374	103	●	103	●	103	●
MF10	1.25	8.8	100	7	5.5		374	106	●	106	●	-	-
MF11	1	10	90	8	6.2		374	110	●	110	●	-	-
MF12	1	11	100	9	7		374	120	●	120	●	120	●
MF12	1.25	10.8	100	9	7		374	123	●	123	●	123	●
MF12	1.5	10.5	100	9	7		374	126	●	126	●	126	●
MF14	1	13	100	11	9		374	140	●	140	●	-	-
MF14	1.25	12.8	100	11	9		374	143	●	-	-	-	-
MF14	1.5	12.5	100	11	9		374	146	●	146	●	146	●
MF15	1	14	100	12	9		374	150	●	150	●	-	-
MF15	1.5	13.5	100	12	9		374	154	●	154	●	-	-
MF16	1	15	100	12	9		374	160	●	160	●	-	-
MF16	1.5	14.5	100	12	9		374	165	●	165	●	165	●
MF18	1	17	110	14	11		374	180	●	-	-	-	-
MF18	1.5	16.5	110	14	11		374	183	●	183	●	183	●
MF18	2	16	125	14	11		374	185	●	185	●	-	-
MF20	1	19	125	16	12		374	200	●	200	●	-	-
MF20	1.5	18.5	125	16	12		374	203	●	203	●	203	●
MF20	2	18	140	16	12		374	206	●	-	-	-	-
MF22	1	21	125	18	14.5		374	220	●	-	-	-	-
MF22	1.5	20.5	125	18	14.5		374	223	●	-	-	-	-
MF22	2	20	140	18	14.5		374	226	●	-	-	-	-
MF24	1	23	140	18	14.5		374	240	●	-	-	-	-
MF24	1.5	22.5	140	18	14.5		374	243	●	-	-	-	-
MF24	2	22	140	18	14.5		374	246	●	-	-	-	-
MF26	1.5	24.5	140	18	14.5		374	260	●	-	-	-	-
MF27	1.5	25.5	140	20	16		374	270	●	-	-	-	-
MF27	2	25	140	20	16		374	273	●	-	-	-	-
MF30	1.5	28.5	150	22	18		374	303	●	-	-	-	-
MF30	2	28	150	22	18		374	306	●	-	-	-	-
MF32	1.5	30.5	150	22	18		374	320	●	-	-	-	-
MF33	1.5	31.5	160	25	20		374	330	●	-	-	-	-
MF35	1.5	33.5	170	28	22		374	350	●	-	-	-	-

							ATORN		ORION			
						Cutting material	HSSE		HSSE		HSSE	
						Surface	Uncoated		Uncoated		Uncoated	
						Tol.	ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
						Lead angle shape	B		B		C	
						Twist angle	0°		0°		40° (right)	
						Coolant supply	External		External		External	
	mm	mm	mm	mm	mm	DIN	13144... Ident. No.		13147... Ident. No.		13335... Ident. No.	
MF36	1.5	34.5	170	28	22	374	360	●	-	-	-	-
MF38	1.5	36.5	170	28	22	374	380	●	-	-	-	-
MF40	1.5	38.5	170	32	24	374	405	●	-	-	-	-

ORION = Prod. Gr. 1DB
ATORN® = Prod. Gr. 1KC

ATORN HSSE machine tap (DIN 374)

For universal use up to 1,000 N/mm²

MF | ≤3xd | ≤2,5xd | HSSE | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

No. 13161

No. 13332

P MAX 1000 Control

Vc min/max

p. 211 p. 215 p. 24 p. 849 p. 339

Application:

No. 13161: For producing fine metric threads on CNC machines or conventional machines in **through holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

No. 13332: For producing fine metric threads on CNC machines or conventional machines in **blind holes** in the steel, (stainless steel), non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm².

Execution:

- **No. 13161:** With transition-fit shank
- **No. 13332:** With protruding shank

Advantage:

- Long service life and high process reliability thanks to innovative cutting geometry, and universal use for maximum flexibility in use.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16	11		9		18	18	15	18	15	15	13	14	16					

								ATORN		ORION	
							Cutting material	HSSE		HSSE	
							Surface	Vaporised		Vaporised	
							Tol.	ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	C		B	
							Twist angle	40° (right)		0°	
							Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN		13332... Ident. No.		13161... Ident. No.	
MF4	0.5	3.5	63	2.8	2.1	374		045	●	-	-
MF5	0.5	4.5	70	3.5	2.7	374		050	●	050	●
MF6	0.75	5.2	80	4.5	3.4	374		065	●	065	●
MF8	0.75	7.2	80	6	4.9	374		083	●	083	●
MF8	1	7	90	6	4.9	374		086	●	086	●
MF10	1	9	90	7	5.5	374		103	●	103	●
MF10	1.25	8.8	100	7	5.5	374		106	●	-	-
MF12	1	11	100	9	7	374		120	●	120	●
MF12	1.25	10.8	100	9	7	374		123	●	-	-
MF12	1.5	10.5	100	9	7	374		126	●	126	●
MF14	1.5	12.5	100	11	9	374		146	●	146	●
MF16	1	15	100	12	9	374		160	●	-	-
MF16	1.5	14.5	100	12	9	374		165	●	165	●
MF18	1.5	16.5	110	14	11	374		183	●	183	●
MF20	1.5	18.5	125	16	12	374		203	●	203	●
MF22	1.5	20.5	125	18	14.5	374		-	-	220	●
MF24	1.5	22.5	140	18	14.5	374		243	●	243	●
MF24	2	22	140	18	14.5	374		-	-	246	●
MF26	1.5	24.5	140	18	14.5	374		-	-	260	●
MF28	1.5	26.5	140	20	16	374		280	●	-	-
MF30	1.5	28.5	150	22	18	374		303	●	303	●
MF30	2	28	150	22	18	374		-	-	306	●
MF36	1.5	34.5	170	28	22	374		-	-	360	●
MF42	1.5	40.5	170	32	24	374		-	-	420	●
MF45	1.5	43.5	180	36	29	374		-	-	450	●
MF48	1.5	46.5	190	36	29	374		-	-	480	●
MF50	1.5	48.5	190	36	29	374		-	-	500	●

Prod. Gr. 1KC

ATORN HSSE machine tap (DIN 374)

For universal use up to 1,000 N/mm²

MF | ≤3xd | ≤2,5xd | HSSE | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

No. 13143

No. 13324

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Application:

No. 13143: For producing fine metric threads on CNC or conventional machines in **through holes** in the stainless steel material group.

No. 13324: For producing fine metric threads on CNC machines or conventional machines in **blind holes** in the stainless steel material group.

Execution:

- **No. 13143:** With protruding shank
- **No. 13324:** With transition-fit shank

Advantage:

- **No. 13143:** Long service life and process reliability through innovative cutting geometry in machining stainless steel
- **No. 13324:** Long service life and high process reliability thanks to innovative cutting geometry for use on stainless steels

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16	11		9	10														

							Cutting material	HSSE		HSSE	
							Surface	Vaporised		Vaporised	
							Tol.	ISO 2 (6H)		ISO 2 (6H)	
							Lead angle shape	B		C	
							Twist angle	0°		15° (right)	
							Coolant supply	External		External	
	mm	mm	mm	mm	mm		DIN	13143... Ident. No.		13324... Ident. No.	
MF4	0.5	3.5	63	2.8	2.1		374	045	●	045	●
MF5	0.5	4.5	70	3.5	2.7		374	050	●	050	●
MF6	0.5	5.5	80	4.5	3.4		374	060	●	060	●
MF6	0.75	5.2	80	4.5	3.4		374	065	●	065	●
MF7	0.75	6.2	80	5.5	4.3		374	070	●	-	-
MF8	0.5	7.5	80	6	4.9		374	080	●	-	-
MF8	0.75	7.2	80	6	4.9		374	083	●	083	●
MF8	1	7	90	6	4.9		374	086	●	086	●
MF9	1	8	90	7	5.5		374	090	●	-	-
MF10	0.75	9.2	90	7	5.5		374	100	●	-	-
MF10	1	9	90	7	5.5		374	103	●	103	●
MF10	1.25	8.8	100	7	5.5		374	106	●	106	●
MF11	1	10	90	8	6.2		374	110	●	-	-
MF12	1	11	100	9	7		374	120	●	120	●
MF12	1.25	10.8	100	9	7		374	123	●	-	-
MF12	1.5	10.5	100	9	7		374	126	●	126	●
MF14	1	13	100	11	9		374	140	●	-	-
MF14	1.25	12.8	100	11	9		374	143	●	-	-
MF14	1.5	12.5	100	11	9		374	146	●	146	●
MF15	1	14	100	12	9		374	150	●	-	-
MF16	1	15	100	12	9		374	160	●	-	-
MF16	1.5	14.5	100	12	9		374	165	●	165	●
MF18	1	17	110	14	11		374	180	●	-	-
MF18	1.5	16.5	110	14	11		374	183	●	183	●
MF20	1	19	125	16	12		374	200	●	-	-
MF20	1.5	18.5	125	16	12		374	203	●	203	●
MF20	2	18	140	16	12		374	206	●	206	●
MF22	1	21	125	18	14.5		374	220	●	-	-
MF22	1.5	20.5	125	18	14.5		374	223	●	223	●
MF24	1	23	140	18	14.5		374	240	●	-	-
MF24	1.5	22.5	140	18	14.5		374	243	●	243	●
MF24	2	22	140	18	14.5		374	246	●	-	-
MF26	1.5	24.5	140	18	14.5		374	260	●	-	-
MF30	1.5	28.5	150	22	18		374	303	●	-	-
MF30	2	28	150	22	18		374	306	●	306	●
MF33	1.5	31.5	160	25	20		374	330	●	-	-
MF33	2	31	160	25	20		374	335	●	-	-
MF36	2	34	170	28	22		374	363	●	-	-
MF35	1.5	33.5	170	28	22		374	350	●	-	-
MF36	1.5	34.5	170	28	22		374	360	●	-	-
MF38	1.5	36.5	170	28	22		374	380	●	-	-
MF42	1.5	40.5	170	32	24		374	420	●	-	-
MF48	1.5	46.5	190	36	29		374	480	●	-	-
MF50	1.5	48.5	190	36	29		374	500	●	-	-

Prod. Gr. 1KC

ATORN HSSE machine tap (DIN 374)

For use in cast iron and short-chipping, non-ferrous metals

MF | ≤3xd | HSSE | TiAlN | ISO 2 | C (2-3)

No. 13271

No. 13290

K MAX Control

Application:

For producing metric threads on CNC or conventional machines in **through holes and blind holes** in the non-ferrous metals (short-chipping) and cast iron material groups.

Advantage:

- **No. 13271:** Long service life and good process reliability due to innovative cutting edge geometry when machining cast iron and short-chipping non-ferrous metals
- **No. 13290:** Long service life and good process reliability due to innovative rake when machining cast iron and short-chipping, non-ferrous metals

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13271400-433						19		17		17		15	16	18					

Cutting material							HSSE		HSSE	
Surface							Vaporised		TiAlN	
Tol.							ISO 2 (6H)		ISO 2 (6H)	
Lead angle shape							C		C	
Twist angle							0°		0°	
Coolant supply							External		External	
	mm	mm	mm	mm	mm	DIN	13271... Ident. No.		13290... Ident. No.	
MF4	0.5	3.5	63	2.8	2.1	374	400	●	400	●
MF5	0.5	4.5	70	3.5	2.7	374	403	●	403	●
MF6	0.75	5.2	80	4.5	3.4	374	406	●	406	●
MF8	1	7	90	6	4.9	374	409	●	409	●
MF10	1	9	90	7	5.5	374	412	●	412	●
MF12	1.5	10.5	100	9	7	374	415	●	415	●
MF14	1.5	12.5	100	11	9	374	418	●	418	●
MF16	1.5	14.5	100	12	9	374	421	●	421	●
MF18	1.5	16.5	110	14	11	374	424	●	424	●
MF20	1.5	18.5	125	16	12	374	427	●	427	●
MF22	1.5	20.5	125	18	14.5	374	430	●	430	●
MF24	1.5	22.5	140	18	14.5	374	433	●	433	●

Prod. Gr. 1KC

ATORN HSSE-PM and solid carbide machine tap (DIN 371 similar)

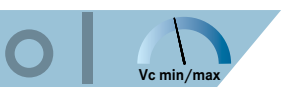
For machining hardened steels

MF | ≤1xd | HSSE-PM | VHM | TiCN | ISO 2 | D (3,5-5) | CNC/conv.

No. 13152

No. 13153

H MAX Control



Application:

No. 13152: For producing fine metric threads on CNC machines in **through holes and blind holes** in the hardened steel material group **up to 55 HRC**.

No. 13153: For manufacturing fine metric threads on CNC machines in **through and blind holes** in the hardened steel material group **up to 65 HRC**.

Execution:

- With reinforced shank

Advantage:

- Long service life and high process reliability thanks to innovative cutting geometry and coating for use on hardened steel

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13152086-126																		3	
13153060-126																		5	2

						Cutting material	SC		HSSE-PM	
						Surface	TiCN		TiCN	
						Tol.	ISO 2 (6H)		ISO 2 (6H)	
						Lead angle shape	D		D	
						Twist angle	0°		0°	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13153... Ident. No.		13152... Ident. No.	
MF6	0.5	5.5	80	6	4.9	371 similar	060	●	-	-
MF8	1	7	90	8	6.2	371 similar	086	●	086	●
MF10	1	9	90	10	8	371 similar	103	●	103	●
MF12	1	11	100	12	9	371 similar	120	●	120	●
MF12	1.5	10.5	100	12	9	371 similar	126	●	126	●

Prod. Gr. 1KC

ATORN Machine tap, HSSE Ultra HL (DIN 5156)

for universal use up to 1,000 N/mm2

G | ≤3xd | ≤2,5xd | HSSE | ULTRA HL | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

No. 13208

No. 13377

UNI MAX 45HL Control — Vc min/max

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Application:

No. 13208: For manufacturing pipe threads on CNC or conventional machines in **through holes** in the steel, stainless steel, NF metal, cast and special alloy material groups up to a strength of 1000 N/mm².

No. 13377: For producing pipe threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1000 N/mm².

Execution:

- **No. 13208:** With protruding shank
- **No. 13377:** With transition-fit shank

Advantage:

- **No. 13208:**
  - Innovative cutting geometry and ULTRA HL coating guarantee high process reliability even under difficult machining conditions
  - High-quality, torsion-resistant HSSE cutting material and cutting edge finish for very high service life requirements
  - Universal use for maximum flexibility
- **No. 13377:**
  - Innovative cutting geometry and newly developed ULTRA HL coating guarantee high process reliability even under difficult machining conditions.
  - High-quality, torsion-resistant HSSE cutting material and cutting edge finish for very high service life requirements.
  - Universal use for maximum flexibility in use.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	8	11	10	19	19	17	19	17	18	13		18	7	6	6		

					Cutting material	HSSE		HSSE	
					Surface	ULTRA HL		ULTRA HL	
					Tol.	ISO 2 (6H)		ISO 2 (6H)	
					Lead angle shape	B		C	
					Twist angle	0°		45° (right)	
					Coolant supply	External		External	
mm	mm	mm	mm	mm	DIN	13208... Ident. No.		13377... Ident. No.	
G 1/16 in	28	6.8	90	6	4.9	5156	005	●	005	●
G 1/8 in	28	8.8	90	7	5.5	5156	010	●	010	●
G 1/4 in	19	11.8	100	11	9	5156	020	●	020	●
G 3/8 in	19	15.25	100	12	9	5156	030	●	030	●
G 1/2 in	14	19	125	16	12	5156	040	●	040	●
G 5/8 in	14	21	125	18	14.5	5156	-	-	050	●
G 3/4 in	14	24.5	140	20	16	5156	060	●	060	●
G 7/8 in	14	28.25	150	22	18	5156	070	●	070	●
G 1 in	11	30.75	160	25	20	5156	-	-	080	●

Prod. Gr. 1KC

ATORN HSSE machine tap

for universal use up to 1,000 N/mm2

G | ≤3xd | HSSE | B (3,5-5) | C (2-3)

No. 13067

No. 13078

UNI MAX 45 Control — Vc min/max

Application:

No. 13067: For producing pipe threads on CNC machines or conventional machines in **through holes** in steel, stainless steel, non-ferrous metals, cast iron and special alloys up to 1,200 N/mm².

No. 13078: For producing pipe threads on CNC machines or conventional machines in **blind holes** in steel, stainless steel, non-ferrous metals, cast iron and special alloys up to 1,200 N/mm².

Advantage:

- Ideal for long service life requirements and materials that are difficult to machine, such as stainless steel
- Innovative rake ensures high process reliability even under difficult machining conditions

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	6	8	8	8	18	6	16	10	14	15		15	3	3	3		

						Cutting material	HSSE		HSSE	
						Surface	Vaporised		Vaporised	
						Lead angle shape	B		C	
						Twist angle	0°		45° (right)	
						Coolant supply	External		External	
	mm	mm	mm	mm			13067... Ident. No.		13078... Ident. No.	
G 1/16 in	6.8	90	6	4.9			600	●	600	●
G 1/8 in	8.8	90	7	5.5			602	●	602	●
G 1/4 in	11.8	100	11	9			604	●	604	●
G 3/8 in	15.25	100	12	9			606	●	606	●
G 1/2 in	19	125	16	12			608	●	608	●
G 5/8 in	21	125	18	14.5			610	●	610	●
G 3/4 in	24.5	140	20	16			612	●	612	●
G 7/8 in	28.25	150	22	18			614	●	614	●
G 1 in	30.75	160	25	20			616	●	616	●

Prod. Gr. 1KC

ATORN HSSE machine tap

For universal use up to 1,000 N/mm²

No. 13207

No. 13378

Application:

No. 13207: For manufacturing pipe threads in through holes on CNC or conventional machines in the steel, stainless steel, NF metal and cast material groups up to a strength of 1000 N/mm².

No. 13378: For producing pipe threads on CNC machines or conventional machines in blind holes in the steel, stainless steel, non-ferrous metals and cast material groups up to a strength of 1000 N/mm².

Execution:

- With protruding shank

Advantage:

- Universal use for maximum flexibility of application
- Innovative cutter geometry ensures high process reliability even in difficult machining conditions

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	8	8	8		18		19		18	15		15					

						Cutting material	HSSE		HSSE	
						Surface	Vaporised		Vaporised	
						Tol.	ISO 2 (6H)		ISO 2 (6H)	
						Lead angle shape	B		C	
						Twist angle	0°		40° (right)	
						Coolant supply	External		External	
	mm	mm	mm	mm			13207... Ident. No.		13378... Ident. No.	
G 1/8 in	28	8.7	90	7	5.5		310	●	310	●
G 1/4 in	19	11.8	100	11	9		320	●	320	●
G 3/8 in	19	15.3	100	12	9		330	●	330	●
G 1/2 in	14	19	125	16	12		340	●	340	●
G 3/4 in	14	24.5	140	20	16		360	●	360	●
G 1 in	11	30.75	160	25	20		380	●	380	●
G 1-1/4 in	11	39.5	170	32	24		400	●	400	●

Prod. Gr. 1KC

ATORN ORION® HSSE machine tap (DIN 5156)

For universal use up to 1,000 N/mm²

G | ≤3xd | ≤2,5xd | HSSE | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

Application:

No. 13207–13209: For manufacturing pipe threads on CNC or conventional machines in **through holes** in the steel, (stainless steel), NF metal and (cast iron) material groups up to a strength of 1000 N/mm².

No. 13378–13379: For producing pipe threads on CNC machines or conventional machines in **blind holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

Execution:

- With transition-fit shank

Advantage:

- **No. 13207:** Long service life and high process reliability thanks to innovative cutting geometry, and universal use for maximum flexibility in use.
- **No. 13209:** Standard geometry with an excellent price-performance ratio
- **No. 13378–13379:** Long service life and high level of process reliability thanks to innovative cutter geometry and universal application for maximum flexibility in use

No. 13207–13209

No. 13378–13379

P MAX 1000 Control — Vc min/max

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16	12		9		18	18	15	18	15	15	13		16					

							ATORN				ORION			
Cutting material							HSSE		HSSE		HSSE		HSSE	
Surface							Vaporised		Vaporised		Vaporised		Vaporised	
Tol.							ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)		ISO 2 (6H)	
Lead angle shape							B		C		C		B	
Twist angle							0°		40° (right)		40° (right)		0°	
Coolant supply							External		External		External		External	
	mm	mm	mm	mm	mm	DIN	13207... Ident. No.		13378... Ident. No.		13379... Ident. No.		13209... Ident. No.	
G 1/8 in	28	8.8	90	7	5.5	5156	010	●	010	●	010	●	010	●
G 1/4 in	19	11.8	100	11	9	5156	020	●	020	●	020	●	020	●
G 3/8 in	19	15.25	100	12	9	5156	030	●	030	●	030	●	030	●
G 1/2 in	14	19	125	16	12	5156	040	●	040	●	040	●	040	●
G 5/8 in	14	21	125	18	14.5	5156	-	-	050	●	050	●	-	-
G 3/4 in	14	24.5	140	20	16	5156	060	●	060	●	060	●	060	●
G 7/8 in	14	28.25	150	22	18	5156	-	-	070	●	-	-	-	-
G 1 in	11	30.75	160	25	20	5156	080	●	080	●	080	●	080	●
G 1-1/4 in	11	39.25	170	32	24	5156	100	●	-	-	-	-	100	●

ORION = Prod. Gr. 1DB
ATORN® = Prod. Gr. 1KC

ATORN HSSE machine tap (DIN 371 similar)

For use on stainless steels

NPT | HSSE | TiN | ISO 2 | C (2-3) | CNC/conv.

Application:

For manufacturing NPT (National Pipe Taper) on CNC or conventional machines in the (steel) and stainless steel material groups up to a strength of 1000 N/mm².

Execution:

- With protruding shank

Advantage:

- Innovative cutting geometry for very high dimensional accuracy, process reliability and chip removal.
- High-quality, torsion-resistant HSSE cutting material and cutting edge finish for very high service life requirements.
- **No. 13360:** Specialised use with optimised chip geometry for use in stainless steels.
- **No. 13361:** Universal use for maximum flexibility in use.

No. 13360

No. 13361

M MAX Control — Vc min/max

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13360	16	11		11	10														
13361	17	12		10	11														

						Cutting material	HSSE		HSSE	
						Surface	Vaporised		TiN	
						Tol.	ISO 2 (6H)		ISO 2 (6H)	
						Lead angle shape	C		C	
						Twist angle	15° (right)		15° (right)	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13360... Ident. No.		13361... Ident. No.	
NPT 1/8 in	27	8.5	90	11	9	371 similar	010	●	010	●
NPT 1/4 in	18	11	100	14	11	371 similar	020	●	020	●
NPT 3/8 in	18	14.4	110	16	12	371 similar	030	●	030	●
NPT 1/2 in	14	17.8	125	18	14.5	371 similar	040	●	040	●
NPT 3/4 in	14	23.1	140	22	18	371 similar	050	●	050	●

Prod. Gr. 1KC

ATORN HSSE machine tap

For use in cast iron and short-chipping, non-ferrous metals

G | ≤3xd | HSSE | TiAlN | C (2-3)

No. 13271

No. 13290

K MAX Control | Vc min/max

Application:

For producing pipe threads on CNC or conventional machines in **through holes and blind holes** in the non-ferrous metals (short-chipping) and cast iron material groups.

Advantage:

- Long service life and good process reliability due to innovative rake when machining cast iron and short-chipping, non-ferrous metals

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13271600-616						19		17		17		15	16	18					

						ATORN				
						Cutting material	HSSE		HSSE	
						Surface	Vaporised		TiAlN	
						Lead angle shape	C		C	
						Twist angle	0°		0°	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm		13271... Ident. No.		13290... Ident. No.	
G 1/16 in	6.8	90	6	4.9			600	●	600	●
G 1/8 in	8.8	90	7	5.5			602	●	602	●
G 1/4 in	11.8	100	11	9			604	●	604	●
G 3/8 in	15.25	100	12	9			606	●	606	●
G 1/2 in	19	125	16	12			608	●	608	●
G 5/8 in	21	125	18	14.5			610	●	610	●
G 3/4 in	24.5	140	20	16			612	●	612	●
G 7/8 in	28.25	150	22	18			614	●	614	●
G 1 in	30.75	160	25	20			616	●	616	●

Prod. Gr. 1KC

ATORN HSSE-PM and SC TiCN machine taps

For machining -63 HRC

G | ≤1,5xd | HSSE-PM | VHM | TiCN | D (3,5-5)

H MAX Control | Vc min/max

Application:

No. 13152: For producing pipe threads on CNC machines in **through and blind holes** in the hardened steel material group **up to 63 HRC**.

No. 13153: For producing pipe threads on CNC machines in **through and blind holes** in the hardened steel material group **up to 65 HRC**.

Advantage:

- **No. 13152:** Long service life and good process reliability thanks to innovative rake and coating for machining hardened steel
- **No. 13153:** Long service life and high process reliability thanks to innovative rake and coating for use on hardened steel

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13152400-415																		3	
13153400-415																		5	2

							ATORN			
Cutting material							HSSE-PM		SC	
Surface							TiCN		TiCN	
Lead angle shape							D		D	
Twist angle							0°		0°	
Coolant supply							External		External	
	mm	mm	mm	mm	mm	mm	13152... Ident. No.		13153... Ident. No.	
G 1/8 in	28	8.9	100	10	8		400	●	-	-
G 1/4 in	19	11.9	110	14	11		405	●	-	-
G 3/8 in	19	15.35	125	16	12		410	●	-	-
G 1/2 in	14	19	140	20	16		415	●	-	-
G 1/8 in	-	8.9	90	10	8		-	-	400	●
G 1/4 in	-	11.9	100	14	11		-	-	405	●
G 3/8 in	-	15.35	100	16	12		-	-	410	●
G 1/2 in	-	19	125	20	16		-	-	415	●

Prod. Gr. 1KC

ATORN HSSE machine tap

For universal use up to 1,000 N/mm²

UNC | ≤3xd | ≤2,5xd | HSSE | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

Application:

For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm².

Advantage:

- Universal use for maximum flexibility
- Innovative cutting geometry ensures high process reliability even under difficult machining conditions

No. 13121

No. 13125

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	8	8	8		18		19		18	15		15					

							HSSE		HSSE	
Cutting material							HSSE		HSSE	
Surface							Vaporised		Vaporised	
Tol.							ISO 2 (6H)		ISO 2 (6H)	
Lead angle shape							B		C	
Twist angle							0°		40° (right)	
Coolant supply							External		External	
	mm	mm	mm	mm	mm	mm	13121... Ident. No.		13125... Ident. No.	
UNC 1/4 in	20	5.2	80	7	5.5		900	●	900	●
UNC 5/16 in	18	6.6	90	8	6.2		902	●	902	●
UNC 3/8 in	16	8	100	9	7		904	●	904	●
UNC 7/16 in	14	9.4	100	8	6.2		906	●	906	●
UNC 1/2 in	13	10.8	110	9	7		908	●	908	●
UNC 5/8 in	11	13.6	110	12	9		910	●	910	●
UNC 3/4 in	10	16.5	125	14	11		912	●	912	●
UNC 7/8 in	9	19.5	140	18	14.5		914	●	914	●
UNC 1 in	8	22.3	160	20	16		916	●	916	●

Prod. Gr. 1KC

ATORN HSSE machine tap

For universal use up to 1,000 N/mm²

UNF | ≤3xd | ≤2,5xd | HSSE | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

No. 13121

No. 13125

UNI 40 Control — Vc min/max

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Application:

No. 13121: For producing metric threads on CNC machines or conventional machines in **through holes** in the steel, stainless steel, non-ferrous metals and cast iron material groups up to a strength of 1000 N/mm².

No. 13125: For producing metric threads on CNC machines or conventional machines in **blind holes** in the steel, stainless steel, non-ferrous metals and cast material groups up to a strength of 1000 N/mm².

Advantage:

- Universal use for maximum flexibility
- Innovative cutting geometry ensures high process reliability even under difficult machining conditions

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	18	12	8	8	8		18		19		18	15		15					

Cutting material							HSSE		HSSE	
Surface							Vaporised		Vaporised	
Tol.							ISO 2 (6H)		ISO 2 (6H)	
Lead angle shape							B		C	
Twist angle							0°		40° (right)	
Coolant supply							External		External	
	mm	mm	mm	mm	mm		13121... Ident. No.		13125... Ident. No.	
UNF 1/4 in	28	5.2	80	7	5.5		930	●	930	●
UNF 5/16 in	24	6.6	90	8	6.2		932	●	932	●
UNF 3/8 in	24	8	100	9	7		934	●	934	●
UNF 7/16 in	20	9.9	100	8	6.2		936	●	936	●
UNF 1/2 in	20	11.5	100	9	7		938	●	938	●
UNF 5/8 in	18	14.5	100	12	9		940	●	940	●
UNF 3/4 in	16	17.5	110	14	11		942	●	942	●
UNF 7/8 in	14	20.4	125	18	14.5		944	●	944	●
UNF 1 in	12	23.3	140	18	14.5		946	●	946	●

Prod. Gr. 1KC

ATORN HSSE machine tap (DIN 371 similar)

For universal conventional use up to 1,000 N/mm2

UNC | ≤3xd | ≤2,5xd | HSSE | B (3,5-5) | C (2-3) | CNC/conv.

No. 13347

No. 13348 025–13348 130

P MAX 1000 Control — Vc min/max

p. 211 p. 215 p. 24 p. 849 p. 339

Application:

No. 13347: For producing UNC (Unified Coarse) threads on CNC machines or conventional machines in **through holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

No. 13348: For producing UNC (Unified Coarse) threads on CNC machines or conventional machines in **blind holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

Execution:

- **No. 13347 030–13347 110, 13348 120–13348 160:** With transition-fit shank
- **No. 13348 025–13348 110:** With reinforced shank

Advantage:

- Long service life and high process reliability thanks to innovative cutting geometry, and universal use for maximum flexibility in use.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16	11		9		18	18	15	18	15	15	13	14	16					

Cutting material							HSSE		HSSE	
Surface							Vaporised		Vaporised	
Tol.							2B		2B	
Lead angle shape							C		B	
Twist angle							40° (right)		0°	
Coolant supply							External		External	
	mm	mm	mm	mm	mm	DIN	13348... Ident. No.		13347... Ident. No.	
UNC 2 in	56	1.85	45	2.8	2.1	371 similar	025	●	-	-
UNC 4 in	40	2.35	56	3.5	2.7	371 similar	030	●	030	●

						Cutting material	HSSE		HSSE	
						Surface	Vaporised		Vaporised	
						Tol.	2B		2B	
						Lead angle shape	C		B	
						Twist angle	40° (right)		0°	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13348... Ident. No.		13347... Ident. No.	
UNC 5 in	40	2.65	56	3.5	2.7	371 similar	-	-	035	●
UNC 6 in	32	2.85	56	4	3	371 similar	050	●	050	●
UNC 8 in	32	3.5	63	4.5	3.4	371 similar	060	●	060	●
UNC 10 in	24	3.9	70	6	4.9	371 similar	070	●	070	●
UNC 12 in	24	4.5	80	6	4.9	371 similar	-	-	075	●
UNC 1/4 in	20	5.1	80	7	5.5	371 similar	090	●	090	●
UNC 5/16 in	18	6.6	90	8	6.2	371 similar	100	●	100	●
UNC 3/8 in	16	8	100	10	8	371 similar	110	●	110	●
UNC 7/16 in	14	9.4	100	8	6.2	371 similar	120	●	-	-
UNC 1/2 in	13	10.8	110	9	7	371 similar	130	●	-	-
UNC 9/16 in	12	12.2	110	11	9	371 similar	135	●	-	-
UNC 5/8 in	11	13.5	110	12	9	371 similar	140	●	-	-
UNC 3/4 in	10	16.5	125	14	11	371 similar	145	●	-	-
UNC 7/8 in	9	19.5	140	18	14.5	371 similar	150	●	-	-
UNC 1 in	8	22.5	160	18	14.5	371 similar	160	●	-	-

Prod. Gr. 1KC

ATORN HSSE machine tap

For universal use up to 1,000 N/mm²

UNF | ≤3xd | ≤2,5xd | HSSE | B (3,5-5) | C (2-3) | CNC/conv.

No. 13357

No. 13358

P MAX 1000 Control — Vc min/max

p. 211 p. 215 p. 24 p. 849 p. 339

Application:

No. 13357: For producing UNF (Unified Fine) threads on CNC machines or conventional machines in **through holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

No. 13358: For producing UNF (Unified Fine) threads on CNC machines or conventional machines in **blind holes** in the steel, (stainless steel), non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

Execution:

- **No. 13357 040–13357 110, 13358 070–13358 110:** With reinforced shank
- **No. 13357 150–13357 170:** With transition-fit shank
- **No. 13358 120–13358 180:** With protruding shank

Advantage:

- Innovative cutting geometry for very high dimensional accuracy, process reliability and chip removal.
- High-quality, torsion-resistant HSSE cutting material and cutting edge finish for very high service life requirements.
- Universal use for maximum flexibility in use.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13357040-110; 13357150-170	14	10		8		18	18	15	18	15	15	13	14	16					
13358070-110; 13358120-180	16	11		9		18	18	15	18	15	15	13	14	16					

						Cutting material	HSSE		HSSE	
						Surface	Vaporised		Vaporised	
						Tol.	2B		2B	
						Lead angle shape	B		C	
						Twist angle	0°		40° (right)	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13357... Ident. No.		13358... Ident. No.	
UNF 4 in	48	2.4	56	2.2	0	371 similar	040	●	-	-
UNF 6 in	40	2.95	56	2.5	2.1	371 similar	050	●	-	-
UNF 10 in	32	4.1	70	6	4.9	371 similar	070	●	070	●
UNF 12 in	28	4.6	80	6	4.9	371 similar	-	-	080	●
UNF 1/4 in	28	5.5	80	7	5.5	371 similar	-	-	090	●
UNF 1/4 in	28	5.5	80	4.5	3.4	371 similar	100	●	-	-
UNF 5/16 in	24	6.9	90	8	6.2	371 similar	-	-	100	●
UNF 3/8 in	24	8.5	90	10	8	371 similar	110	●	110	●
UNF 5/8 in	18	14.5	100	12	9	376 similar	150	●	150	●
UNF 7/8 in	14	20.4	125	19	14.5	376 similar	170	●	170	●
UNF 7/16 in	20	9.9	90	8	6.2	376 similar	-	-	120	●
UNF 1/2 in	20	11.5	100	9	7	376 similar	-	-	130	●
UNF 1 in	12	23.25	140	20	14.5	376 similar	-	-	180	●

Prod. Gr. 1KC

ATORN HSSE machine tap (DIN 371 similar)

for universal use up to 1,000 N/mm2

NPT | HSSE | ISO 2 | C (2-3) | CNC/conv.

Application:

For manufacturing NPT (National Pipe Taper) on CNC or conventional machines in the steel, NF metal and (cast) material groups up to a strength of 1000 N/mm².

Execution:

- With protruding shank

Advantage:

- Innovative cutting geometry for very high dimensional accuracy, process reliability and chip removal.
- High-quality, torsion-resistant HSSE cutting material and cutting edge finish for very high service life requirements.
- Universal use for maximum flexibility in use.

P 1000 Control | Vc min/max

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	16	11				18	18	15	18	15	15	13							

Cutting material	HSSE
Surface	Uncoated
Tol.	ISO 2 (6H)
Lead angle shape	C
Twist angle	15° (right)
Coolant supply	External

	mm	mm	mm	mm	mm	DIN	13359... Ident. No.	
NPT 1/8 in	27	8.5	63	7	5.5	371 similar	010	●
NPT 1/4 in	18	11.1	63	11	9	371 similar	020	●
NPT 3/8 in	18	14.5	70	12	9	371 similar	030	●
NPT 1/2 in	14	17.75	80	16	12	371 similar	040	●
NPT 3/4 in	14	23	100	20	16	371 similar	050	●
NPT 1 in	11.5	29	110	25	20	371 similar	060	●

Prod. Gr. 1KC

ATORN HSS hand tap (DIN 352)

For universal use up to 1,000 N/mm²

M | ≤3xd | HSS | ISO 2 | D (3,5-5) | C (2-3) | A (6-8)

Ident. No. 010–752
Taper tap, shape A

Ident. No. 010–420, 820–852
Second tap, shape D

Ident. No. 010–420, 920–952
Third tap, shape C

Application:

Ident. No. 010–420: For manually tapping metric threads in through holes and blind holes in the steel, NF metal and (cast) material groups up to a strength of 1000 N/mm² in single part production.

Ident. No. 720–952: For producing metric threads by hand in through holes and blind holes, in steel, non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm² in single-part production.

Execution:

- **Ident. No. 010–420:** Set consisting of taper tap (form A), second tap (form D) and third tap (form C)
- **Ident. No. 720–752:** Taper tap with notch shape A with one ring
- **Ident. No. 820–852:** Second tap with notch shape D with two rings
- **Ident. No. 920–952:** Third tap (plug) with notch shape C without ring

Advantage:

- **Ident. No. 010–420:** Long service life and high level of process reliability thanks to innovative cutting geometry and universal application for maximum flexibility in use
- **Ident. No. 720–952:** Long service life and process reliability through innovative cutting geometry and universal use for maximum application flexibility

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●		○		○	●	●	●	●	●	●	○	○					

						Design	Set		Taper tap		Second tap		Third tap	
						Lead angle shape	A/D/C		A		D		C	
	mm	mm	mm	mm	mm		13010... Ident. No.		13010... Ident. No.		13010... Ident. No.		13010... Ident. No.	
M1	0.25	0.75	32	2.5	2.1		010	●	-	-	-	-	-	-
M1.2	0.25	0.95	32	2.5	2.1		012	●	-	-	-	-	-	-
M1.4	0.3	1.1	32	2.5	2.1		014	●	-	-	-	-	-	-
M1.6	0.35	1.25	32	2.5	2.1		016	●	-	-	-	-	-	-
M1.7	0.35	1.3	32	2.5	2.1		017	●	-	-	-	-	-	-
M1.8	0.35	1.45	32	2.5	2.1		018	●	-	-	-	-	-	-
M2	0.4	1.6	36	2.8	2.1		020	●	720	●	820	●	920	●
M2.3	0.4	1.9	36	2.8	2.1		023	●	-	-	-	-	-	-
M2.5	0.45	2.05	40	2.8	2.1		025	●	-	-	-	-	-	-

						Design		Set		Taper tap		Second tap		Third tap	
						Lead angle shape		A/D/C		A		D		C	
	mm	mm	mm	mm	mm	13010... Ident. No.		13010... Ident. No.		13010... Ident. No.		13010... Ident. No.			
M2.6	0.45	2.1	40	2.8	2.1	026	●	726	●	826	●	926	●		
M3	0.5	2.5	40	3.5	2.7	030	●	730	●	830	●	930	●		
M3.5	0.6	2.9	45	4	3	035	●	-	-	-	-	-	-		
M4	0.7	3.3	45	4.5	3.4	040	●	734	●	834	●	934	●		
M4.5	0.75	3.7	50	6	4.9	045	●	-	-	-	-	-	-		
M5	0.8	4.2	50	6	4.9	050	●	738	●	838	●	938	●		
M6	1	5	50	6	4.9	060	●	740	●	840	●	940	●		
M7	1	6	50	6	4.9	070	●	-	-	-	-	-	-		
M8	1.25	6.8	56	6	4.9	080	●	744	●	844	●	944	●		
M9	1.25	7.8	63	7	5.5	090	●	-	-	-	-	-	-		
M10	1.5	8.5	70	7	5.5	100	●	748	●	848	●	948	●		
M11	1.5	9.5	70	8	6.2	110	●	-	-	-	-	950	●		
M12	1.75	10.2	75	9	7	120	●	752	●	852	●	952	●		
M14	2	12	80	11	9	140	●	-	-	-	-	-	-		
M16	2	14	80	12	9	160	●	-	-	-	-	-	-		
M18	2.5	15.5	95	14	11	180	●	-	-	-	-	-	-		
M20	2.5	17.5	95	16	12	200	●	-	-	-	-	-	-		
M24	3	21	110	18	14.5	240	●	-	-	-	-	-	-		
M36	4	32	150	28	22	360	●	-	-	-	-	-	-		
M42	4.5	37.5	150	32	24	420	●	-	-	-	-	-	-		

Prod. Gr. 1KM

ATORN HSS left-hand hand tap set (DIN 352)

For universal use up to 1,000 N/mm²

Application:
For manually tapping metric left-hand threads in through holes and blind holes in the steel, NF metal and (cast) material groups up to a strength of 1000 N/mm² in single part production.

Execution:
- Set consisting of taper tap (form A), second tap (form D) and third tap (form C)

Advantage:
- Long service life and high level of process reliability thanks to innovative cutting geometry and universal application for maximum flexibility in use

Taper tap, shape A

Second tap, shape D

Third tap, shape C

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●		○		○	●	●	●	●	●	●	○	○					

						Design		Set	
						Lead angle shape		A/D/F	
	mm	mm	mm	mm	mm	13012... Ident. No.			
M-L4	0.7	3.3	45	4.5	3.4	040	●		
M-L5	0.8	4.2	50	6	4.9	050	●		
M-L6	1	5	50	6	4.9	060	●		
M-L8	1.25	6.8	56	6	4.9	080	●		
M-L10	1.5	8.5	70	7	5.5	100	●		
M-L12	1.75	10.2	75	9	7	120	●		
M-L14	2	12	80	11	9	140	●		
M-L16	2	14	80	12	9	160	●		
M-L20	2.5	17.5	95	16	12	200	●		

Prod. Gr. 1KM

ORION® HSS hand tap (DIN 352)

For universal use up to 1,000 N/mm²

M | HSS | ≤3xd | ISO 2 | D (3,5-5) | C (2-3) | A (6-8)

Ident. No. 010–768
Taper tap, shape A

Ident. No. 010–300, 820–868
Second tap, shape D

Ident. No. 010–300, 920–968
Third tap, shape C

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Application:

Ident. No. 010–300: For manually tapping metric threads in through holes and blind holes in the steel, NF metal and (cast) material groups up to a strength of 1000 N/mm² in single part production.

Ident. No. 720–968: For producing metric threads by hand in through holes and blind holes, in steel, non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm² in single-part production.

Execution:

- **Ident. No. 010–300:** Set consisting of taper tap (form A), second tap (form D) and third tap (form C)
- **Ident. No. 720–768:** Taper tap with notch shape A with one ring
- **Ident. No. 820–868:** Second tap with notch shape D with two rings
- **Ident. No. 920–968:** Third tap (plug) with notch shape C without ring

Advantage:

- **Ident. No. 010–300:** Standard geometry with a very good price-performance ratio
- **Ident. No. 720–968:** Standard geometry with very good price/performance ratio

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●		○		○	●	●	●	●	●	●	○	○					

						Design	Set		Taper tap		Second tap		Third tap	
						Lead angle shape	A/D/C		A		D		C	
	mm	mm	mm	mm	mm		13013... Ident. No.		13013... Ident. No.		13013... Ident. No.		13013... Ident. No.	
M1	0.25	0.75	32	2.5	2.1		010	●	-	-	-	-	-	-
M2	0.4	1.6	36	2.8	2.1		020	●	720	●	820	●	920	●
M2.2	0.45	1.75	36	2.8	2.1		022	●	-	-	-	-	-	-
M2.5	0.45	2.05	36	2.8	2.1		025	●	725	●	825	●	925	●
M3	0.5	2.5	40	3.5	2.7		030	●	730	●	830	●	930	●
M3.5	0.6	2.9	45	4	3		035	●	-	-	-	-	-	-
M4	0.7	3.3	45	4.5	3.4		040	●	734	●	834	●	934	●
M5	0.8	4.2	50	6	4.9		050	●	738	●	838	●	938	●
M6	1	5	50	6	4.9		060	●	740	●	840	●	940	●
M7	1	6	50	6	4.9		070	●	-	-	-	-	-	-
M8	1.25	6.8	56	6	4.9		080	●	744	●	844	●	944	●
M10	1.5	8.5	70	7	5.5		100	●	748	●	848	●	948	●
M12	1.75	10.2	75	9	7		120	●	752	●	852	●	952	●
M14	2	12	80	11	9		140	●	754	●	854	●	954	●
M16	2	14	80	12	9		160	●	756	●	856	●	956	●
M18	2.5	15.5	95	14	11		180	●	758	●	858	●	958	●
M20	2.5	17.5	95	16	12		200	●	760	●	860	●	960	●
M22	2.5	19.5	100	18	14.5		220	●	-	-	-	-	-	-
M24	3	21	110	18	14.5		240	●	764	●	864	●	964	●
M27	3	24	110	20	16		270	●	-	-	-	-	-	-
M30	3.5	26.5	125	22	18		300	●	768	●	868	●	968	●

Prod. Gr. 1DA

ATORN HSSE hand tap (DIN 352)

For machining stainless steel

M | HSSE | HSS | ≤3xd | ISO 2 | D (3,5-5) | C (2-3) | A (6-8)

Ident. No. 620–800
Third tap, shape C

Ident. No. 020–400
Taper tap, shape A

Ident. No. 020–200, 420–600
Second tap, shape D

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Application:

Ident. No. 020–200: For manually tapping metric threads in through holes and blind holes in the (steel), stainless steel, (cast) and special alloy material groups up to a strength of 1300 N/mm² in single part production.

Ident. No. 220–800: For producing metric threads by hand in through holes and blind holes, in (steel), stainless steel, (cast iron) and special alloys material groups up to a strength of 1300 N/mm² in single-part production.

Execution:

- **Ident. No. 020–200:** Set consisting of taper tap (form A), second tap (form D) and third tap (form C)
- **Ident. No. 220–400:** Taper tap with notch shape A with one ring
- **Ident. No. 420–600:** Second tap with notch shape D with two rings
- **Ident. No. 620–800:** Hand tap, third tap (plug) with notch shape C without ring

Advantage:

- **Ident. No. 020–200:** Long service life and high level of process reliability thanks to innovative cutting geometry for machining stainless steel and special alloys
- **Ident. No. 220–800:** Long service life and process reliability through innovative cutting geometry in machining stainless steel and special alloys

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
				●	●														

						Design		Set		Taper tap		Second tap		Third tap	
						Lead angle shape		A/D/C		A		D		C	
	mm	mm	mm	mm	mm			13014... Ident. No.		13014... Ident. No.		13014... Ident. No.		13014... Ident. No.	
M2	0.4	1.6	36	2.8	2.1	020	●	220	●	420	●	620	●		
M2.5	0.45	2.05	40	2.8	2.1	025	●	225	●	425	●	625	●		
M3	0.5	2.5	40	3.5	2.5	030	●	230	●	430	●	630	●		
M3.5	0.6	2.9	45	4	2.9	035	●	235	●	435	●	635	●		
M4	0.7	3.3	45	4.5	3.3	040	●	240	●	440	●	640	●		
M5	0.8	4.2	50	6	4.2	050	●	250	●	450	●	650	●		
M6	1	5	56	6	5	060	●	260	●	460	●	660	●		
M8	1.25	6.8	63	6	6.8	080	●	280	●	480	●	680	●		
M10	1.5	8.5	70	7	8.5	100	●	300	●	500	●	700	●		
M12	1.75	10.2	75	9	10.2	120	●	320	●	520	●	720	●		
M16	2	14	80	12	14	160	●	360	●	560	●	760	●		
M20	2.5	17.5	95	16	17.5	200	●	400	●	600	●	800	●		

Prod. Gr. 1KM

ATORN HSSE hand tap set (DIN 352)

For high-strength steels < 1,300 N/mm²

M | HSSE | ≤3xd | ISO 2 | D (3,5-5) | C (2-3) | A (6-8)

Application:

Ident. No. 020–160: For manually tapping metric threads in through holes and blind holes in the (steel), stainless steel, (cast) and special alloy material groups up to a strength of 1300 N/mm² in single part production.

Ident. No. 720–952: For producing metric threads by hand in through holes and blind holes, in steel, (stainless steel), cast iron and (special alloys) material groups up to a strength of 1300 N/mm² in single-part production.

Execution:

- **Ident. No. 020–160:** Set consisting of taper tap (form A), second tap (form D) and third tap (form C)
- **Ident. No. 720–752:** Taper tap with notch shape A with one ring
- **Ident. No. 820–852:** Second tap with notch shape D with two rings
- **Ident. No. 920–952:** Third tap (plug) with notch shape C without ring

Advantage:

- **Ident. No. 020–160:** Long service life and high level of process reliability thanks to innovative cutting geometry for machining high-strength steel
- **Ident. No. 720–952:** Long service life and process reliability through innovative cutting geometry in machining high-strength steel

Ident. No. 020–752
Taper tap, shape A

Ident. No. 020–160, 820–852
Second tap, shape D

Ident. No. 020–160, 920–952
Third tap, shape C

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	○	○	●	○		○	○	○	○	○	○	○		●	○	○	○		

						Design		Set		Taper tap		Second tap		Third tap	
						Lead angle shape		A/D/C		A		D		C	
	mm	mm	mm	mm	mm			13015... Ident. No.		13015... Ident. No.		13015... Ident. No.		13015... Ident. No.	
M2	0.4	1.6	36	2.8	2.1	020	●	720	●	820	●	920	●		
M2.5	0.45	2.05	40	2.8	2.1	025	●	-	-	-	-	-	-		
M3	0.5	2.5	40	3.5	2.7	030	●	730	●	830	●	930	●		
M4	0.7	3.3	45	4.5	3.4	040	●	734	●	834	●	934	●		
M5	0.8	4.2	50	6	4.9	050	●	738	●	838	●	938	●		
M6	1	5	50	6	4.9	060	●	740	●	840	●	940	●		
M8	1.25	6.8	56	6	4.9	080	●	744	●	844	●	944	●		
UN10	1.5	8.5	70	7	5.5	100	●	-	-	-	-	-	-		
M10	1.5	8.5	70	7	5.5	-	-	748	●	848	●	948	●		
M12	1.75	10.2	75	9	7	120	●	752	●	852	●	952	●		
M14	2	12	80	11	9	140	●	-	-	-	-	-	-		
M16	2	14	80	12	9	160	●	-	-	-	-	-	-		

Prod. Gr. 1KM

ATORN HSSE-PM hand tap (DIN 352)

For high-strength steels < 1,300 N/mm²

M | HSSE-PM | ≤3xd | ISO 2 x | D (3,5-5) | C (2-3) | A (6-8)

Ident. No. 030–120
Taper tap, shape A

Ident. No. 030–120
Second tap, shape D

Ident. No. 030–120
Third tap, shape C

p. 211 p. 75 p. 331 p. 333 p. 339

Application:

Ident. No. 030–120: For manually tapping metric threads in through holes and blind holes in the (steel), stainless steel, (cast) and special alloy material groups up to a strength of 1300 N/mm² in single part production.

Ident. No. 734–944: For producing metric threads by hand in through holes and blind holes, in steel, (stainless steel), cast iron and (special alloys) material groups up to a strength of 1300 N/mm² in single-part production.

Execution:

- **Ident. No. 030–120:** Set consisting of taper tap (form A), second tap (form D) and third tap (form C)
- **Ident. No. 734–744:** Taper tap with notch shape A with one ring
- **Ident. No. 834–844:** Second tap with notch shape D with two rings
- **Ident. No. 934–944:** Third tap (plug) with notch shape C without ring

Advantage:

- **Ident. No. 030–120:** Long service life and high level of process reliability thanks to innovative cutting geometry for machining high-strength steel
- **Ident. No. 734–944:** Long service life and process reliability through innovative cutting geometry in machining high-strength steel

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	○	○	●	○		○	○	○	○	○	○	○		●	○	○	○		

						Design	Set		Taper tap		Second tap		Third tap	
						Lead angle shape	A/D/C		A		D		C	
	mm	mm	mm	mm	mm		13017... Ident. No.		13017... Ident. No.		13017... Ident. No.		13017... Ident. No.	
M3	0.5	2.5	40	3.5	2.7		030	●	-	-	-	-	-	-
M4	0.7	3.3	45	4.5	3.4		040	●	734	●	834	●	934	●
M5	0.8	4.2	50	6	4.9		050	●	738	●	838	●	938	●
M6	1	5	50	6	4.9		060	●	740	●	840	●	940	●
M8	1.25	6.8	56	6	4.9		080	●	744	●	844	●	944	●
M10	1.5	8.5	70	7	5.5		100	●	-	-	-	-	-	-
M12	1.75	10.2	75	9	7		120	●	-	-	-	-	-	-

Prod. Gr. 1KM

ATORN ORION® HSS hand tap (DIN 2181)

For universal use up to 1,000 N/mm²

MF | ≤3xd | HSS | ISO 2 | D (3,5-5) | C (2-3)

No. 13020 045–13023 786
Taper tap, shape D

No. 13020 045–13023 280, 13023 803–13023 886
Third tap, shape C

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Application:

No. 13020 045–13020 360, 13023 803–13023 886: For manually tapping fine metric threads in through holes and blind holes in the steel, NF metal and (cast) material groups up to a strength of 1000 N/mm² in single part production.

No. 13023 030–13023 786: For producing metric fine threads by hand in through holes and blind holes, in steel, non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm² in single-part production.

Execution:

- **No. 13020:** Set consisting of taper tap (form A) and third tap (form C)
- **No. 13023 030–13023 280:** Set containing taper tap (form A) and third tap (plug) (form C)
- **No. 13023 703–13023 786:** Taper tap with notch shape A with one ring
- **No. 13023 803–13023 886:** Third tap notch shape C without ring

Advantage:

- **No. 13020:** Long service life and high level of process reliability thanks to innovative cutting geometry and universal application for maximum flexibility in use
- **No. 13023 030–13023 786:** Standard geometry with very good price/performance ratio
- **No. 13023 803–13023 886:** Standard geometry with a very good price-performance ratio

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●		○		●	●	●	●	●	●	●	○	○					

						Design	ORION® Set		ATORN Set		ORION® Taper tap		ORION® Third tap	
						Lead angle shape	D/C		D/C		D		C	
	mm	mm	mm	mm	mm		13023... Ident. No.		13020... Ident. No.		13023... Ident. No.		13023... Ident. No.	
MF3	0.35	2.65	40	3.5	2.7		030	●	-	-	-	-	-	-
MF4	0.5	3.5	45	4.5	3.4		045	●	045	●	-	-	-	-
MF5	0.5	4.5	50	6	4.9		050	●	050	●	-	-	-	-
MF6	0.5	5.5	50	6	4.9		-	-	060	●	-	-	-	-
MF6	0.75	5.2	50	6	4.9		065	●	065	●	-	-	-	-

						ORION		ATORN		ORION			
						Design		Set		Taper tap		Third tap	
						Lead angle shape		D/C		D		C	
	mm	mm	mm	mm	mm	13023... Ident. No.		13020... Ident. No.		13023... Ident. No.		13023... Ident. No.	
MF7	0.75	6.2	50	6	4.9	-	-	070	●	-	-	-	-
MF8	0.5	7.5	50	6	4.9	-	-	080	●	-	-	-	-
MF8	0.75	7.2	50	6	4.9	083	●	083	●	-	-	-	-
MF8	1	7	56	6	4.9	086	●	086	●	786	●	886	●
MF10	1	9	63	7	5.5	103	●	103	●	703	●	803	●
MF10	1.25	8.8	70	7	5.5	106	●	106	●	-	-	-	-
MF10	0.75	9.2	68	7	5.5	-	-	100	●	-	-	-	-
MF12	1	11	70	9	7	120	●	120	●	720	●	820	●
MF12	1.25	10.8	70	9	7	123	●	123	●	-	-	-	-
MF12	1.5	10.5	70	9	7	126	●	126	●	726	●	826	●
MF14	1	13	70	11	9	140	●	140	●	-	-	-	-
MF14	1.25	12.8	70	11	9	143	●	143	●	-	-	-	-
MF14	1.5	12.5	70	11	9	146	●	146	●	742	●	842	●
MF15	1	14	70	12	9	-	-	150	●	-	-	-	-
MF16	1	15	70	12	9	160	●	160	●	-	-	-	-
MF16	1.5	14.5	70	12	9	165	●	165	●	765	●	865	●
MF18	1	17	80	14	11	180	●	180	●	780	●	880	●
MF18	1.5	16.5	80	14	11	183	●	183	●	783	●	883	●
MF20	1	19	80	16	12	200	●	200	●	-	-	-	-
MF20	1.5	18.5	80	16	12	203	●	203	●	713	●	813	●
MF20	2	18	80	16	12	206	●	-	-	-	-	-	-
MF22	1.5	20.5	80	18	14.5	223	●	223	●	-	-	-	-
MF22	1	21	80	18	14.5	220	●	-	-	-	-	-	-
MF24	1	23	90	18	14.5	-	-	240	●	-	-	-	-
MF24	1.5	22.5	90	18	14.5	243	●	243	●	-	-	-	-
MF24	2	22	90	18	14.5	-	-	246	●	-	-	-	-
MF26	1.5	24.5	90	18	14.5	260	●	-	-	-	-	-	-
MF27	2	25	90	20	16	-	-	275	●	-	-	-	-
MF28	1.5	26.5	90	20	16	280	●	-	-	-	-	-	-
MF30	1.5	28.5	90	22	18	-	-	303	●	-	-	-	-
MF30	2	28	90	22	18	-	-	306	●	-	-	-	-
MF36	1.5	34.5	100	28	22	-	-	360	●	-	-	-	-

ORION = Prod. Gr. 1DA
ATORN® = Prod. Gr. 1KM

ATORN HSS left-hand hand tap set (DIN 2181)

for universal use up to 1,000 N/mm2

MF-L | ≤3xd | HSS | ISO 2

Application:
For producing metric fine threads by hand in through holes and blind holes, in steel, non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm² in single-part production.

Execution:
- Set containing taper tap (form A) and third tap (plug) (form C)

Advantage:
- Long service life and process reliability through innovative cutting geometry and universal use for maximum application flexibility

Taper tap, shape D

Third tap, shape C

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●		○		●	●	●	●	●	●	●	○	○					

						Design	Set
						Lead angle shape	D/C
	mm	mm	mm	mm	mm	13022... Ident. No.	
MF-L8	1	7	56	6	4.9	086	●
MF-L10	1	9	63	7	5.5	103	●
MF-L12	1	11	70	9	7	120	●
MF-L12	1.5	10.5	70	9	7	126	●
MF-L14	1.5	12.5	70	11	9	146	●
MF-L16	1.5	14.5	70	12	9	165	●
MF-L18	1.5	16.5	80	14	11	183	●
MF-L20	1.5	18.5	80	16	12	203	●

Prod. Gr. 1KM

ORION ATORN HSS hand tap (DIN 5157)

For universal use up to 1,000 N/mm²

G | ≤3xd | HSS | ISO 2 | D (3,5-5) | C (2-3)

Application:

No. 13045 010–13046 140: For producing pipe threads by hand in through holes and blind holes, in steel, non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm² in single-part production.

No. 13046 710–13046 880: For manually tapping pipe threads in through holes and blind holes in the steel, NF metal and (cast) material groups up to a strength of 1000 N/mm² in single part production.

Execution:

- **No. 13045 010–13046 140:** Set containing taper tap (form D) and third tap (plug) (form C)
- **No. 13046 710–13046 780:** Taper tap with notch shape A with one ring
- **No. 13046 820–13046 880:** Third tap notch shape C without ring

Advantage:

- **No. 13045:** Long service life and process reliability through innovative cutting geometry and universal use for maximum application flexibility
- **No. 13046 010–13046 140:** Standard geometry with very good price/performance ratio
- **No. 13046 710–13046 880:** Standard geometry with a very good price-performance ratio

No. 13045 010–13046 140, 13046 820–13046 880
Third tap, shape C

No. 13045 010–13046 780
Taper tap, shape D

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●		○		●	●	●	●	●	●	●	○	○					

						ATORN		ORION					
						Design		Set		Taper tap		Third tap	
						Lead angle shape		D/C		D		C	
	mm	mm	mm	mm	mm	13045... Ident. No.		13046... Ident. No.		13046... Ident. No.		13046... Ident. No.	
G 1/8 in	28	8.8	63	7	5.5	010	●	010	●	710	●	-	-
G 1/4 in	19	11.8	70	11	9	020	●	020	●	720	●	820	●
G 3/8 in	19	15.25	70	12	9	030	●	030	●	730	●	830	●
G 1/2 in	14	19	80	16	12	040	●	040	●	740	●	840	●
G 5/8 in	14	21	80	18	14.5	-	-	050	●	750	●	850	●
G 3/4 in	14	24.5	90	20	16	060	●	060	●	760	●	860	●
G 7/8 in	14	28.25	90	22	18	-	-	070	●	-	-	-	-
G 1 in	11	30.75	100	22	20	-	-	080	●	780	●	880	●
G 1-1/4 in	11	39.25	125	32	24	-	-	100	●	-	-	-	-
G 1-1/2 in	11	45.25	140	36	29	-	-	120	●	-	-	-	-
G 2 in	11	57	160	45	35	-	-	140	●	-	-	-	-

ORION = Prod. Gr. 1DA
ATORN = Prod. Gr. 1KM

ATORN HSS hand tap set

for universal use up to 1,000 N/mm2

UNC | ≤3xd | HSS

Application:

For producing UNC (unified coarse threads) by hand in through holes and blind holes, in steel, non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm² in single-part production.

Execution:

- Set containing taper tap (form A), second tap (form D) and third tap (plug) (form C)

Advantage:

- Long service life and process reliability through innovative cutting geometry and universal use for maximum application flexibility

Taper tap, shape A

Second tap, shape D

Third tap, shape C

p. 211 p. 75 p. 331 p. 333 p. 339

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●		○		●	●	●	●	●	●	●	○	○					

						Design	Set
						Lead angle shape	A/D/C
	mm	mm	mm	mm	mm		13030... Ident. No.	
UNC 3 in	48	2.1	40	2.8	2.1		030	●
UNC 4 in	40	2.35	40	3.5	2.7		040	●
UNC 5 in	40	2.65	40	3.5	2.7		050	●
UNC 6 in	32	2.85	45	4	3		060	●
UNC 8 in	32	3.5	45	4.5	3.4		070	●

					Design	Set	
					Lead angle shape	A/D/C	
	mm	mm	mm	mm	mm	13030... Ident. No.	
UNC 10 in	24	3.9	50	6	4.9	080	●
UNC 1/4 in	20	5.1	50	6	4.9	100	●
UNC 5/16 in	18	6.6	56	6	4.9	110	●
UNC 3/8 in	16	8	70	7	5.5	120	●
UNC 7/16 in	14	9.4	75	8	6.2	130	●
UNC 1/2 in	13	10.8	75	9	7	140	●
UNC 5/8 in	11	13.5	80	12	9	160	●
UNC 3/4 in	10	16.5	95	14	11	170	●
UNC 7/8 in	9	19.5	100	18	14.5	180	●

Prod. Gr. 1KM

ATORN HSS hand tap set (DIN 2181)

for universal use up to 1,000 N/mm2

UNF | ≤3xd | HSS

Application:

For producing UNF (unified fine threads) by hand in through holes and blind holes, in steel, non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm² in single-part production.

Execution:

- Set containing taper tap (form D) and third tap (plug) (form C)

Advantage:

- Long service life and process reliability through innovative cutting geometry and universal use for maximum application flexibility

Third tap, shape C

Taper tap, shape D

p. 211 p. 75 p. 331 p. 333 p. 339

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●		○		●	●	●	●	●	●	●	○	○					

					Design	Set	
					Lead angle shape	D/C	
	mm	mm	mm	mm	mm	13035... Ident. No.	
UNF 4 in	48	2.4	40	3.5	2.7	050	●
UNF 6 in	40	2.95	45	4	3	070	●
UNF 8 in	36	3.5	45	4.5	3.4	080	●
UNF 10 in	32	4.1	50	6	4.9	090	●
UNF 12 in	28	4.6	50	6	4.9	100	●
UNF 1/4 in	28	5.5	50	6	4.9	110	●
UNF 5/16 in	24	6.9	56	6	4.9	120	●
UNF 3/8 in	24	8.5	63	7	5.5	130	●
UNF 7/16 in	20	9.9	63	8	6.2	140	●
UNF 1/2 in	20	11.5	63	9	7	150	●
UNF 9/16 in	18	12.9	70	11	9	160	●
UNF 5/8 in	18	14.5	70	12	9	170	●

Prod. Gr. 1KM

ATORN HSS hand tap set (DIN 351)

for universal use up to 1,000 N/mm2

BSW | ≤3xd | HSS | ISO 2

Application:
For producing UNC (unified coarse threads) by hand in through holes and blind holes, in steel, non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm² in single-part production.

Execution:
- Set containing taper tap (form A), second tap (form D) and third tap (plug) (form C)

Advantage:
- Long service life and process reliability through innovative cutting geometry and universal use for maximum application flexibility

Taper tap, shape A

Second tap, shape D

Third tap, shape C

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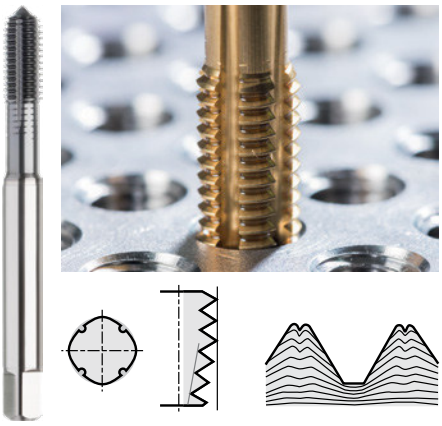
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●		○		●	●	●	●	●	●	●	○	○					

						Design	Set
						Lead angle shape	A/D/C
	mm	mm	mm	mm	mm	13040... Ident. No.	
BSW 1/8 in	40	2.5	40	3.5	2.7	030	●
BSW 5/32 in	32	3.2	45	4.5	3.4	040	●
BSW 3/16 in	24	3.6	50	6	4.9	050	●
BSW 7/32 in	24	4.5	50	6	4.9	060	●
BSW 1/4 in	20	5.1	50	6	4.9	070	●
BSW 5/16 in	18	6.5	56	6	4.9	080	●
BSW 3/8 in	16	7.9	70	7	5.5	090	●
BSW 1/2 in	12	10.5	75	9	7	110	●
BSW 5/8 in	11	13.5	80	12	9	130	●
BSW 3/4 in	10	16.5	95	14	11	140	●

Prod. Gr. 1KM

Female thread creation: Thread forming (thread tapping)

In contrast to tapping, where sections are cut out of the material, the process of thread forming does not involve cutting. The material is made to flow through the polygon shape of the thread former. The fibre pattern is not interrupted.



Advantages:

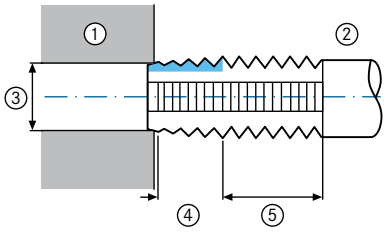
- Very high working speed and process reliability
- Very high surface quality
- One tool for through hole and blind hole
- No clamping problems
- Higher thread strength
- Tools are easier to use
- Long service life, less breakage
- Deep threads

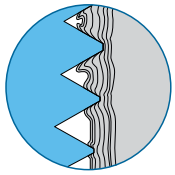
Disadvantages:

- Higher torque
- Special pre-drilling diameter with tight tolerance
- Incomplete moulding of cores (claw)
- Minimum expansion of tool must be ensured
- Regrinding not possible
- Lubrication essential
- Where used in the food or medicine industries, there is a risk of germ build-up in the area of the moulding recess.

Thread forming — the process

unlike with screw tapping, in thread forming the thread is produced by deforming the material. the screw-shaped, polygonal, threaded part of the tool is “screwed in” to the pre-drilled workpiece. It is fed in evenly to match the target thread pitch. the thread profile penetrates the workpiece gradually via the initial cut, causing it to flow and deform plastically.

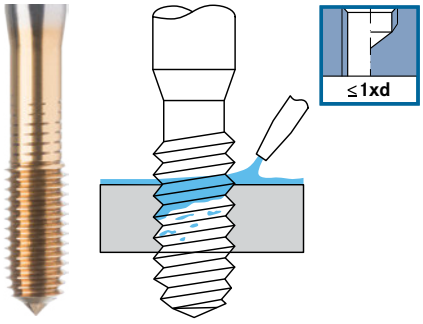




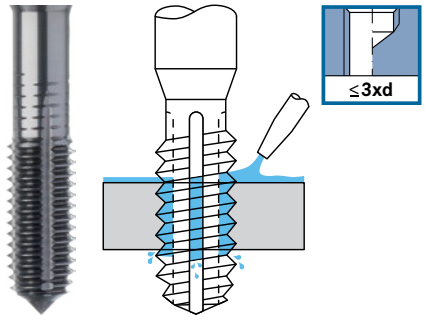
① workpiece ② tool ③ pre-drill diameter
④ run-in ⑤ guide part

Lubrication grooves on thread formers

We distinguish between two different tool types when it comes to thread formers. There are thread formers with and without lubrication grooves. Lubrication grooves ensure uniform lubrication even in the lower section of deeper threads. Lubrication grooves are also necessary in horizontal machining. Thread formers with lubrication grooves can be used universally. Thread formers without lubrication grooves can produce thread depths of up to 1.5xD with an optimum service life.



Thread formers without lubrication grooves



Thread formers with lubrication grooves

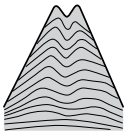
Core hole drilling when thread forming

It is also necessary to drill core holes when thread forming, in order to create a shaped thread. The core hole must have a defined diameter within a certain tolerance range. Countersinking is also essential. When thread forming, however, the core hole is significantly more accurate than when tapping.

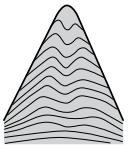
Example:
Thread M10 x 1.5 is 9.30 mm.
Tolerance = max. hole 9.38 mm - min. hole = 9.26 mm = 0.12 mm.
When tapping, the tolerance for the same thread is 0.3 mm.

It is important that the drilling is conducted with very accurate drills. The best results are achieved with solid carbide tools. The following graphics illustrate the relationship between the various core hole diameters and their impact on the formed thread.

Pre-drill diameter too large:
- Thread not fully formed
- Moulding recess too big
- Profile height too low



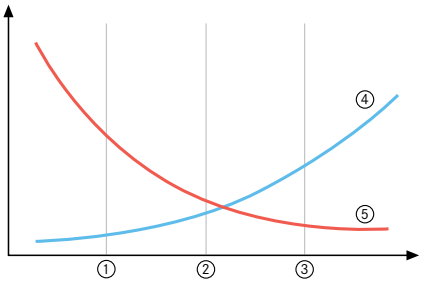
Optimal pre-drill diameter:
- Thread fully formed
- Small moulding recess
- Ideal profile height



Pre-drill diameter too small:
- Thread over-formed
- No moulding recess
- Profile height too high

By optimising the pre-drill diameter, a significantly higher service life can be achieved, not only in series production generally, but also with materials which are difficult to machine such as stainless steel. This graphic illustrates the relationship:

① Minimum dimension
② Nominal dimension
③ Maximum dimension
④ Service life
⑤ Torque

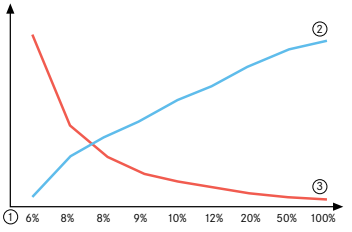


Lubrication and cooling during thread forming

in thread forming, the main job of the coolant is lubrication. the more lubrication is used with the highest possible grease content, the longer the service life. we distinguish between the following coolants:

non water-soluble coolants
these are mineral oils with the best lubricating properties. they minimise friction and thus increase the service life.

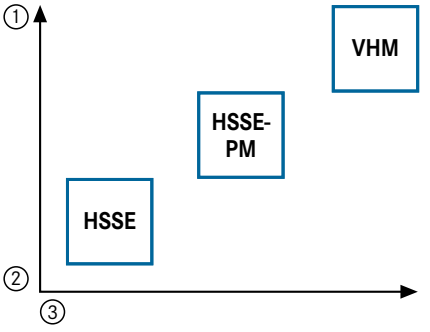
water-soluble coolants
can be emulsified with water. the grease content of these coolants should be no lower than 6%. the ideal grease content is over 12%.



① coolant grease content ② service life ③ friction

Cutting materials in thread forming

Selecting the correct cutting material in thread forming depends strongly on the machine conditions and the quantity to be manufactured. The cutting materials HSSE and HSSE-PM are used in the small to medium quantity range or with unstable machine conditions. In large-scale series production, it is more economical to use solid carbide thread formers.



① Stable ② Unstable ③ Service life/procurement costs

Clamping device recommendation for thread forming

	Length compensation chuck	Synchronous tapping chuck	Collet chucks	Shrink-fit chucks	Hydro-expansion chucks	Surface chuck
Length compensation range	9-15 mm	0.5-1 mm	0	0	0	0
Suitable for usage conditions	Unstable	Unstable-stable (synchronous)	Stable (synchronous)	Stable (synchronous)	Stable (synchronous)	Stable
Suitable for conventional machines	◉	○	○			
Suitable for CNC machines	○	●	◉	◉	◉	◉
Suitable for HSSE/HSSE PM thread formers	◉	◉	◉	◉	◉	◉
Suitable for solid carbide thread formers		◉	○	○	○	○

● = very well suited ◉ = suitable ○ = limited suitability

Coatings and surface treatments for thread forming

Titanium nitride
This universal coating is suitable for softer steels and non-ferrous metals. It is only of limited suitability for high-strength steel and stainless steels.
- Vickers hardness: 2200–2300 HV
- Friction coefficient: 0.5
- Temperature resistance: 500–600°C
- Colour: Gold

TiN

Titanium carbon nitride
Its high level of hardness makes titanium carbon nitride coating very well suited to all steels as well as stainless steels, titanium and cast materials above GGG50.
- Vickers hardness: 3000 HV
- Friction coefficient of steel: 0.2
- Temperature resistance: 400°C
- Colour: Blue grey
- (anthracite) lubrication: Oil/emulsion

TiCN

Titanium aluminium nitride
The titanium aluminium nitride coating is suitable for steels and for alloyed heat-treated steels, tool steels, high-speed steels, stainless steels, titanium, hardened steels and nickel-based materials.
- Vickers hardness: 3200 HV
- Friction coefficient of steel: 0.2
- Temperature resistance: <800°C
- Colour: Blue-grey (anthracite)
- Lubrication: Oil/emulsion

TiAlN

Aluminium chrome nitride
The aluminium chrome nitride coating achieves a very long service life due to its wear resistance, oxidation resistance and high-temperature hardness. This coating is only suitable for steel materials in combination with oil as a coolant.
- Vickers hardness: 3200 HV
- Friction coefficient of steel: 0.35
- Temperature resistance: <1100°C
- Colour: Grey blue
- Lubrication: Oil

AlCrN

CARBO
The CARBO coating is an extremely hard layer and was developed for all non-ferrous metals such as copper, brass and aluminium. Built-up edges are significantly reduced by the high level of hardness and low friction coefficient.
- Vickers hardness: 6000 HV
- Friction coefficient: 0.1
- Temperature resistance: 700°C
- Colour: Black
- Lubrication: Oil/emulsion

CARBO

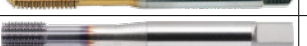
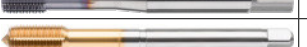
Thread formers without lubrication grooves
For thread depths of up to 1-1.5xD

≤1xd

	Ø	Cutting material	Surface	Tolerance of screw taps	Coolant supply	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N		page
13394009-100	M1-M20	HSSE	TiN	ISO 2X (6HX)	External	●	●	●	●	○		289
13394620-700	M2-M12	HSSE	TiN	ISO 3 (6G)	External	●	●	●	●	○		289

Thread formers with lubrication grooves
For thread depths of up to 3xD

≤3xd

	Ø	Cutting material	Surface	Tolerance of screw taps	Coolant supply	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N		page
13392210-300	M1-M30	HSSE	TiCN	ISO 2X (6HX)	External	○	●	●	○	○		290
13390110-300	M1-M20	HSSE-PM	TiCN	ISO 2X (6HX)	External	●	●	●	●	○		289-290
13394130-200	M3-M16	HSSE	TiN	ISO 2X (6HX)	External	●	●	●	●	○		291
13394530-600	M3-M16	HSSE	AlCrN	ISO 2X (6HX)	External	●	●	●	●	○		291
13394330-400	M3-M16	HSSE	TiN	ISO 3X (6GX)	External	●	●	●	●	○		291
13396350-374	M8-M24	HSSE	TiCN	ISO 2X (6HX)	External	○	●	●		○		293
13396100-134	MF6-MF24	HSSE	TiN	ISO 2X (6HX)	External	●	●	●	●	○		294
13396200-210	G 1/16-G 3/4 inch	HSSE	TiN		External	●	●	●	●	○		294-295

Thread formers with lubrication grooves with internal cooling
For thread depths of up to 3xD

≤3xd

	Ø	Cutting material	Surface	Tolerance of screw taps	Coolant supply	P 700 N/mm²	P 1000 N/mm²	P 1300 N/mm²	M	N		page
13390350-500	M5-M20	HSSE-PM	TiCN	ISO 2X (6HX)	Internal radial	●	●	●	●	○		292
13393350-400	M5-M20	HSSE-PM	TiCN	ISO 2 (6H)	Internal radial	●	●	●	●	○		293

ATORN Machine thread former HSSE-TiN type Uni

for universal use up to 1,300 N/mm2

M | ≤1xd | HSSE | TiN | CNC/conv. | C (2-3)

Ident. No. 009–201

Ident. No. 620–720

p. 211 p. 287 p. 24 p. 849 p. 339

Application:

For producing metric threads in through holes and blind holes on CNC and conventional machines in the steel, stainless steel and NF metal material groups up to a strength of 1300 N/mm² with > 10% material expansion.

Execution:

- Without lubrication grooves, structural dimensions according to: DIN 371 = reinforced shank (up to M10), DIN 376 = protruding shank (from M12)

Advantage:

- Innovative mould geometry ensures very high dimensional accuracy and process reliability
- **Ident. No. 120–201, 720:** High-quality, torsion-resistant HSSE cutting material and surface finish for very high service life requirements

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	25	10	10	7	26	38	20	30	18	25								

Cutting material							HSSE		HSSE		HSSE						
Surface							TiN		TiN		TiN						
Tolerance of screw taps							ISO 2X (6HX)		ISO 2 (6H)		ISO 3 (6G)						
Lead angle shape							C		C		C						
Application type/machine type							CNC | Conventional		CNC | Conventional		CNC | Conventional						
Coolant supply							External		External		External						
	mm	mm	mm	mm	mm	DIN	13394... Ident. No.		13394... Ident. No.		13394... Ident. No.						
M1	0.25	0.9	40	2.5	2.1	371 similar	009	●	-	-	-	-					
M1.2	0.25	1.1	40	2.5	2.1	371 similar	012	●	-	-	-	-					
M1.4	0.3	1.28	40	2.5	2.1	371 similar	014	●	-	-	-	-					
M1.6	0.35	1.46	40	2.5	2.1	371 similar	016	●	-	-	-	-					
M1.7	0.35	1.55	40	2.5	2.1	371 similar	017	●	-	-	-	-					
M1.8	0.35	1.66	40	2.5	2.1	371 similar	018	●	-	-	-	-					
M2	0.4	1.8	45	2.8	2.1	371 similar	020	●	-	-	620	●					
M2.5	0.45	2.3	50	2.8	2.1	371 similar	025	●	-	-	625	●					
M3	0.5	2.8	56	3.5	2.7	371 similar	030	●	-	-	630	●					
M3.5	0.6	3.25	56	4	3	371 similar	035	●	-	-	635	●					
M4	0.7	3.7	63	4.5	3.4	371 similar	040	●	-	-	640	●					
M5	0.8	4.65	70	6	4.9	371 similar	050	●	-	-	650	●					
M6	1	5.55	80	6	4.9	371 similar	060	●	-	-	660	●					
M8	1.25	7.4	90	8	6.2	371 similar	080	●	-	-	680	●					
M10	1.5	9.3	100	10	8	371 similar	100	●	-	-	700	●					
M12	1.75	11.2	110	9	7	376 similar	-	-	120	●	720	●					
M14	2	13.1	110	11	9	376 similar	-	-	141	●	-	-					
M16	2	15.1	110	12	9	376 similar	-	-	161	●	-	-					
M20	2.5	18.9	140	16	12	376 similar	-	-	201	●	-	-					

Prod. Gr. 1KE

ATORN Machine thread former HSSE-PM type UNI MAX H6

For use up to 1,300 N/mm²

M | ≤3xd | HSSE-PM | TiCN | C (2-3)

p. 211 p. 287 p. 24 p. 849 p. 339

Application:

For producing metric threads on CNC and conventional machines in blind holes in the steel, stainless steel and NF metal material groups up to a strength of 1300 N/mm² with > 10% material expansion.

Execution:

- with oil grooves, h6 shank

Advantage:

- H6 shank for shrinking applications
- Innovative mould geometry ensures very high dimensional accuracy and process reliability
- High-quality, torsion-resistant HSSE PM cutting material and surface finish for very high service life requirements

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	25	10	10	7	26	38	20	30	18	25								

Cutting material							HSSE-PM		HSSE-PM	
Surface							TiCN		TiCN	
Tolerance of screw taps							ISO 1X (4HX)		ISO 2X (6HX)	
Lead angle shape							C		C	
Coolant supply							External		External	
	mm	mm	mm	mm	mm	DIN	13390... Ident. No.		13390... Ident. No.	
M1	0.25	0.9	40	2.5	2.1	371 similar	110	●	-	-
M1.2	0.25	1.1	40	2.5	2.1	371 similar	112	●	-	-

						Cutting material	HSSE-PM		HSSE-PM	
						Surface	TiCN		TiCN	
						Tolerance of screw taps	ISO 1X (4HX)		ISO 2X (6HX)	
						Lead angle shape	C		C	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13390... Ident. No.		13390... Ident. No.	
M1.4	0.3	1.25	40	2.5	2.1	371 similar	114	●	-	-
M1.6	0.35	1.45	40	2.5	2.1	371 similar	-	-	116	●
M1.7	0.35	1.55	40	2.5	2.1	371 similar	-	-	117	●
M1.8	0.35	1.65	40	2.5	2.1	371 similar	-	-	118	●
M2	0.4	1.85	45	2.8	2.1	371 similar	-	-	121	●
M2.5	0.45	2.30	50	2.8	2.1	371 similar	-	-	125	●
M3	0.5	2.80	56	3.5	2.7	371 similar	-	-	130	●
M4	0.7	3.70	63	4.5	3.4	371 similar	-	-	140	●
M5	0.8	4.65	70	6	4.9	371 similar	-	-	150	●
M6	1	5.55	80	6	4.9	371 similar	-	-	160	●
M8	1.25	7.40	90	8	6.2	371 similar	-	-	180	●
M10	1.5	9.30	100	10	8	371 similar	-	-	200	●
M12	1.75	11.20	110	9	7	376	-	-	220	●
M14	2	13.10	110	11	9	376	-	-	240	●
M16	2	15.10	110	12	9	376	-	-	260	●
M20	2.5	18.90	140	16	12	376	-	-	300	●

Prod. Gr. 1KE

ATORN Machine thread former HSSE TiCN type Uni Max

For universal use in series production, up to 1,500 N/mm²

Application:

For producing metric threads in through holes and blind holes on CNC or conventional machines in **steel, stainless steel and non-ferrous metals up to a strength of 1500 N/mm².**

Advantage:

- Innovative shape geometry optimised for machining high-strength materials
- High-quality, torsion-resistant HSSE cutting material and surface finish ensure a long service life

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13392210-300; 13392320-500; 13392530-600	28	12	10			30	40	30	40	25	35	30							

						Cutting material	HSSE		HSSE	
						Surface	TiCN		TiCN	
						Tolerance of screw taps	ISO 2X (6HX)		ISO 3X (6GX)	
						Lead angle shape	C		C	
						Application type/machine type	CNC | Conventional		CNC | Conventional	
						Coolant supply	External		External	
	mm	mm	mm	mm	mm	DIN	13392... Ident. No.		13392... Ident. No.	
M1	0.25	0.9	40	2.5	2.1	371	210	●	-	-
M1.2	0.25	1.1	40	2.5	2.1	371	212	●	-	-
M1.4	0.3	1.27	40	2.5	2.1	371	214	●	-	-
M1.6	0.35	1.45	40	2.5	2.1	371	216	●	-	-
M2	0.4	1.85	45	2.8	2.1	371	220	●	-	-
M2.5	0.45	2.33	50	2.8	2.1	371	225	●	-	-
M3	0.5	2.8	56	3.5	2.7	371	230	●	530	●
M4	0.7	3.7	63	4.5	3.4	371	240	●	540	●
M5	0.8	4.65	70	6	4.9	371	250	●	550	●
M6	1	5.55	80	6	4.9	371	260	●	560	●
M8	1.25	7.4	90	8	6.2	371	280	●	580	●
M10	1.5	9.3	100	10	8	371	300	●	600	●
M12	1.75	11.2	110	9	7	376	320	○	620	●
M14	2	13	110	11	9	376	340	○	640	●
M16	2	15	110	12	9	376	360	●	660	●
M18	2.5	16.8	125	14	11	376	380	●	-	-
M20	2.5	18.8	140	16	12	376	400	●	-	-
M22	2.5	20.8	140	18	14.5	376	420	●	-	-
M24	3	22.5	160	18	14.5	376	440	○	-	-
M27	3	25.5	160	20	16	376	470	○	-	-
M30	3.5	28.2	180	22	18	376	500	○	-	-

Prod. Gr. 1KE

ATORN ORION® Machine thread former HSSE-TiN type Uni

For universal use up to 1,300 N/mm²

Application:
For manufacturing metric threads in through and blind holes on CNC or conventional machines in the **steel, stainless steel and non-ferrous metals up to a strength of 1300 N/mm²**.

Advantage:
- **No. 13392 730–13394 200, 13394 330–13394 416:** Innovative mould geometry ensures very high dimensional accuracy and process reliability
- **No. 13394 212–13394 216:** Innovative mould geometry ensures very high dimensional accuracy and process reliability.

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	25	10	10	7	26	38	20	30	18	25								

Cutting material								HSSE		HSSE		HSSE	
Surface								TiN		TiN		TiN	
Tolerance of screw taps								ISO 2X (6HX)		ISO 3X (6GX)		ISO 2X (6HX)	
Lead angle shape								C		C		C	
Application type/machine type								CNC | Conventional		CNC | Conventional			
Coolant supply								External		External		External	
	mm	mm	mm	mm	mm	DIN	13394... Ident. No.		13394... Ident. No.		13392... Ident. No.	
M3	0.5	2.8	56	3.5	2.7	371 similar	130	●	330	●	730	●
M4	0.7	3.7	63	4.5	3.4	371 similar	140	●	340	●	740	●
M5	0.8	4.65	70	6	4.9	371 similar	150	●	350	●	750	●
M6	1	5.55	80	6	4.9	371 similar	160	●	360	●	760	●
M8	1.25	7.4	90	8	6.2	371 similar	180	●	380	●	780	●
M10	1.5	9.3	100	10	8	371 similar	200	●	400	●	800	●
M12	1.75	11.2	110	9	7	376 similar	212	●	412	●	820	●
M16	2	15	110	12	9	376 similar	216	●	416	●	-	-

ORION = Prod. Gr. 1DB
ATORN® = Prod. Gr. 1KE

ATORN Machine thread former HSSE-ALCRN lubrication grooves

For universal use up to 1,300 N/mm² with oil lubrication

Application:
For manufacturing metric threads in through and blind holes on CNC or conventional machines **with oil lubrication** in **steel, stainless steel and non-ferrous metals up to a strength of 1300 N/mm²**.

Advantage:
- Innovative mould geometry ensures very high dimensional accuracy and process reliability.
- High-quality, torsion-resistant HSSE cutting material and surface finish for very high service life requirements.

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	25	10	10	7	26	38	20	30	18	25								

Cutting material							HSSE	
Surface							AlCrN	
Tolerance of screw taps							ISO 2X (6HX)	
Lead angle shape							C	
Application type/machine type							CNC | Conventional	
Coolant supply							External	
mm	mm	mm	mm	mm	mm	DIN	13394... Ident. No.	
M3	0.5	2.8	56	3.5	2.7	371 similar	530	●
M4	0.7	3.7	63	4.5	3.4	371 similar	540	●
M5	0.8	4.65	70	6	4.9	371 similar	550	●
M6	1	5.55	80	6	4.9	371 similar	560	●
M8	1.25	7.4	90	8	6.2	371 similar	580	●
M10	1.5	9.3	100	10	8	371 similar	600	●
M12	1.75	11.2	110	9	7	376 similar	612	●
M16	2	15	110	12	9	376 similar	616	●

Prod. Gr. 1KE

ATORN HSSE-PM TiN synchronous machine thread former

For universal use up to 1,300 N/mm²

Application:
For manufacturing metric threads in through and blind holes on CNC or conventional machines in the **steel, stainless steel and non-ferrous metals up to a strength of 1300 N/mm²**.

Advantage:
- Innovative mould geometry ensures very high dimensional accuracy and process reliability.
- Short guide component reduces friction.

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	25	10	10	7	26	38	20	30	18	25								

Cutting material							HSSE-PM	
Surface							TiN	
Tolerance of screw taps							ISO 2 (6H)	
Lead angle shape							C	
Application type/machine type							CNC | Conventional	
Coolant supply							External	
	mm	mm	mm	mm	mm	DIN	13393... Ident. No.	
M3	0.5	2.8	56	3.5	2.7	371 similar	130	●
M4	0.7	3.7	63	4.5	3.4	371 similar	140	●
M5	0.8	4.65	70	6	4.9	371 similar	150	●
M6	1	5.55	80	6	4.9	371 similar	160	●
M8	1.25	7.4	90	8	6.2	371 similar	180	●
M10	1.5	9.3	100	10	8	371 similar	200	●
M12	1.75	11.2	110	9	7	376 similar	220	●
M14	2	13.1	110	14	11	376 similar	240	●
M16	2	15	110	12	9	376 similar	260	●

Prod. Gr. 1KE

ATORN Machine thread former HSSE-PM TiCN IC radial type Uni Max H6

For universal use up to 1,300 N/mm²

Application:
For manufacturing metric threads in blind holes on CNC or conventional machines in the steel, stainless steel and non-ferrous metal material groups up to 1300 N/mm².

Execution:
- with oil grooves and internal cooling h6 shank

Advantage:
- H6 shank for shrinking applications
- Innovative mould geometry ensures very high dimensional accuracy and process reliability
- High-quality, torsion-resistant HSSE PM cutting material and surface finish for very high service life requirements

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	45	30	20	18	12	40	50	35	45	27	32								

Cutting material							HSSE-PM	
Surface							TiCN	
Tolerance of screw taps							ISO 2X (6HX)	
Lead angle shape							C	
Coolant supply							Internal radial	
	mm	mm	mm	mm	mm	DIN	13390... Ident. No.	
M5	0.8	4.65	70	6	4.9	371	350	●
M6	1	5.55	80	6	4.9	371	360	●
M8	1.25	7.40	90	8	6.2	371	380	●
M10	1.5	9.30	100	10	8	371	400	●
M12	1.75	11.20	110	9	7	376	420	●
M14	2	13.10	110	11	9	376	440	●
M16	2	15.10	110	12	9	376	460	●
M20	2.5	18.90	140	16	12	376	500	●

Prod. Gr. 1KE

ATORN Machine thread former HSSE-PM TiALN IC radial, type Uni

For universal use up to 1,300 N/mm²

M | ≤3xd | HSSE-PM | CNC/conv. | TiCN | C (2-3) | IK

Application:

Ident. No. 350–400: For producing metric threads in blind holes on CNC or conventional machines in **steel, stainless steel and non-ferrous metals up to a strength of 1300 N/mm².**

Ident. No. 420–500: For producing metric threads in blind holes on CNC or conventional machines in steel, stainless steel and non-ferrous metals up to a strength of 1300 N/mm².

Advantage:

- Innovative mould geometry ensures very high dimensional accuracy and process reliability
- High-quality, torsion-resistant HSSE PM cutting material and surface finish for very high service life requirements

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	45	30	20	18	12	40	50	35	45	27	32								

Cutting material								HSSE-PM
Surface								TiCN
Tolerance of screw taps								ISO 2 (6H)
Lead angle shape								C
Application type/machine type								CNC | Conventional
Coolant supply								Internal radial
	mm	mm	mm	mm	mm	DIN	13393... Ident. No.	
M5	0.8	4.65	70	6	4.9	371 similar	350	●
M6	1	5.55	80	6	4.9	371 similar	360	●
M8	1.25	7.4	90	8	6.2	371 similar	380	●
M10	1.5	9.3	100	10	8	371 similar	400	●
M12	1.75	11.2	110	9	7	376 similar	420	●
M16	2	15	110	12	9	376 similar	460	●
M18	2.5	16.9	125	14	11	376 similar	480	●
M20	2.5	18.9	140	16	12	376 similar	500	●

Prod. Gr. 1KE

ATORN Machine thread former HSSE TiCN type Uni Max (DIN 374)

For universal use in series production, up to 1,500 N/mm²

MF | ≤3xd | HSSE | TiCN | CNC/conv. | C (2-3)

Application:

For manufacturing metric threads in through and blind holes on CNC or conventional machines in the **steel, stainless steel and non-ferrous metals up to a strength of 1500 N/mm².**

Advantage:

- Innovative shape geometry optimised for machining high-strength materials
- High-quality, torsion-resistant HSSE cutting material and surface finish ensure a long service life

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	28	12	10			30	40	30	40	25	35	30							

Cutting material								HSSE
Surface								TiCN
Tolerance of screw taps								ISO 2X (6HX)
Lead angle shape								C
Application type/machine type								CNC | Conventional
Coolant supply								External
	mm	mm	mm	mm	mm	DIN	13396... Ident. No.	
MF8	1	7.55	90	8	6.2	374	350	●
MF10	1	9.55	90	10	8	374	352	●
MF10	1.25	9.45	100	10	8	374	354	●
MF12	1	11.55	100	9	7	374	356	●
MF12	1.25	11.45	100	9	7	374	358	●
MF12	1.5	11.3	100	9	7	374	360	●
MF14	1.25	13.4	100	11	9	374	362	●
MF14	1.5	13.3	100	11	9	374	364	○
MF16	1.5	15.3	100	12	9	374	366	●
MF18	1.5	17.3	110	14	11	374	368	○
MF20	1.5	19.3	125	16	12	374	370	●
MF22	1.5	21.3	125	18	14.5	374	372	○
MF24	1.5	23.3	140	18	14.5	374	374	●

Prod. Gr. 1KF

ATORN Machine thread former HSSE-TiN type Uni (DIN 374)

For universal use up to 1,300 N/mm²

MF | ≤3xd | HSSE | TiN | CNC/conv. | C (2-3)

Application:

For producing metric threads in through holes and blind holes on CNC and conventional machines in the steel, stainless steel and NF metal material groups up to a strength of 1300 N/mm² with > 10% material expansion.

Advantage:

- Innovative mould geometry ensures very high dimensional accuracy and process reliability
- High-quality, torsion-resistant HSSE cutting material and surface finish for very high service life requirements

Technical data:

- DIN: 374

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	25	10	10	7	26	38	20	30	18	25								

Cutting material							HSSE	
Surface							TiN	
Tolerance of screw taps							ISO 2X (6HX)	
Lead angle shape							C	
Application type/machine type							CNC | Conventional	
Coolant supply							External	
	mm	mm	mm	mm	mm		13396... Ident. No.	
MF6	0.75	5.65	80	4.5	3.4		100	●
MF8	0.75	7.65	90	6	4.9		102	●
MF8	1	7.55	90	6	4.9		104	●
MF10	1	9.55	90	7	5.5		106	●
MF10	1.25	9.4	100	7	5.5		108	●
MF12	1	11.55	100	9	7		110	●
MF12	1.25	11.4	100	9	7		112	●
MF12	1.5	11.3	100	9	7		114	●
MF14	1	13.55	100	11	9		116	●
MF14	1.5	13.3	100	11	9		118	●
MF16	1	15.55	100	12	9		120	●
MF16	1.5	15.3	100	12	9		122	●
MF18	1	17.55	110	14	11		124	●
MF18	1.5	17.3	110	14	11		126	●
MF20	1	19.55	125	16	12		128	●
MF20	1.5	19.3	125	16	12		130	●
MF22	1.5	21.3	125	18	14.5		132	●
MF24	1.5	23.3	140	18	14.5		134	●

Prod. Gr. 1KF

ATORN HSSE TiN machine thread former

for universal use up to 1,300 N/mm2

G | ≤3xd | HSSE | CNC/conv. | TiN | C (2-3)

Application:

For producing metric threads in through holes and blind holes on CNC or conventional machines in **steel, stainless steel and non-ferrous metals up to 1300 N/mm².**

Advantage:

- Innovative mould geometry ensures very high dimensional accuracy and process reliability
- High-quality, torsion-resistant HSSE cutting material and surface finish for very high service life requirements

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	30	25	10	10	7	26	38	20	30	18	25								

Cutting material							HSSE	
Surface							TiN	
Lead angle shape							C	
Application type/machine type							CNC | Conventional	
Coolant supply							External	
	mm	mm	mm	mm	mm		13396... Ident. No.	
G1/16	28	7.3	90	6	4.9		200	●
G1/8	28	9.3	90	7	5.5		202	●
G1/4	19	12.5	100	11	9		204	●
G3/8	19	16	100	12	9		206	●
G1/2	14	20	125	16	12		208	●
G3/4	14	25.5	140	20	16		210	●

Prod. Gr. 1KF

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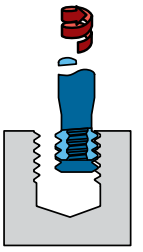
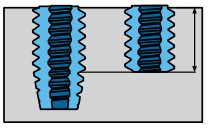
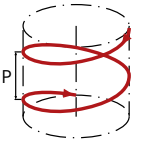
Female thread creation: Milling cutter

The development of computer-controlled machines has made the thread milling procedure another option for creating internal threads. The thread is produced by the helical diagonal immersion of a rotating tool. In the process, the axial movement of the tool during one revolution produces the pitch. A CNC machine with at least three axes is required (XYZ).







Advantages, tool cost minimisation:

- right-hand and left-hand thread can be manufactured with a tool
- thread milling cutters cover different threads with the same pitch
- for partial thread profiles, a wide range of threads can be produced with a cutting insert

Advantages, process reliability:

- Extremely high process reliability for very expensive components
- Reliable solution for problem materials with chip breaking issues and difficult chip formation
- First choice for thin-walled workpieces or unstable clamping
- High thread quality
- Thread can be produced down to the bottom of a blind hole
- Radius compensation programming enables thread tolerance to be adjusted easily

Disadvantages:

- Machine requirements (XYZ axes)
- In series production, usually longer machining times
- Limited experience of the user in thread milling

Clamping device recommendation for thread milling

	Collet chucks	Shrink-fit chucks	Hydro-expansion chucks	Surface chuck	Power chucks
Suitable for pitches up to 1.5 mm	○	○	○	◎	●
Suitable for pitches above 1.5 mm			◎	●	●
Vibration-damping	○	○	◎	○	◎
Surface quality	○	◎	◎	○	●

● = very well suited ◎ = suitable ○ = limited suitability

Multi-range thread milling cutter
For female thread milling

		IK	P	M	N	K	S		page
13496192-217	Multi-range thread milling cutter solid carbide TIAlN (M, MF) without internal cooling straight shank HA for universal use up to 1500 N/mm2 in female threads	External	●	●	●	●			300-301
13496560-612	Multi-range thread milling cutter solid carbide TIAlN (M, MF) with axial internal cooling straight shank HA For universal use up to 1500 N/mm2 in female threads.	Internal	●	●	●	●	●		299

Micro-thread milling cutter type Uni
For female thread milling

		P	M	N	K	S	H 65HRC		page
13496801-928	Thread milling cutter solid carbide TiAlN 2xD (M, MF) straight shank HA For universal use up to 1500 N/mm2 in female threads.	●	●	●	●	●			301
13496930-962	Thread milling cutter solid carbide TIAlN 3xD (M, MF) straight shank HA For universal use up to 1500 N/mm2 in female threads.	●	●	●	●	●			302

Micro-thread milling cutter type hard
For female thread milling

		P	M	N	K	S	H 65HRC		page
13496970-981	Thread milling cutter solid carbide TIAIN 2xD (M, MF) straight shank HA For hard machining up to 63 HRC in female threads.						●		302-303
13496990-998	Thread milling cutter solid carbide TiAIN 3xD (M, MF) straight shank HA For hard machining up to 63 HRC in female threads						●		303

ATORN solid carbide drill thread milling cutter for internal thread
For universal use up to 68 HRC

Application: Drilling and thread milling in a single step in soft and hard machining.
Advantages:
- Very high machining speed and service life, particularly for hard machining of steels
- High profitability and process stability

Note:
- -55 HRC with emulsion for sufficient cooling and chip removal!
- >55 HRC with air for sufficient cooling and chip removal!

Process steps:
① Tool moves to starting position, centred above thread position
② Begin with circular milling motion
③ Circular drill thread milling cutting to thread depth
④ End thread milling process with an ascending loop
⑤ Movement to starting position and end of machining procedure

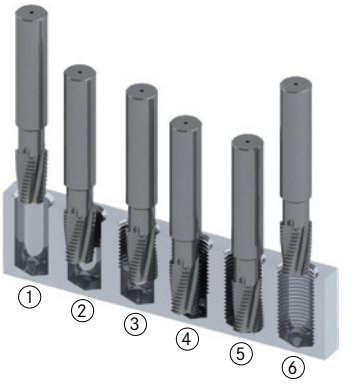
ATORN solid carbide multi-range thread milling cutter for female threads

Application:
For variable and precise thread milling of female threads with constant pitch. Due to the collar groove between the threaded portion and shank, a depth offset is possible in order to produce a deeper thread.

Advantages:
- Low tool costs thanks to high variability in the thread diameter and one tool for right-hand and left-hand thread
- Large thread depth achievable
- Very high wear resistance and cutting speeds thanks to ultra fine micrograin structure

Note:
Ensure that the tool clamping is stable!

Process steps for thread milling cutter with collar groove:
① Tool moves to starting position, centred above bore hole
② Start of thread milling with descending loop
③ Thread milling with subsequent ascending loop
④ Start of second thread milling programme with descending loop
⑤ Thread milling with subsequent ascending loop
⑥ Movement to starting position and end of machining process



ORION ATORN Multi-range thread milling cutter SC TIAIN M/MF (60°) IC axial

For universal use up to 1,500 N/mm2 in female threads

VHM | TiAlN | ≤2xd | ≤1,5xd | IK | HA

Application:

Ident. No. 241–258: For producing **metric** right-hand and left-hand threads on CNC machines in through holes and blind holes in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1,500 N/mm².

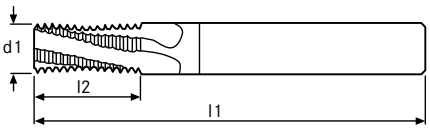
Ident. No. 560–612: For producing **metric** right-hand and left-hand threads on CNC machines in through holes and blind holes in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1500 N/mm².

Execution:

- Precision-ground thread milling cutter

Advantage:

- **Ident. No. 241–258:** Innovative rake for very high dimensional accuracy, process reliability and chip removal
- **Ident. No. 560–612:** Innovative cutting geometry for very high dimensional accuracy, process reliability and chip removal.



Ident. No. 560–612

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	120	110	90	100	80	220	240	200	200	180	180	220	150	90	50	40	40		

										ATORN		ORION	
d1 (mm)	Pitch (mm)	Suitable for metric fine threads from	Suitable for metric threads from	L1 (mm)	l2 (mm)	Shank Ø (mm)	Number of cutting edges (PCS)	fz steel 1000 ● (mm)		13496... Ident. No.		13496... Ident. No.	
3.8	0.5	MF5	-	58	10.3	6	3	0.03		560	○	-	-
3.1	0.7	MF4	M4	58	7.4	6	3	0.03		562	●	-	-
4.5	0.75	MF6	-	58	10.1	6	3	0.03		564	○	242	●
3.8	0.8	MF6	M5	58	9.2	6	3	0.03		566	●	241	●
4.6	1	MF7	M6	58	10.5	6	3	0.03		568	○	243	●
4.6	1	MF7	M6	58	14.5	6	3	0.03		570	●	244	●
6	1	MF9	-	58	12.5	6	3	0.04		572	○	-	-
8	1	MF10	-	64	16.5	8	4	0.06		574	●	-	-
10	1	MF12	-	73	24.5	10	4	0.07		576	●	254	●
6	1.25	MF10	M8	58	14.4	6	3	0.04		578	●	245	●
6	1.25	MF10	M8	58	19.4	6	6	0.04		580	●	246	●
7.8	1.5	MF12	M10	64	17	8	3	0.06		582	●	247	○
7.8	1.5	MF12	M10	76	24.8	8	3	0.06		584	●	248	●
10	1.5	MF14	-	73	21.8	10	4	0.07		586	○	253	●
12	1.5	MF16	-	84	26.3	12	4	0.08		588	●	256	●
16	1.5	MF20	-	105	33.8	16	6	0.08		590	○	258	●
9	1.75	MF12	M12	73	20.1	10	3	0.06		592	●	249	●
9	1.75	MF12	M12	73	28.8	10	3	0.06		594	○	-	-
10	2	MF15	M14	73	27	10	3	0.06		596	○	-	-
11.8	2	MF17	M16	84	27	12	4	0.07		598	○	-	-
11.8	2	MF17	M16	105	39	12	4	0.07		600	○	-	-
20	2	MF26	-	105	41	20	6	0.08		602	○	-	-
15	2.5	MF22	M20	105	33.8	16	5	0.07		604	○	-	-
15	2.5	MF22	M20	105	48.8	16	5	0.07		606	○	-	-
18	3	MF25	M24	105	40.5	20	4	0.08		608	○	-	-
18	3	MF25	M24	120	58.5	20	4	0.08		610	○	-	-
20	3	MF27	M27	105	43.5	20	4	0.08		612	○	-	-

ORION = Prod. Gr. 1DD
ATORN = Prod. Gr. 132

ATORN ORION Multi-range thread milling cutter SC TIAIN M/MF (60°) IC radial

For universal use up to 1,500 N/mm2 in female threads

VHM | TiAlN | ≤2xd | ≤1,5xd | IK | HA

Application:

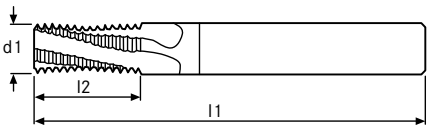
For producing **metric** right-hand and left-hand threads on CNC machines in through holes and blind holes in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a certain strength.

Execution:

- Precision-ground thread milling cutter

Advantage:

- **Ident. No. 106–116:** Innovative rake for very high dimensional accuracy, process reliability and chip removal
- **Ident. No. 218–232:** Innovative cutting geometry for very high dimensional accuracy, process reliability and chip removal.



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	120	110	90	100	80	220	240	200	200	180	180	220	150	90	50	40	40		

										ATORN		ORION	
d1 (mm)	Pitch (mm)	Suitable for metric fine threads from	Suitable for metric threads from	L1 (mm)	l2 (mm)	Shank Ø (mm)	Number of cutting edges (PCS)	fz steel 1000 ● (mm)		13496... Ident. No.		13496... Ident. No.	
4.8	1	MF7	M6	58	10.5	6	3	0.04		218	○	-	-
6	1	MF9	-	58	12.5	6	3	0.06		219	○	106	●
8	1	MF10	-	64	16.5	8	4	0.07		220	○	108	●
6	1.25	MF10	M8	58	14.4	6	3	0.06		221	○	-	-
6	1.25	MF10	M8	58	19.4	6	3	0.06		222	○	107	●
7.8	1.5	MF12	M10	64	17	8	3	0.06		223	○	109	●
10	1.5	MF14	-	73	21.8	10	4	0.08		224	○	114	●
12	1.5	MF16	-	84	26.3	12	4	0.09		225	○	115	●
16	1.5	MF20	-	101	33.8	16	5	0.12		226	○	-	-
9	1.75	MF12	M12	73	20.1	10	3	0.07		227	○	-	-
9	1.75	MF12	M12	73	28.9	10	3	0.07		228	●	111	●
10	2	MF15	M14	73	27	10	3	0.08		229	○	113	●
11.8	2	MF17	M16	84	27	12	4	0.09		231	○	116	●
15	2.5	MF22	M20	101	33.8	16	5	0.12		232	○	-	-

ORION = Prod. Gr. 1DD
ATORN = Prod. Gr. 132

ORION ATORN Multi-range thread milling cutter SC TIAIN M/MF (60°) without IC

For universal use up to 1,500 N/mm2 in female threads

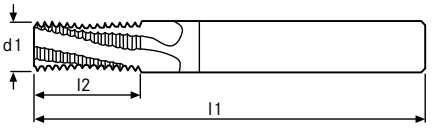
Application:
For producing **metric** right-hand and left-hand threads on CNC machines in through holes and blind holes in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1500 N/mm².

Execution:
- Precision-ground thread milling cutter

Advantage:
- Innovative cutting geometry for very high dimensional accuracy, process reliability and chip removal.
- **Ident. No. 192–217:** High-performance coating and cemented carbide ensure long service life

Ident. No. 192–217

Ident. No. 750–762



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	100	90	80	80	60	200	200	160	16	140	140	180	120	70					

										ATORN		ORION	
d1 (mm)	Pitch (mm)	Suitable for metric fine threads from	Suitable for metric threads from	L1 (mm)	l2 (mm)	Shank Ø (mm)	Number of cutting edges (PCS)	fz steel 1000 ● (mm)		13496... Ident. No.		13496... Ident. No.	
2.2	0.5	MF4	M3	58	5.3	6	3	0.03		192	○	750	●
3.8	0.5	MF5	-	58	10.3	6	3	0.04		193	○	-	-
3.1	0.7	MF5	M4	58	7.4	6	3	0.04		194	○	751	●
4.5	0.75	MF6	-	58	10.1	6	3	0.04		195	●	-	-
3.6	0.8	MF6	M5	58	9.2	6	3	0.04		196	●	752	○
4	1	MF7	M6	58	10.5	6	3	0.04		197	○	753	●
4	1	MF7	M6	58	14.5	6	3	0.04		198	○	754	●
6	1	MF9	-	58	12.5	6	3	0.06		199	○	-	-
8	1	MF10	-	64	16.5	8	4	0.07		200	●	-	-
5	1.25	MF10	M8	58	14.4	6	3	0.04		201	○	755	●
5	1.25	MF10	M8	58	19.4	6	3	0.04		202	○	756	○
7	1.5	MF12	M10	64	17.3	8	3	0.06		203	○	757	●
7	1.5	MF12	M10	76	24.8	8	3	0.06		204	●	758	●
10	1.5	MF14	-	73	21.8	10	4	0.08		205	●	-	-
16	1.5	MF20	-	105	33.8	16	6	0.12		206	○	-	-
8	1.75	MF14	M12	64	20.1	8	3	0.07		207	○	759	●
8	1.75	MF14	M12	76	28.9	8	3	0.07		208	○	760	○
10	2	MF17	M16	73	27	10	3	0.08		209	●	761	●
10	2	MF17	M16	105	39	10	3	0.08		210	○	762	○
12	2	MF18	-	84	27	12	4	0.09		211	○	-	-
20	2	MF26	-	105	41	20	6	0.15		212	○	-	-

									ATORN		ORION	
d1 (mm)	Pitch (mm)	Suitable for metric fine threads from	Suitable for metric threads from	L1 (mm)	l2 (mm)	Shank Ø (mm)	Number of cutting edges (PCS)	fz steel 1000 ● (mm)	13496... Ident. No.		13496... Ident. No.	
14	2.5	MF22	M20	84	33.8	14	4	0.11	213	○	-	-
14	2.5	MF22	M20	105	48.8	14	4	0.11	214	○	-	-
16	3	MF25	M24	105	40.5	16	3	0.12	215	○	-	-
16	3	MF25	M24	120	58.5	16	3	0.12	216	○	-	-
20	3	MF28	M27	105	43.5	20	4	0.15	217	○	-	-

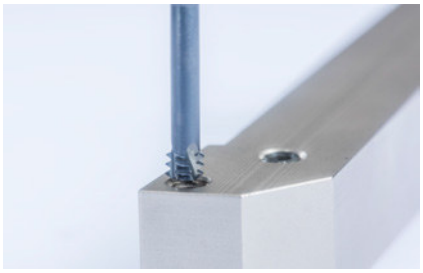
ORION = Prod. Gr. 1DD
ATORN® = Prod. Gr. 132

ATORN solid carbide thread milling cutter

Application:
For smaller boreholes with straight shank from M1x0.25 to 3xD.

Advantages:
- Extremely low cutting pressure and thus excellent surface quality
- Universal applications
- Very long service life thanks to multi-layer coating
- Thread milling down to the blind hole
- A tool for right- and left-handed thread

Process steps:
① Tool moves to starting position, centred above bore hole
② 90° arc in
③ Thread milling
④ 90° arc out
⑤ Final position



ATORN ORION® Solid carbide TiAlN 2xD thread milling cutter (M, MF)

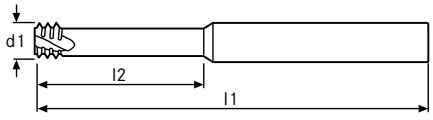
For universal use up to 1,500 N/mm2 in female threads

VHM | TiAlN | ≤2xd | HA

Application:
For producing metric right-hand and left-hand threads on CNC machines in through holes and blind holes in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1500 N/mm².

Execution:
- Thread milling cutters with short thread section

Advantage:
- **Ident. No. 902–928:**
  - Innovative cutting geometry and high-quality cemented carbide ensure very high degree of dimensional accuracy, process reliability and chip removal
  - Tapping of very small threads from M1 x 0.2 possible



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	90	70	60	70	60	140	140	135	135	120	120	135	120	50	30	25	25		

								ATORN		ORION	
d1 (mm)	Pitch (mm)	Suitable for metric threads from	l1 (mm)	l2 (mm)	Shank Ø (mm)	Number of cutting edges (PCS)	fz steel 1000 ● (mm)	13496... Ident. No.		13496... Ident. No.	
0.72	0.25	M1	39	2.5	3	3	0.01	902	○	-	-
1.55	0.4	M2	58	4.5	6	3	0.03	904	●	-	-
1.65	0.45	M2.2	58	5	6	3	0.03	906	○	-	-
1.95	0.45	M2.5	58	5.5	6	3	0.03	908	●	-	-
2.35	0.5	M3	58	6.5	6	3	0.03	910	●	086	●
2.75	0.6	M3.5	58	7.5	6	3	0.05	912	○	087	●
3.1	0.7	M4	58	9	6	3	0.05	914	●	088	●
3.8	0.8	M5	58	12.5	6	3	0.07	916	●	089	●
4.65	1	M6	58	14	6	3	0.07	918	●	090	●
5.95	1.25	M8	58	18	6	3	0.09	920	●	091	●
7.8	1.5	M10	64	23	8	3	0.12	922	●	092	●
9	1.75	M12	73	26	10	3	0.14	924	●	093	●
11.8	2	M16	84	35	12	4	0.16	926	●	094	●
15	2.5	M20	105	43	16	5	0.18	928	●	-	-

ORION = Prod. Gr. 1DD
ATORN® = Prod. Gr. 132

ORION ATORN Thread milling cutter SC TiAlN 3xD (M, MF)

For universal use up to 1,500 N/mm2 in female threads

VHM | TiAlN | ≤3xd | HA

Application:

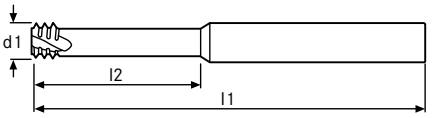
Ident. No. 930–958: For producing metric right-hand and left-hand threads on CNC machines in through holes and blind holes in the steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1500 N/mm².

Execution:

- Thread milling cutters with short thread section

Advantage:

- **Ident. No. 095–104:**
  - Innovative cutting geometry for very high dimensional accuracy, process reliability and chip removal.
  - Thread milling cutting of very small threads from M1.4 x 0.3 possible
- **Ident. No. 930–958:**
  - Innovative cutting geometry and high-quality cemented carbide ensure very high degree of dimensional accuracy, process reliability and chip removal
  - Tapping of very small threads from M1 x 0.2 possible



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	90	70	60	70	60	140	140	135	135	120	120	135	120	50	30	25	25		

									ATORN		ORION	
d1 (mm)	Pitch (mm)	Suitable for metric threads from	l1 (mm)	l2 (mm)	Shank Ø (mm)	Number of cutting edges (PCS)	fz steel 1000 ● (mm)		13496... Ident. No.		13496... Ident. No.	
1.05	0.3	M1.4	39	4	3	3	0.01		930	○	-	-
1.2	0.35	M1.6	39	4.8	3	3	0.01		932	●	-	-
1.53	0.4	M2	39	6	3	3	0.03		934	●	-	-
1.95	0.45	M2.5	58	7.5	6	3	0.03		936	●	-	-
2.37	0.5	M3	58	9.5	6	3	0.04		938	●	095	●
2.37	0.5	M3	105	9.5	6	3	0.04		940	●	-	-
2.75	0.6	M3.5	58	10.5	6	3	0.05		944	●	096	○
3.1	0.7	M4	58	12.5	6	3	0.05		946	●	097	●
3.1	0.7	M4	105	12.5	6	3	0.05		948	●	-	-
3.8	0.8	M5	58	16	6	3	0.05		950	●	098	●
3.8	0.8	M5	105	16	6	3	0.05		952	○	-	-
4.65	1	M6	58	20	6	3	0.06		954	●	099	●
4.65	1	M6	105	20	6	3	0.06		956	●	-	-
6	1.25	M8	58	24	6	3	0.07		958	●	101	●
7.8	1.5	M10	64	31.5	8	3	0.14		-	-	102	●
9	1.75	M12	73	37.8	10	3	0.04		-	-	103	●
11.8	2.0	M16	84	35	12	4	0.16		-	-	104	●

ORION = Prod. Gr. 1DD
ATORN = Prod. Gr. 132

ORION ATORN Thread milling cutter SC TIAlN 2xD (M, MF)

For machining hard materials up to 63 HRC in female threads

VHM | TiAlN | ≤2xd | HA

Application:

Ident. No. 131–141: For producing metric right-hand and left-hand threads on CNC machines in through holes and blind holes in the hardened steel material group up to a strength of 63 HRC.

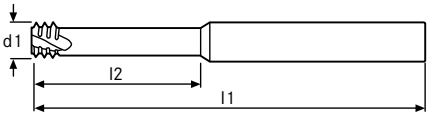
Ident. No. 970–981: For producing metric right-hand and left-hand threads on CNC machines in through holes and blind holes in the hardened steel material group up to a strength of 63HRC.

Execution:

- Thread milling cutters with short thread section

Advantage:

- **Ident. No. 131–141:**
  - Innovative rake and coating technology ensure very high degree of dimensional accuracy, process reliability and chip removal
  - Thread milling of very small threads from M2 x 0.4 possible
- **Ident. No. 970–981:**
  - Innovative cutting geometry and coating technology ensure very high dimensional accuracy, process reliability and chip removal.
  - Tapping of very small threads from M2 x 0.4 possible.



Ident. No. 970–981

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Notes:

Ident. No. 131–141: The tool must be used in an anti-clockwise rotation!

Ident. No. 970–981: The tool must be used in an anti-clockwise direction!

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
																		50	40

								ATORN		ORION	
d1 (mm)	Pitch (mm)	Suitable for metric threads from	l1 (mm)	l2 (mm)	Shank Ø (mm)	Number of cutting edges (PCS)	fz steel 1000 ● (mm)	13496... Ident. No.		13496... Ident. No.	
1.53	0.4	M2	58	4.5	6	3	0.01	970	○	-	-
1.65	0.45	M2.2	58	5	6	3	0.01	971	○	-	-
1.95	0.45	M2.5	58	5.5	6	3	0.01	972	●	131	●
2.37	0.5	M3	58	6.5	6	3	0.01	973	●	133	○
2.75	0.6	M3.5	58	7.5	6	3	0.02	974	○	134	●
3.1	0.7	M4	58	9	6	3	0.02	975	●	135	●
3.8	0.8	M5	58	12.5	6	3	0.02	976	●	136	●
4.65	1	M6	58	14	6	3	0.02	977	●	137	●
6	1.25	M8	58	18	6	3	0.03	978	●	132	●
7.8	1.5	M10	64	23	8	3	0.03	979	●	138	○
9	1.75	M12	73	26	10	3	0.03	980	●	139	●
11.8	2	M16	84	35	12	4	0.04	981	●	141	○

ORION = Prod. Gr. 1DD
ATORN® = Prod. Gr. 132

ORION® ATORN® Solid carbide TiAlN 3xD thread milling cutter (M, MF)

For machining hard materials up to 63 HRC in female threads

Application:

Ident. No. 143–147: For producing metric right-hand and left-hand threads on CNC machines in through holes and blind holes in the hardened steel material group up to a strength of 63 HRC.

Ident. No. 803–998: For producing metric right-hand and left-hand threads on CNC machines in through holes and blind holes in the hardened steel material group up to a strength of 63HRC.

Execution:

- Thread milling cutters with short thread section

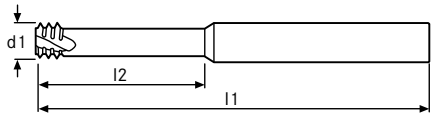
Advantage:

- **Ident. No. 143–147:**
  - Innovative rake and coating technology ensure very high degree of dimensional accuracy, process reliability and chip removal
  - Thread milling of very small threads from M1.4 x 0.3 possible
- **Ident. No. 803–998:**
  - Innovative cutting geometry and coating technology ensure very high degree of dimensional accuracy, process reliability and chip removal
  - Thread milling cutting of very small threads from M1.4 x 0.3 possible

Notes:

Ident. No. 143–147: The tool must be used in an anti-clockwise rotation!

Ident. No. 803–998: The tool must be used in an anti-clockwise direction!



Ident. No. 803–998

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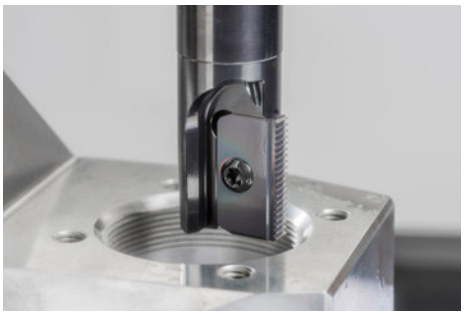
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
																		50	40

								ATORN		ORION	
d1 (mm)	Pitch (mm)	Suitable for metric threads from	l1 (mm)	l2 (mm)	Shank Ø (mm)	Number of cutting edges (PCS)	fz steel 1000 ● (mm)	13496... Ident. No.		13496... Ident. No.	
1.05	0.3	M1.4	39	4	3	3	0.01	990	○	-	-
1.2	0.35	M1.6	39	4.8	3	3	0.01	991	○	-	-
1.53	0.4	M2	39	6	3	3	0.02	992	●	-	-
1.95	0.45	M2.5	58	7.5	6	3	0.02	993	○	-	-
2.37	0.5	M3	58	9.5	6	3	0.02	994	●	144	●
2.75	0.6	M3.5	58	10.5	6	3	0.05	803	○	-	-
3.1	0.7	M4	58	12.5	6	3	0.03	995	●	145	●
3.8	0.8	M5	58	16	6	3	0.03	996	●	146	●
4.65	1	M6	58	20	6	3	0.04	997	●	147	●
6	1.25	M8	58	24	6	3	0.04	998	●	143	●

ORION = Prod. Gr. 1DD
ATORN® = Prod. Gr. 132

Thread milling system with indexable insert
For universal use

- Innovative coating technology and carbide mixtures for long service life and wide-ranging machining applications up to a hardness of 62 HRC
- Very high surface qualities of the threads
- Deep threads can be manufactured with high process reliability



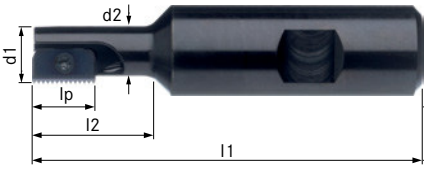
ATORN Steel holder for single-edge thread milling cutter
For using thread milling cutter plates

HB IK

Application:
For using ground thread milling cutter inserts no. 13397.

Execution:
- Burnished steel tool holder with one insert seat

Advantage:
- High process reliability and dimensional accuracy due to precise insert seating
- High-quality carrier material for very high service life requirements



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Suitable for indexable insert size	Cutting edge length (mm)	d1 (mm)	Suitable for min. Ø (mm)	Shank Ø (mm)	l1 (mm)	l2 (mm)	13397... Ident. No.	
12	12	9.5	12.2	20	85	14	005	●
12	12	9.9	12.8	20	85	16	012	○
14	14	12	15.5	20	75	20	015	●
14	14	14.5	18.7	20	85	25	022	●
14	14	17	21.9	20	85	30	025	●
21	21	18	23.2	20	85	30	032	●
21	21	21	27.1	20	94	40	035	●
21	21	25	32.3	20	125	-	042	●
30	30	29	37.4	25	110	50	045	○
30	30	31	40	25	150	-	052	○
30	30	38	49	32	150	-	055	○
40	40	48	61.9	40	153	78	060	○

Prod. Gr. 132

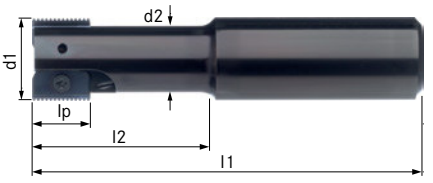
ATORN Steel holder for double-edge thread milling cutter
For using thread milling cutter plates

HB IK

Application:
For using ground thread milling cutter inserts no. 13397.

Execution:
- Burnished steel tool holder with two insert seats

Advantage:
- High process reliability and dimensional accuracy due to precise insert seating
- High-quality carrier material for very high service life requirements
- High machining speed due to two-tip geometry



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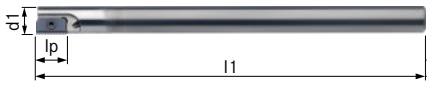
Suitable for indexable insert size	Cutting edge length (mm)	d1 (mm)	Suitable for min. Ø (mm)	Shank Ø (mm)	l1 (mm)	l2 (mm)	13397... Ident. No.	
14	14	20	26	20	93	41	090	○
21	21	30	39	25	108	52	095	○
30	30	40	52	32	130	70	100	○
40	40	50	65	40	153	78	105	○

Prod. Gr. 132

ATORN Solid carbide holder for single-edge thread milling cutter

For using thread milling cutter plates

HA IK



Application:
For using ground thread milling cutter inserts no. 13397.

Execution:
- Solid carbide steel tool holder with one insert seat

Advantage:
- High process reliability and dimensional accuracy due to precise insert seating
- High quality solid carbide carrier material for very high requirements in terms of service life and low vibration

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Suitable for indexable insert size	Cutting edge length (mm)	d1 (mm)	Suitable for min. Ø (mm)	Shank Ø (mm)	l1 (mm)	13397... Ident. No.	
12	12	9.9	12.8	8	125	065	○
14	14	13.2	17.0	10	150	070	○
14	14	15.2	19.7	12	175	075	○
21	21	21	27.1	16	200	080	○
30	30	27	35	20	270	085	○

Prod. Gr. 132

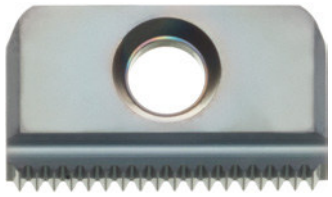
ATORN Indexable inserts for thread milling cutter

For universal use up to 1,300 N/mm²

Application:
For producing metric right-hand and left-hand threads on CNC machines, in steel, stainless steel, non-ferrous metals, cast iron and special alloys material groups up to a strength of 1500 N/mm² in single-part production and series production.

Execution:
- **Ident. No. 200–268:** Indexable insert, solid profile 60° female, both sides precision-ground (indexable insert size 12 = one side only)
- **Ident. No. 310–368:** Indexable insert, solid profile, 60° male
- **Ident. No. 406–456:** Indexable insert, solid profile 55° male and female, both sides precision-ground (indexable insert size 12 = one side only)

Advantage:
- Innovative cutting geometry ensures very high dimensional accuracy, process reliability and chip removal
- High-quality cutting material and cutting edge finish
- Low tool costs due to high variability



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	140	130	100	120	100	240	240	220	220	200	200	220		90	60	50	50		

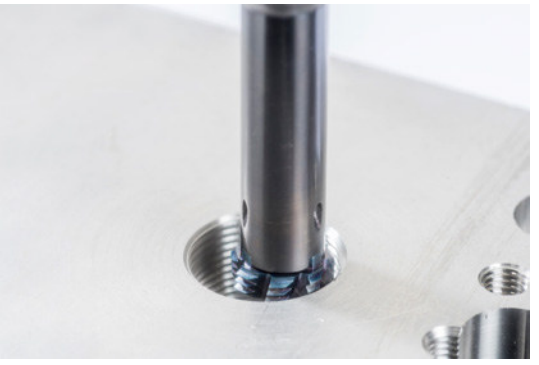
			Machining type	Inside		Outside		Inside | Outside	
			Thread type	Solid profile 60°		Solid profile 60°		Solid profile 55°	
Size of indexable insert	Pitch (mm)	Number of thread starts per inch		13397... Ident. No.		13397... Ident. No.		13397... Ident. No.	
12	0.5	-		200	○	-	-	-	-
12	0.75	-		202	○	-	-	-	-
12	1	-		204	●	-	-	-	-
12	1.25	-		206	○	-	-	-	-
14	0.5	-		208	●	-	-	-	-
14	0.75	-		210	○	310	○	-	-
14	1	-		212	●	312	○	-	-
14	1.25	-		214	○	314	○	-	-
14	1.5	-		216	●	316	○	-	-
14	1.75	-		218	●	318	○	-	-
14	2	-		220	●	320	○	-	-
14	2.5	-		222	●	322	○	-	-
21	1	-		224	○	324	○	-	-
21	1.5	-		226	●	326	○	-	-
21	1.75	-		228	○	-	-	-	-
21	2	-		230	●	330	○	-	-
21	2.5	-		232	○	332	○	-	-
21	3	-		234	●	334	○	-	-
21	3.5	-		236	○	-	-	-	-
30	1.5	-		238	○	338	○	-	-
30	2	-		240	○	340	○	-	-
30	3	-		242	○	342	○	-	-
30	3.5	-		244	○	344	○	-	-
30	4	-		246	○	346	○	-	-
30	4.5	-		248	○	-	-	-	-
30	5	-		250	○	-	-	-	-
40	1.5	-		252	○	352	○	-	-
40	2	-		254	○	354	○	-	-
40	3.5	-		258	○	-	-	-	-
40	4	-		260	○	360	○	-	-
40	4.5	-		262	○	-	-	-	-
40	5	-		264	○	364	○	-	-
40	5.5	-		266	○	-	-	-	-
40	6	-		268	○	368	○	-	-

			Machining type	Inside		Outside		Inside | Outside	
			Thread type	Solid profile 60°		Solid profile 60°		Solid profile 55°	
Size of indexable insert	Pitch (mm)	Number of thread starts per inch		13397... Ident. No.		13397... Ident. No.		13397... Ident. No.	
40	3	-		-	-	356	○	-	-
12	-	19		-	-	-	-	406	○
14	-	24		-	-	-	-	412	○
14	-	20		-	-	-	-	414	○
14	-	19		-	-	-	-	416	○
14	-	16		-	-	-	-	418	○
14	-	14		-	-	-	-	420	○
21	-	20		-	-	-	-	424	○
21	-	19		-	-	-	-	426	○
21	-	16		-	-	-	-	428	○
21	-	14		-	-	-	-	430	○
21	-	11		-	-	-	-	432	○
30	-	16		-	-	-	-	438	○
30	-	14		-	-	-	-	440	○
30	-	11		-	-	-	-	442	○
40	-	11		-	-	-	-	454	○
40	-	8		-	-	-	-	456	○

Prod. Gr. 132

Thread milling system with front insert
for universal use

- Multi-cutter attachments ensure high production rates and long service life
- Innovative coating technology and carbide mixtures for long service life and wide-ranging machining applications up to a hardness of 62 HRC
- Very high surface qualities of the threads
- Deep threads can be manufactured in a process-safe manner



ATORN Steel holder for thread milling cutter
For front-face cutting attachment

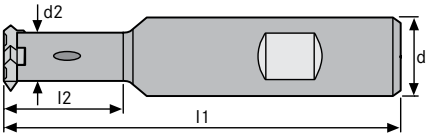
HB IK

Application:
For using ground thread milling cutter inserts no. 13397.

Execution:
- Burnished steel tool holder

Advantage:
- High process reliability and dimensional accuracy due to precise insert seating
- High-quality carrier material for very high service life requirements

Technical data:
- Tool holding device: HB parallel shank



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Suitable for indexable inserts type	Holder type	l2 (mm)	l1 (mm)	d2 (mm)	d (mm)	Suitable for screw	13397... Ident. No.	
A10	A1	19	70	7.3	12	S5	500	●
A10	A2	19	90	7.3	16	S5	502	●
A12	A3	25	70	9	12	S10	504	●
A12	A4	25	90	9	16	S10	506	●
A12	A5	35	100	9	16	S10	508	●
A18	A6	48	100	13.8	16	S16	510	●
A18	A7	32	100	13.8	20	S16	512	●
A18	A8	48	110	13.8	20	S16	514	●
A18	A9	74	140	13.8	20	S16	516	●
A25	A10	45	115	17.5	25	S27	518	●
A25	A11	80	150	17.5	25	S27	520	●

Prod. Gr. 1FD

ATORN Solid carbide holder for thread milling cutter

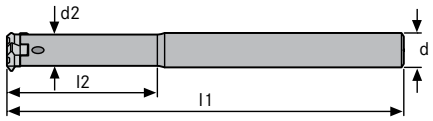
For front-face cutting attachment

Application:
For using ground thread milling cutter inserts no. 13397.

Execution:
- Solid carbide steel tool holder with one insert seat

Advantage:
- High process reliability and dimensional accuracy due to precise insert seating
- High quality solid carbide carrier material for very high requirements in terms of service life and low vibration

Technical data:
- Tool holding device: HA parallel shank



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Suitable for indexable inserts type	Holder type	l2 (mm)	l1 (mm)	d2 (mm)	d (mm)	Suitable for screw	13397... Ident. No.	
A10	A12	35	125	7.3	8	S5	522	●
A10	A13	-	125	8	8	S5	524	●
A12	A15	-	150	10	10	S10	526	●
A18	A16	-	170	12	12	S16	528	●
A25	A17	-	205	16	16	S27	530	●
A25	A18	85	250	17.5	20	S27	532	●

Prod. Gr. 1FD

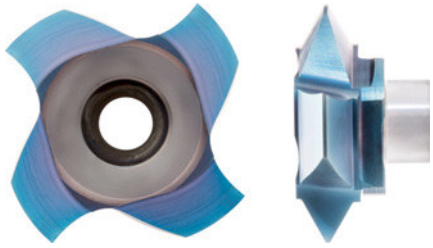
ATORN Cutting insert, multi-edge cutter, 60° sub-profile

For universal use up to 1,500 N/mm² in male and female threads

Application:
For producing metric right-hand and left-hand threads on CNC machines, in steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1500 N/mm².

Execution:
- Multiple-edge cutter in sub-profile design

Advantage:
- Innovative cutting geometry for excellent dimensional tolerance and process reliability
- High-quality cutting material and cutting edge finish
- Low tool costs due to high variability



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	100	80	60	80	60	120	180	100	160	80	140	140		60	30	30	30	60	

						Machining type	Outside | Inside	
Indexable insert type	Suitable for holder	Min./max. pitch internal	Min./max. number of thread starts per inch internal	Suitable for metric threads from	Number of cutting edges (PCS)	fz steel 1300 ● (mm)	13397... Ident. No.	
A18	A6 | A7 | A8 | A9 | A16	1.5-2.5 mm	16-10	M23	6	0.16	650	●
A18	A16	3.0-5.0 mm	28-13	M25	4	0.16	652	●

Prod. Gr. 1FE

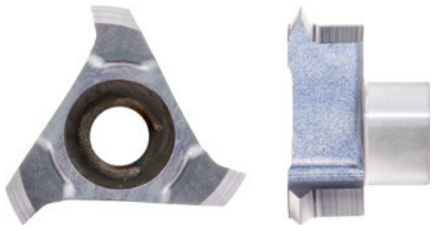
ATORN Cutting insert, triple-edge cutter, 60° sub-profile

For universal use up to 1,500 N/mm² in male and female threads

Application:
For producing metric right-hand and left-hand threads on CNC machines, in steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1500 N/mm².

Execution:
- Three-flute cutter in sub-profile design (indexable inserts type A25 in four-flute cutter design)

Advantage:
- Innovative cutting geometry for excellent dimensional tolerance and process reliability
- High-quality cutting material and cutting edge finish
- Low tool costs due to high variability



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	100	80	60	80	60	120	180	100	160	80	140	140		60	30	30	30	60	

Indexable insert type	Suitable for holder	Min./max. pitch internal	Min./max. pitch external	Min./max. number of thread starts per inch internal	Min./max. number of thread starts per inch external	Cutting edge Ø (mm)	Suitable for metric threads from	Suitable for metric fine threads from	fz steel 1300 ● (mm)	13397... Ident. No.	
A10	A1 | A2 | A12 | A13	0.5-0.8 mm	0.4-0.8 mm	56-28	64-32	10	M11	MF12	0.10	550	●
A10	A1 | A2 | A12	1-2 mm	0.8-1.75 mm	28-13	32-15	10	M12	MF14	0.10	552	●
A12	A3 | A4 | A5 | A15	0.5-0.8 mm	0.4-0.8 mm	56-28	64-32	12	M13	MF14	0.12	554	●
A12	A3 | A4 | A5 | A15	1-2 mm	0.8-1.75 mm	28-13	32-15	12	M14	MF16	0.12	556	●
A18	A6 | A7 | A8 | A9 | A16	0.5-0.8 mm	0.4-0.8 mm	56-28	64-32	18	M19	MF19	0.16	558	●
A18	A6 | A7 | A8 | A9 | A16	1-1.75 mm	0.8-1.5 mm	28-14	32-16	18	M20	MF21	0.16	560	●
A18	A6 | A7 | A8 | A9 | A16	2-3 mm	1.75-2.5 mm	13-8	15-10	18	M21	MF23	0.16	562	●
A25	A10 | A11 | A17 | A18	1.5-2.5 mm	1-2 mm	16-10	28-13	25	M28	MF30	0.18	564	●
A25	A10 | A11 | A17 | A18	3-5 mm	2.5-4.5 mm	8-5	10-6	25	M30	MF34	0.18	566	●
A25	A10 | A11 | A17 | A18	5-6 mm	4.5-5 mm	5-4	6-5	25	M34	MF35	0.18	568	●

Prod. Gr. 1FE

ATORN Cutting insert, multi-edge cutter, 55° sub-profile

For universal use up to 1,500 N/mm² in male and female threads

Application:

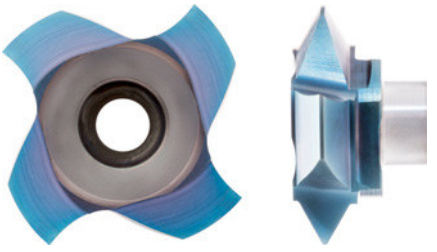
For producing imperial right-hand and left-hand threads on CNC machines, in steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1500 N/mm².

Execution:

- Multiple-edge cutter in sub-profile design

Advantage:

- Innovative cutting geometry for excellent dimensional tolerance and process reliability
- High-quality cutting material and cutting edge finish
- Low tool costs due to high variability



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	100	80	60	80	60	120	180	100	160	80	140	140		60	30	30	30	60	

Indexable insert type	Suitable for holder	Max. number of thread starts per inch	Suitable for min. Ø (mm)	Number of cutting edges (PCS)	fz steel 1300 ● (mm)	13397... Ident. No.	
A18	A6 | A7 | A8 | A9 | A16	14	23	6	0.16	654	●
A18	A6 | A7 | A8 | A9 | A16	8	24	4	0.16	656	●

Prod. Gr. 1FE

ATORN Cutting insert, triple-edge cutter, 55° sub-profile

For universal use up to 1,500 N/mm² in male and female threads

Application:

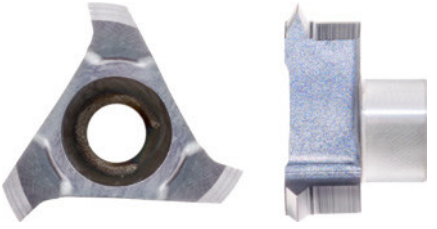
For producing metric right-hand and left-hand threads on CNC machines, in steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1500 N/mm².

Execution:

- Three-flute cutter in sub-profile design (indexable inserts type A25 in four-flute cutter design)

Advantage:

- Innovative cutting geometry for excellent dimensional tolerance and process reliability
- High-quality cutting material and cutting edge finish
- Low tool costs due to high variability



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	100	80	60	80	60	120	180	100	160	80	140	140		60	30	30	30	60	

Indexable insert type	Suitable for holder	Min./max. number of thread starts per inch	Cutting edge Ø (mm)	Suitable for min. Ø (mm)	fz steel 1300 ● (mm)	13397... Ident. No.	
A10	A1 | A2 | A12	19-14	10	13	0.10	570	●
A12	A3 | A4 | A5 | A15	28-19	12	14	0.12	572	○
A12	A3 | A4 | A5	14-11	12.2	16	0.12	574	●
A18	A16	14-8	18	23	0.16	576	●
A25	A10 | A11 | A17 | A18	7-5	25	31	0.18	578	●

Prod. Gr. 1FE

ATORN Cutting insert, multi-edge cutter, 60° full profile

for universal use up to 1,500 N/mm2

Application:
For producing metric right-hand and left-hand threads on CNC machines, in steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1500 N/mm².

Execution:
- Multiple-edge cutter in full-profile design

Advantage:
- Innovative cutting geometry for excellent dimensional tolerance and process reliability
- High-quality cutting material and cutting edge finish
- Precise thread milling of profiles

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	100	80	60	80	60	120	180	100	160	80	140	140		60	30	30	30	60	

Indexable insert type	Suitable for holder	Pitch (mm)	Suitable for metric threads from	Suitable for metric fine threads from	Number of cutting edges (PCS)	Number of teeth (PCS)	Cutting edge Ø (mm)	fz steel 1300 ● (mm)	13397... Ident. No.	
A18	A6 | A7 | A8 | A9 | A16	1	-	MF18	8	5	16.3	0.14	658	●
A18	A6 | A7 | A8 | A9 | A16	1.5	-	MF20	8	3	17.5	0.16	660	●
A18	A6 | A7 | A8 | A9 | A16	2	-	MF22	6	2	18.6	0.16	662	●
A18	A6 | A7 | A8 | A9 | A16	2.5	M22	MF22	6	2	17.8	0.16	664	○
A18	A6 | A7 | A8 | A9 | A16	3	M24 | M27	MF24	6	1	18.9	0.16	666	●
A18	A6 | A7 | A8 | A9 | A16	3.5	M30 | M33	MF26	6	1	20	0.20	668	●
A18	A6 | A7 | A8 | A9 | A16	4	M36 | M39	MF27	6	1	20	0.20	670	●
A18	A6 | A7 | A8 | A9 | A16	4.5	M42 | M45	MF28	5	1	20	0.20	672	●
A18	A6 | A7 | A8 | A9 | A16	5	M48 | M52	MF29	4	1	20	0.20	674	○

Prod. Gr. 1FE

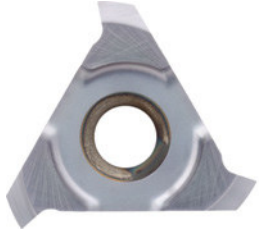
ATORN Cutting insert, triple-edge cutter, 60° full-profile

for universal use up to 1,500 N/mm2

Application:
For producing metric right-hand and left-hand threads on CNC machines, in steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1500 N/mm².

Execution:
- Three-flute cutter in full profile design (indexable inserts type A25 in four-flute cutter design)

Advantage:
- Innovative cutting geometry for excellent dimensional tolerance and process reliability
- High-quality cutting material and cutting edge finish
- Precise thread milling of profiles



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	100	80	60	80	60	120	180	100	160	80	140	140		60	30	30	30	60	

Indexable insert type	Suitable for holder	Pitch (mm)	Suitable for metric threads from	Suitable for metric fine threads from	Number of teeth (PCS)	Cutting edge Ø (mm)	fz steel 1300 ● (mm)	13397... Ident. No.	
A10	A1 | A2 | A12 | A13	0.5	-	MF10	6	9	0.10	580	○
A10	A1 | A2 | A12 | A13	1	-	MF12	3	10	0.10	582	●
A10	A1 | A2 | A12 | A13	1.5	-	MF13	2	10	0.10	584	●
A10	A1 | A2 | A12 | A13	1.75	M12	MF13	1	9.6	0.10	586	●
A10	A1 | A2 | A12	2	M14	MF14	1	10	0.10	588	●
A12	A3 | A4 | A5 | A15	0.5	-	MF13	6	12	0.12	590	○
A12	A3 | A4 | A5 | A15	0.75	-	MF13	4	12	0.12	592	○
A12	A3 | A4 | A5 | A15	1	-	MF14	3	12	0.12	594	●
A12	A3 | A4 | A5 | A15	1.5	-	MF15	2	12	0.12	596	●
A12	A3 | A4 | A5 | A15	2	M16	MF16	1	12.4	0.12	598	●
A12	A3 | A4 | A5	2.5	M18 | M20	MF17	1	12	0.12	600	●
A12	A3 | A4 | A5	3	-	MF17	1	12.4	0.16	602	○
A18	A6 | A7 | A8 | A9 | A16	0.5	-	MF19	9	17.8	0.16	604	○
A18	A6 | A7 | A8 | A9 | A16	0.75	-	MF19	6	17.8	0.16	606	○
A18	A6 | A7 | A8 | A9 | A16	1	-	MF20	5	17.8	0.16	608	○
A18	A6 | A7 | A8 | A9 | A16	1.5	-	MF20	3	17.8	0.16	610	●
A18	A6 | A7 | A8 | A9 | A16	2	-	MF21	2	17.8	0.16	612	●
A18	A6 | A7 | A8 | A9 | A16	2.5	M22	MF22	2	17.8	0.16	614	○
A18	A6 | A7 | A8 | A9 | A16	3	M24 | M27	MF23	1	17.8	0.16	616	●
A18	A6 | A7 | A8 | A9 | A16	3.5	M30 | M33	MF24	1	17.8	0.16	618	●
A25	A10 | A11 | A17 | A18	3	M32 | M33	MF30	2	25	0.18	620	●
A25	A10 | A11 | A17 | A18	4	M36 | M39	MF32	1	25	0.18	622	●
A25	A10 | A11 | A17 | A18	4.5	M45	MF33	1	25	0.18	624	○
A25	A10 | A11 | A17 | A18	5	M48 | M52	MF34	1	25	0.18	626	●
A25	A10 | A11 | A17 | A18	5.5	M60	MF35	1	25	0.18	628	●
A25	A10 | A11 | A17 | A18	6	M64 | M68	MF36	1	25	0.18	630	○

Prod. Gr. 1FE

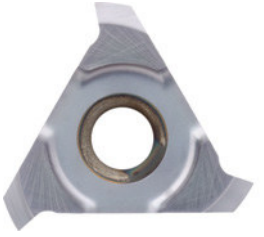
ATORN Cutting insert, triple-edge cutter, 55° full-profile

For universal use up to 1,500 N/mm²

Application:
For producing metric right-hand and left-hand threads on CNC machines, in steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1500 N/mm².

Execution:
- Triple-edge cutter in full-profile design

Advantage:
- Innovative cutting geometry for excellent dimensional tolerance and process reliability
- High-quality cutting material and cutting edge finish
- Precise thread milling of profiles



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	100	80	60	80	60	120	180	100	160	80	140	140		60	30	30	30	60	

Indexable insert type	Suitable for holder	Number of thread starts per inch	Suitable from thread size	Number of teeth (PCS)	Cutting edge Ø (mm)	fz steel 1300 ● (mm)	13397... Ident. No.	
A10	A1 | A2 | A12 | A13	19	G 1/4 inch	2	10	0.10	632	●
A12	A3 | A4 | A5 | A15	19	G 3/8 inch	2	12	0.12	634	●
A18	A6 | A7 | A8 | A9 | A16	14	G 7/8 inch	2	17.8	0.16	636	●
A18	A6 | A7 | A8 | A9 | A16	11	G 1 inch	2	17.8	0.16	638	●

Prod. Gr. 1FE

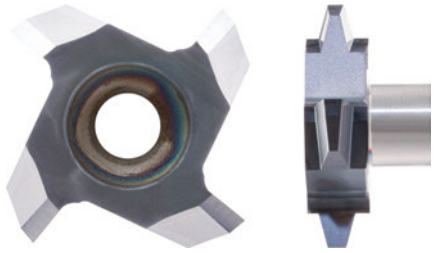
ATORN Cutting insert, triple-edge cutter, full profile, trapezoidal thread

For universal use up to 1,500 N/mm²

Application:
For producing metric right-hand and left-hand threads on CNC machines, in steel, stainless steel, non-ferrous metals, cast iron and special alloy material groups up to a strength of 1500 N/mm².

Execution:
- Three-flute cutter in full profile design (indexable inserts type A25 in four-flute cutter design)

Advantage:
- Innovative cutting geometry for excellent dimensional tolerance and process reliability
- High-quality cutting material and cutting edge finish
- Precise thread milling of profiles



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	100	80	60	80	60	120	180	100	160	80	140	140		60	30	30	30	60	

Indexable insert type	Suitable for holder	Pitch (mm)	Suitable for min. Ø (mm)	Number of teeth (PCS)	Cutting edge Ø (mm)	fz steel 1300 ● (mm)	13397... Ident. No.	
A10	A1 | A2 | A12	2	16	1	10	0.10	640	●
A18	A6 | A7 | A8 | A9 | A16	3	24	1	17.8	0.16	642	●
A18	A16	4	26	1	17.8	0.16	644	●
A18	A16	5	28	1	17.8	0.16	646	●
A25	A10 | A11 | A17 | A18	6	36	1	25	0.18	648	●

Prod. Gr. 1FE

ATORN HSS hand tap set in box (DIN 352)

For use in high-strength steel up to 1,300 N/mm²

M | ≤1xd | HSS | HSSE-PM | HSSE

Application:
Ident. No. 010: Hand tap set HSS for through hole and blind hole, in steel, non-ferrous metals and (cast iron) -**1000 N/mm²**.
Ident. No. 012: Hand tap set HSSE for through hole and blind hole, in high-strength steel -**1300 N/mm²**.
Ident. No. 016: Hand tap set for HSSE-PM through hole and blind hole, made of high-strength steel -**1300 N/mm²**.

Advantage:
- Innovative cutting geometry ensures very high dimensional accuracy, process reliability and chip removal
- Robust metal box protects the tool
- **Ident. No. 010:** Universal application for maximum flexibility
- **Ident. No. 012–016:** Optimised chip geometry for use on hardened steel

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Cutting material		HSS	HSSE	HSSE-PM
Composition of set		3 hand taps for each size (taper tap/second tap/third tap (plug)) M3/M4/M5/M6/M8/M10/M12	3 hand taps for each size (taper tap/second tap/third tap (plug)) M3/M4/M5/M6/M8/M10/M12	3 hand taps for each size (taper tap/second tap/third tap (plug)) M3/M4/M5/M6/M8/M10/M12
Colour ring system		Steels	Steels	Steels
13395...	Ident. No.	010 ●	012 ●	016 ●

Prod. Gr. 1KB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13395010	●	●					●	●	●	●	●	●							
13395012; 13395016			●											●					

ORION® HSS hand tap set in box (DIN 352)

For universal use up to 1,000 N/mm²

M | ≤1xd | HSS

Application:

Ident. No. 010: Hand tap set HSS for through hole and blind hole, in steel, non-ferrous metals and (cast iron) -**1000 N/mm²**.

Ident. No. 020: Hand tap set and core drill HSS for through hole and blind hole, in steel, non-ferrous metals and (cast iron) -**1000 N/mm²**.

Advantage:

- Robust metal box protects the tool
- **Ident. No. 010:** Standard geometry with excellent price/performance ratio
- **Ident. No. 020:** Standard geometry with very good price/performance ratio

Cutting material		HSS	HSS
Composition of set		3 hand taps for each size (taper tap/second tap/third tap (plug)) M3/M4/M5/M6/M8/M10/M12	3 hand taps for each size (taper tap/second tap/third tap (plug)) M3/M4/M5/M6/M8/M10/M12, 1 of each core drill with diameter 2.5/3.3/4.2/5.0/6.8/8.5/10.2
Colour ring system		Steels	Steels
13396...	Ident. No.	010 ●	020 ●

Prod. Gr. 1DC

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●					●	●	●	●	●	●							

ORION® Threading tool set

For universal use up to 1,000 N/mm²

G | M | MF | ≤1xd | HSS

Application:

Ident. No. 312–900: for producing **metric (M)** male and female threads by hand in blind holes and through holes, in steel, non-ferrous metals and (cast-iron) material groups up to a strength of 1000 N/mm².

Ident. No. 902: for producing fine male and female metric threads (MF) by hand in blind holes and through holes, in steel, non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

Ident. No. 904: for producing male and female pipe (G) threads by hand in blind holes and through holes, in steel, non-ferrous metals and (cast iron) material groups up to a strength of 1000 N/mm².

Execution:

- **Ident. No. 312:** Hand tap sets, HSS, comprising taper tap with one ring (Type A), second tap with two rings (Type D) and third tap (plug) (Type C) and die with tap wrench and thread gauge
- **Ident. No. 520–900:** Hand tap sets, HSS, comprising taper tap with one ring (Type A), second tap with two rings (Type D) and third tap (plug) (Type C) and die with tap wrench, die holder and thread gauge
- **Ident. No. 902–904:** Hand tap sets, HSS, comprising taper tap with one ring (Type A) and third tap (plug) (Type C) and die with tap wrench, die holder and thread gauge

Advantage:

- Standard geometry with very good price/performance ratio

Ident. No. 312–520, 904

Ident. No. 900

Ident. No. 902

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●					●	●	●	●	●	●							

Composition of set		3 hand taps for each size (taper tap/second tap/third tap (plug)) and 1 die for each size M3/M4/M5/M6/M8/M10/M12	3 hand taps for each size (taper tap/second tap/third tap (plug)) and 1 die for each size M5/M6/M8/M10/M12/M14/M16/M18/M20	3 hand taps for each size (taper tap/second tap/third tap (plug)) and 1 die for each size M3/M4/M5/M6/M8/M10/M12/M14/M16/M18/M20/M22/M24	2 hand taps for each size (taper tap and third tap (plug)) and 1 die for each size M3x0.35/M4x0.35/M5x0.5/M6x0.75/M8x1/M10x1.25/M12x1.25/M14x1.5/M16x1.5/M18x1.5/M20x1.5/M22x1.5/M24x1.5	2 hand taps for each size (taper tap and third tap (plug)) and 1 die for each thread size 1/8”/1/4”/3/8”/1/2”/3/4”/1”
13399...	Ident. No.	312 ●	520 ●	900 ●	902 ●	904 ●

Prod. Gr. 1DC

ATORN Machine tap + core drill set (DIN 371 | 376)

In blind holes

M | HSSE | ≤2,5xd

Application:

Ident. No. 015: Screw tap set HSSE + core drill for blind holes in steel, (stainless steel), non-ferrous metals and (cast iron) - **1000 N/mm²**.

Ident. No. 025: Screw tap set HSSE + core drill for blind holes in high-strength steel - **1300 N/mm²**.

Ident. No. 035: Screw tap set HSSE + core drill for blind holes in steel, (stainless steel), non-ferrous metals and cast iron - **1300 N/mm²**.

Ident. No. 060: Screw tap set HSSE + core drill for blind holes in steel, stainless steel, non-ferrous metals and cast iron - **1000 N/mm²**.

Execution:

- **Ident. No. 015:** For individual screw taps, see 13281; for individual core drills, see 11020.
- **Ident. No. 025:** For individual screw taps, see 13306; for individual core drills, see 11020.
- **Ident. No. 035:** For individual screw taps, see 13052; for individual core drills, see 11020.
- **Ident. No. 060:** For individual screw taps, see 13121; for individual core drills, see 11020.

Advantage:

- Innovative cutting geometry for high process reliability
- **Ident. No. 015, 035–060:** Universal application for maximum flexibility
- **Ident. No. 025:** Optimised chip geometry for high-strength steel

Ident. No. 015

Ident. No. 025

Ident. No. 035

Ident. No. 060

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13400015	16	11		9		18	18	15	18	15	15	13		16					
13400025	15	10	9																
13400035	17	11	10	9	11	19	19	17	19	17	17	15	16	18					
13400060	18	12	8	8	8		18		19		18	15		15					

Included in delivery		one each of HSSE 13281 screw tap M3/M4/M5/M6/M8/M10/M12, one each of core hole drill bit no. 11020 in diameters 2.5/3.3/4.2/5.0/6.8/8.5/10.2	one each of HSSE 13306 screw tap M3/M4/M5/M6/M8/M10/M12, one each of core hole drill bit no. 11020 in diameters 2.5/3.3/4.2/5.0/6.8/8.5/10.2	one each of HSSE 13052 screw tap M3/M4/M5/M6/M8/M10/M12, one each of core hole drill bit no. 11020 in diameters 2.5/3.3/4.2/5.0/6.8/8.5/10.2	one each of HSSE machine taps M3/M4/M5/M6/M8/M10/M12, one each of core hole drill bit in diameters 2.5/3.3/4.2/5.0/6.8/8.5/10.2
Cutting material		HSSE	HSSE	HSSE	HSSE
Colour ring system		Steels	Steels	UNI	UNI
13400...	Ident. No.	015 ●	025 ●	035 ●	060 ●

Prod. Gr. 1KB

Machine tap set

In through holes and blind holes

M | ≤2,5xd | ≤2,5xd | HSSE

Application:

No. 13400: Screw tap set HSSE 70 pieces for through holes and blind holes in steel, stainless steel, non-ferrous metals and cast iron - **1000 N/mm²**.

No. 13401 015: Screw tap set HSSE for blind holes and through holes in steel, (stainless steel), non-ferrous metals and (cast iron) up to - **1000 N/mm²**.

No. 13401 045: Screw tap set HSSE for blind holes and through holes in steel, (stainless steel), non-ferrous metals and cast iron - **1300 N/mm²**.

No. 13401 080: Screw tap set HSSE for blind holes and through holes in steel, stainless steel, non-ferrous metals and cast iron - **1000 N/mm²**.

Execution:

- **No. 13400 100, 13401 080:** For individual screw taps, see 13121 + 13125.
- **No. 13401 015:** For individual screw taps, see 13113 + 13117 + 13281.
- **No. 13401 045:** For individual screw taps, see 13246 + 13052.

Advantage:

- Innovative cutting geometry for high process reliability
- Universal use for high flexibility

No. 13400

No. 13401 015–13401 045

No. 13401 080

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Included in delivery		one each of machine taps M3/M4/M5/M6/M8/M10/M12 for through holes and blind holes	one each of machine taps M3/M4/M5/M6/M8/M10/M12 for through holes and blind holes	one each of HSSE machine taps M3/M4/M5/M6/M8/M10/M12 for through holes and blind holes	five each of HSSE machine taps M3/M4/M5/M6/M8/M10/M12 for through holes and blind holes
Cutting material		HSSE	HSSE	HSSE	HSSE
Colour ring system		Steels	UNI	UNI	UNI
13401...	Ident. No.	015 ●	045 ●	080 ●	-
13400...	Ident. No.	-	-	-	100 ●

Prod. Gr. 1KB

ATORN Machine tap + core drill set (DIN 371 | 376)

In through holes and blind holes

M | HSSE | ≤2,5xd | ≤2,5xd

Application:

Ident. No. 025: Screw tap set HSSE + core drill for blind holes and through holes in steel, (stainless steel), non-ferrous metals and (cast iron) - **1000 N/mm²**.

Ident. No. 035: Screw tap set HSSE + core drill for blind holes and through holes in high-strength steel - **1300 N/mm²**.

Ident. No. 060: Screw tap set HSSE + core drill for through holes and blind holes in steel, stainless steel, non-ferrous metals and cast iron - **1000 N/mm²**.

Execution:

- **Ident. No. 025:** For individual screw taps, see 13113+13117+13281; for individual core drills, see 11020.
- **Ident. No. 035:** For individual screw taps, see 13130+13306; for individual core drills, see 11029.
- **Ident. No. 060:** For individual screw taps, see 13121+13125; for individual core drills, see 11020.

Advantage:

- Innovative cutting geometry for high process reliability
- **Ident. No. 025, 060:** Universal application for maximum flexibility
- **Ident. No. 035:** Optimised chip geometry for high-strength steel

Ident. No. 035

Ident. No. 060

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13401025	14	10		8		18	18	15	18	15	15	13		16					
13401035	15	10	9																
13401060	18	12	8	8	8		18		19		18	15		15					

Included in delivery		one each of HSSE 13113 + 13117 + 13281 machine tap M3/M4/M5/M6/M8/M10/M12 for through holes and blind holes, one each of core hole drill bit no. 11020 in diameters 2.5/3.3/4.2/5.0/6.8/8.5/10.2	one each of HSSE 13130 + 13306 machine tap M3/M4/M5/M6/M8/M10/M12 for through holes and blind holes, one each of core hole drill bit no. 11029 in diameters 2.5/3.3/4.2/5.0/6.8/8.5/10.2	one each of HSSE machine tap M3/M4/M5/M6/M8/M10/M12 for through holes and blind holes, one each of core hole drill bit in diameters 2.5/3.3/4.2/5.0/6.8/8.5/10.2
Cutting material		HSSE	HSSE	HSSE
Colour ring system		Steels	High-strength steels	UNI
13401...	Ident. No.	025	035	060
		●	●	●

Prod. Gr. 1KB

Machine tap set, empty

For screw taps and core drills

Application:
For storing M3 to M12 machine taps and core drills.

Execution:
- Empty steel metal box for screw taps and core drills

Advantage:
- Robust metal box protects the tool from damage and contamination

Composition of set		1 of each machine tap M3/M4/M5/M6/M8/M10/M12 for through holes and blind holes, 1 of each core drill with diameter 2.5/3.3/4.2/5.0/6.8/8.5/10.2
13401...	Ident. No.	050 ●

Prod. Gr. 1KB

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ATORN Machine tap set + core drill (DIN 371 | 376)

In through holes

M | HSSE-PM | HSSE | ≤3xd

Application:
Ident. No. 015: Screw tap set HSSE + core drill for through holes and blind holes in steel, (stainless steel), non-ferrous metals and (cast iron) - **1000 N/mm²**.
Ident. No. 035: Screw tap set HSSE + core drill for through holes in high-strength steel - **1300 N/mm²**.
Ident. No. 045: Screw tap set HSSE-TIN + core drill for through holes in steel, (stainless steel), non-ferrous metals and cast iron - **1300 N/mm²**.
Ident. No. 060: Screw tap set HSSE + core drill for through holes in steel, stainless steel, non-ferrous metals and cast iron - **1000 N/mm²**.

Execution:
- **Ident. No. 015:** For individual screw taps, see 13113+13117; for individual core drills, see 11020.
- **Ident. No. 035:** For individual screw taps, see 13130; for individual core drills, see 11029.
- **Ident. No. 045:** For individual screw taps, see 13246; for individual core drills, see 11020.
- **Ident. No. 060:** For individual screw taps, see 13121; for individual core drills, see 11020.

Advantage:
- Innovative cutting geometry for high process reliability
- **Ident. No. 015, 045–060:** Universal application for maximum flexibility
- **Ident. No. 015–045:** Robust and user-friendly plastic box ensures reliable protection and good accessibility
- **Ident. No. 035:** Optimised chip geometry for high-strength steel
- **Ident. No. 060:** Robust metal box protects the tool from damage and contamination

Ident. No. 015

Ident. No. 035

Ident. No. 045

Ident. No. 060

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13402015	14	10		8		18	18	15	18	15	15	13		16					
13402035	15	10	9																
13402045	18	13	10	10	10	19	19	17	19	17	17	15		18					
13402060	18	12	8	8	8		18		19		18	15		15					

Included in delivery		one each of HSSE 13113 + 13117 machine tap M3/M4/M5/M6/M8/M10/M12, one each of core hole drill bit no. 11020 in diameters 2.5/3.3/4.2/5.0/6.8/8.5/10.2	one each of HSSE 13130 machine tap M3/M4/M5/M6/M8/M10/M12, one each of core hole drill bit no. 11029 in diameters 2.5/3.3/4.2/5.0/6.8/8.5/10.2	one each of HSSE-TiN 13246 machine tap M3/M4/M5/M6/M8/M10/M12, one each of core hole drill bit no. 11020 in diameters 2.5/3.3/4.2/5.0/6.8/8.5/10.2	one each of HSSE 13121 machine tap M3/M4/M5/M6/M8/M10/M12, one each of core hole drill bit no. 11020 in diameters 2.5/3.3/4.2/5.0/6.8/8.5/10.2
Cutting material		HSSE	HSSE	HSSE-PM	HSSE
Colour ring system		Steels	Steels	UNI	UNI
13402...	Ident. No.	015 ●	035 ●	045 ●	060 ●

Prod. Gr. 1KB

ATORN Machine tap set

For universal use up to 1,000 N/mm² in through holes

M | ≤3xd | HSSE

Application:

Ident. No. 025: Screw tap set HSSE short for through holes in steel, (stainless steel), non-ferrous metals and cast iron - **1000 N/mm²**.

Ident. No. 045: Screw tap set HSSE + core drill for through holes in steel, (stainless steel), non-ferrous metals and cast iron - **1000 N/mm²**.

Ident. No. 090: Screw tap set HSSE for through holes in steel, stainless steel, non-ferrous metals and cast iron - **1000 N/mm²**.

Execution:

- **Ident. No. 025:** For individual screw taps, see 13063.
- **Ident. No. 045:** For individual screw taps, see 13063; for individual core drills, see 11020.
- **Ident. No. 090:** For individual screw taps, see 13121.

Advantage:

- **Ident. No. 025:** Innovative cutting geometry ensures high process reliability
- **Ident. No. 025, 090:** Universal use for high flexibility
- **Ident. No. 045:**
  - Innovative cutting geometry for high process reliability
  - Universal application for maximum flexibility
  - Robust metal box protects the tool from damage and contamination
- **Ident. No. 090:** Innovative cutter geometry and coating ensure high process reliability

Ident. No. 025

Ident. No. 045

Ident. No. 090

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
13403045	15	10		9		18	18	15	18	15	15	13		16					

Included in delivery		one each of machine taps M3/M4/M5/M6/M8/M10/M12 for through holes	one each of machine tap M3/M4/M5/M6/M8/M10/M12, one each of core hole drill bit in diameters 2.5/3.3/4.2/5.0/6.8/8.5/10.2	one each of HSSE machine taps M3/M4/M5/M6/M8/M10/M12 for through holes
Cutting material		HSSE	HSSE	HSSE
Colour ring system		Steels	Steels	UNI
13403...	Ident. No.	025 ●	045 ●	090 ●

Prod. Gr. 1KB

ORION® Screw tap bit set

For universal use up to 700 N/mm²

M | HSS | ≤1xd

Application:

For producing metric threads for portable use on cordless drill screwdrivers in through holes, in steel, non-ferrous metals and (cast iron) material groups up to a strength of 700 N/mm² in single-part production.

Execution:

- Precision-ground, right-hand and short machine tap set with 1/4" hexagon drive, HSS for M3, M4, M5, M6, M8, M10, M12 and magnetic steel tool holder for high requirements in terms of process reliability and service life

Advantage:

- Standard geometry with very good price/performance ratio

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Number of pieces in assortment/set (PCS)		6
Composition of set		1 of each screw tap bit M3/M4/M5/M6/M8/M10
13407...	Ident. No.	550 ●

Prod. Gr. 105

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●				●	●	●	●	●	●	●							

ORION® Core drill bit set

For universal use up to 700 N/mm²

Typ N | HSS

Application:
For producing core holes for portable use on cordless drill screwdrivers, in steel, non-ferrous metals and (cast iron) material groups up to a strength of 700 N/mm² in single-part production.

Execution:
- Precision-ground, right-hand and short core drill set with 1/4" hexagon drive, HSS for M3, M4, M5, M6, M8, M10 and M12 for high requirements in terms of process reliability and service life

Advantage:
- Standard geometry with very good price/performance ratio

Composition of set		1 of each core drill with diameter 2.5/3.3/4.2/5.0/6.8/8.5
13407...	Ident. No.	690 ●

Prod. Gr. 105

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●				●	●	●	●	●	●	●							

ORION® Combination thread bit

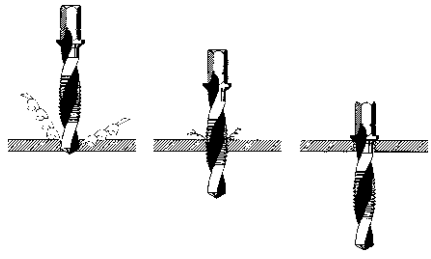
For universal use up to 700 N/mm²

M | HSS | ≤ 1xd

Application:
For producing metric threads (drill, thread, deburr and clean thread in one operation!) for portable use on cordless drill screwdrivers and hand drills in clockwise rotation and anti-clockwise rotation in steel, non-ferrous metals and (cast iron) material groups up to a strength of 700 N/mm² up to 1xD thread depth in single-part production.

Execution:
- Precision-ground, right-hand screw tap with drill step and 1/4" hexagon drive

Advantage:
- Standard geometry with very good price/performance ratio
- High productivity, since drilling, thread de-burring and thread cleaning are achieved in one operation
- Robust metal box protects the tool from damage and contamination



Tap drilling - thread cutting - deburring

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●				●	●	●	●	●	●	●							

Thread type x nominal Ø	Pitch (mm)	Length (mm)	Core hole Ø (mm)	Recommended rotation speed in steel (rpm)	Recommended rotation speed in aluminium (rpm)	13407... Ident. No.	
M3	0.5	36	2.5	1600	1900	030	●
M4	0.7	39	3.3	1200	1500	040	●
M5	0.8	41	4.2	950	1200	050	●
M6	1	44	5	800	950	060	●
M8	1.25	50	6.8	600	700	080	●
M10	1.5	59	8.5	450	550	100	●

Prod. Gr. 1DB

ORION® Combination thread bit set

For universal use up to 700 N/mm²

M | HSS | ≤ 1xd

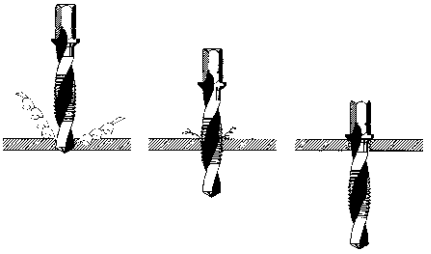
Application:
For producing metric threads (drill, thread, deburr and clean thread in one operation!) for portable use on cordless drill screwdrivers and hand drills in clockwise rotation and anti-clockwise rotation in steel, non-ferrous metals and (cast iron) material groups up to a strength of 700 N/mm² up to 1xD thread depth in single-part production.

Execution:
- Precision-ground, right-hand screw tap set with drill step and 1/4" hexagon drive, HSS for M3, M4, M5, M6, M8, M10 for high requirements in terms of process reliability and service life

Advantage:
- Standard geometry with very good price/performance ratio
- High productivity, since drilling, thread de-burring and thread cleaning are achieved in one operation
- Robust metal box protects the tool from damage and contamination

Composition of set		1 of each combi screw tap bit M3/M4/M5/ M6/M8/M10
13407...	Ident. No.	200 ●

Prod. Gr. 1DB



Tap drilling - thread cutting - deburring

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●	●				●	●	●	●	●	●	●							

ATORN Drill extractor for machine tap (DIN 374)

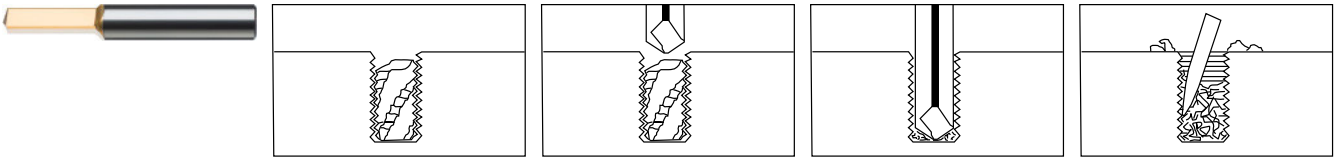
For use in hardened steels up to 63HRC

VHM

Application:
For drilling out broken-off screw taps (HSS, HSSE, HSSE PM) up to a hardness of 65 HRC using bench-type or column-type drills, wet or dry machining at a rotation speed of 1000-2000 rpm in hand-feed or for wet machining on CNC machines at a rotation speed of 1400-2400 rpm and a feed rate of 0.03-0.06 per revolution. The drill bit has a service life of 3 to 5 screw taps.

Execution:
- Solid carbide-TiN drill bit, with three cutting edges

Advantage:
- User-friendly and efficient removal of screw taps saves time and money.
- Innovative cutting geometry ensures high process reliability and a long service life.



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
																		●	●

Suitable for screw thread	Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	Shank Ø (mm)	13521... Ident. No.	
M3	2.5	10	38	3	030	●
M4	3.3	14	46	4	040	●
M5	4.2	19	50	5	050	●
M6	5	23	50	6	060	●

Suitable for screw thread	Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	Shank Ø (mm)	13521... Ident. No.	
M8	6.8	23	60	7	080	●
M10	8.5	25	80	9	100	●
M12	10.2	35	80	11	120	●

Prod. Gr. 139

ATORN Drill extractor for machine tap set (DIN 374)

For use in hardened steels up to 63HRC

Application:
For drilling out broken-off M3, M4, M5, M6, M8, M10 and M12 screw taps (HSS, HSSE, HSSE-PM) up to a hardness of 65 HRC using bench-type or column-type drills in wet or dry machining at a rotation speed of 1000–2000 rpm with hand-feed or for wet machining on CNC machines at a rotation speed of 1400–2400 rpm with a feed rate of 0.03–0.06 per revolution. The drill bit has a service life of 3 to 5 screw taps.

Execution:
- Precision-ground drill bit for screw taps, solid carbide-TiN, with three cutting edges for M3, M4, M5, M6, M8, M10 and M12 for extremely high requirements for process reliability and service life.

Advantage:
- User-friendly and efficient removal of screw taps saves time and money.
- Innovative cutting geometry ensures high process reliability and a long service life.
- Sturdy plastic tool box protects the tools from dirt and damage.

Technical data:
- Suitable for screw thread: M3 | M4 | M5 | M6 | M8 | M10 | M12

13521...	Ident. No.	300 ●

Prod. Gr. 139

Overview: threading dies

	Ø	P 700	P 1000	P 1300	M	N	K	S		page
13410	M1-M36	●				○				323
13412	M3 L-M24 L	●				○				323
13418	M2-M24		●	●	●			●		325
13421	M3-M20	●				○				324
13440	MF2-MF63	●				○				326-327
13442	MF8 L-MF24 L	●				○				326-327
13446	MF5-MF30		●	●	●			●		327
13450	UNC Nr.2-UNC 1 inch	●				○				329-330
13460	UNF Nr.4-UNF 3/4 inch	●				○				330
13466	NPT 1/8-NPT 3/4 inch	●				○				329
13470	BSW 1/8-BSW 5/8 inch	●				○				329
13480	G 1/8-G 2 inch	●				○				328
13484	G 1/8-G 1 inch		●	●	●			●		328

	Ø	P 700	P 1000	P 1300	M	N	K	S		page
13487	G 1/8-G 1 1/4 inch	●				○				328
13434	M3-M30	●				○				325

ATORN HSS threading die (EN standard 22568)

For universal use up to 700 N/mm²

M | HSS | DIN 13 6g

Application:

No. 13410: For tapping metric male threads in the steel and NF metal material groups up to a strength of 700 N/mm².

No. 13412: For producing **left-hand metric male threads** in the steel and non-ferrous metals material groups up to a strength of 700 N/mm².

Execution:

- **No. 13410:** Right-handed die, M1 to M1.4 = tol. 6h, M1.6 to M36 = tol. 6g with spiral point (from M3), pre-slotted, 1.75-threaded chamfer
- **No. 13412:** Left-handed die M3 to M24 = tol. 6g with spiral point, pre-slotted, 1.75-threaded chamfer

Advantage:

- Universal use for maximum flexibility
- Micro-cutting edge treatment and special lapping process for high process reliability and a long service life

No. 13410

No. 13412

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●					●					●	●							

Thread type x nominal Ø	Pitch (mm)	Outer Ø (mm)	Height (mm)	Cutting direction: Right-hand cutting 13410... Ident. No.		Left-hand cutting 13412... Ident. No.	
M1	0.25	16	5	010	●	-	-
M1.2	0.25	16	5	012	●	-	-
M1.4	0.3	16	5	014	●	-	-
M1.6	0.35	16	5	016	●	-	-
M1.7	0.35	16	5	017	●	-	-
M1.8	0.35	16	5	018	○	-	-
M2	0.4	16	5	020	●	-	-
M2.2	0.45	16	5	022	○	-	-
M2.3	0.4	16	5	023	○	-	-
M2.5	0.45	16	5	025	●	-	-
M2.6	0.45	16	5	026	○	-	-
M3	0.5	20	5	030	●	030	●
M3.5	0.6	20	5	035	●	-	-
M4	0.7	20	5	040	●	040	●
M4.5	0.75	20	7	045	●	-	-
M5	0.8	20	7	050	●	050	●
M6	1	20	7	060	●	060	●

Thread type x nominal Ø	Pitch (mm)	Outer Ø (mm)	Height (mm)	Cutting direction: Right-hand cutting 13410... Ident. No.		Left-hand cutting 13412... Ident. No.	
M7	1	25	9	070	●	-	-
M8	1.25	25	9	080	●	080	●
M9	1.25	25	9	090	●	-	-
M10	1.5	30	11	100	●	100	●
M11	1.5	30	11	110	●	-	-
M12	1.75	38	14	120	●	120	●
M14	2	38	14	140	●	140	●
M16	2	45	18	160	●	160	●
M18	2.5	45	18	180	●	-	-
M20	2.5	45	18	200	●	200	●
M22	2.5	55	22	220	●	-	-
M24	3	55	22	240	●	240	●
M27	3	65	25	270	●	-	-
M30	3.5	65	25	300	●	-	-
M33	3.5	65	25	330	○	-	-
M36	4	65	25	360	●	-	-

Prod. Gr. 1KI

ORION HSS threading die (EN standard 22568)

For universal use up to 700 N/mm2

M | HSS | DIN 13 6g

Application:

For tapping metric male threads in the steel and NF metal material groups up to a strength of 700 N/mm².

Execution:

- Right-handed die, M1 to M1.4 = tol. 6h, M1.6 to M36 = tol. 6g with spiral point (from M3), pre-slotted, 1.75-threaded chamfer

Advantage:

- Standard geometry with a very good price-performance ratio

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●					●					●	●							

			Cutting direction	Right-hand cutting	
Thread type x nominal Ø	Pitch (mm)	Outer Ø (mm)	Height (mm)	13417... Ident. No.	
M2	0.4	16	5	020	●
M2.5	0.45	16	5	025	●
M3	0.5	20	5	030	●
M4	0.7	20	5	040	●
M5	0.8	20	7	050	●
M6	1	20	7	060	●
M7	1	25	9	070	●
M8	1.25	25	9	080	●
M10	1.5	30	11	100	●

			Cutting direction	Right-hand cutting	
Thread type x nominal Ø	Pitch (mm)	Outer Ø (mm)	Height (mm)	13417... Ident. No.	
M12	1.75	38	14	120	●
M14	2	38	14	140	●
M16	2	45	18	160	●
M18	2.5	45	18	180	●
M20	2.5	45	18	200	●
M22	2.5	55	22	220	●
M24	3	55	22	240	●
M27	3	65	25	270	●
M30	3.5	65	25	300	●

Prod. Gr. 1DC

ORION® HSSE threading die (EN standard 22568)

for universal use up to 1,300 N/mm2

M | HSSE | DIN 13 6g

Application:
For tapping metric male threads in the steel, stainless steel, NF metal and special alloy material groups up to a strength of 1300 N/mm².

Execution:
- Right-handed thread-cutting die, tol. 6g, pre-slotted and 2.0 threaded chamfer

Advantage:
- Standard geometry with a very good price-performance ratio

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●					●					●	●							

			Cutting direction	Right-hand cutting	
Thread type x nominal Ø	Pitch (mm)	Outer Ø (mm)	Height (mm)	13421... Ident. No.	
M3	0.5	20	5	030	●
M4	0.7	20	5	040	●
M5	0.8	20	7	050	●
M6	1	20	7	060	●
M8	1.25	25	9	080	●

			Cutting direction	Right-hand cutting	
Thread type x nominal Ø	Pitch (mm)	Outer Ø (mm)	Height (mm)	13421... Ident. No.	
M10	1.5	30	11	100	●
M12	1.75	38	14	120	●
M14	2	38	14	140	●
M16	2	45	18	160	●
M20	2.5	45	18	200	●

Prod. Gr. 1DC

ORION® HSS threading die set (EN standard 22568)

for universal use up to 700 N/mm2

M | HSSE | DIN 13 6g

Application:
For tapping metric male threads in the steel and NF metal material groups up to a strength of 700 N/mm².

Execution:
- Right-handed die set consisting of 13417 for M3, M4, M5, M6, M8, M10 and M12, tol. 6g with spiral point, pre-slotted, 1.75-threaded chamfer

Advantage:
- Standard geometry with an excellent price-performance ratio

Min./max. thread-cutting area, metric		3-12 mm
Number of pieces in assortment/set (PCS)		7
13417...	Ident. No.	500 ●

Prod. Gr. 1DC

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		●	●	●	●	●					●				●	●	●		

ATORN HSSE threading die (EN standard 22568)

for universal use up to 1,300 N/mm2

M | HSSE | DIN 13 6g

Application:
For tapping metric male threads in the steel, stainless steel, NF metal and special alloy material groups up to a strength of 1300 N/mm².

Execution:
- Right-handed die, tol. 6g with spiral point (from M2) and nitrided, pre-slotted, 2.0-threaded chamfer

Advantage:
- Specialised insert with optimised chipping geometry for use in materials that are difficult to machine
- Micro-cutting edge treatment and special lapping process for high process reliability and a long service life

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		●	●	●	●	●					●				●	●	●		

			Cutting direction	Right-hand cutting	
Thread type x nominal Ø	Pitch (mm)	Outer Ø (mm)	Height (mm)	13418... Ident. No.	
M2	0.4	16	3.5	020	●
M2.5	0.45	16	5	025	●
M2.6	0.45	16	5	026	○
M3	0.5	20	5	030	●
M3.5	0.6	20	5	035	●
M4	0.7	20	5	040	●
M5	0.8	20	7	050	●
M6	1	20	7	060	●

			Cutting direction	Right-hand cutting	
Thread type x nominal Ø	Pitch (mm)	Outer Ø (mm)	Height (mm)	13418... Ident. No.	
M8	1.25	25	9	080	●
M10	1.5	30	11	100	●
M12	1.75	38	14	120	●
M14	2	38	14	140	●
M16	2	45	18	160	●
M18	2.5	45	18	180	●
M20	2.5	45	18	200	●
M24	3	55	22	240	●

Prod. Gr. 1KI

ATORN HSS hexagonal threading die (DIN 382)

for universal use up to 700 N/mm2

M | HSS | DIN 13 6g

Application:
For retapping and repairing damaged metric male threads in the steel and NF metal material groups up to a strength of 700 N/mm².

Execution:
- Right-handed hexagonal die with tol. 6g

Advantage:
- Hexagonal design for tapping difficult to reach threads
- Micro-cutting edge treatment and special lapping process for high process reliability and a long service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●					●					●	●							

Thread type x nominal Ø	Pitch (mm)	Width across flats	Height (mm)	13434... Ident. No.	
M3	0.5	18 mm	5	030	○
M4	0.7	18 mm	5	040	●
M5	0.8	18 mm	7	050	●
M6	1	18 mm	7	060	●
M8	1.25	21 mm	9	080	●
M10	1.5	27 mm	11	100	●

Thread type x nominal Ø	Pitch (mm)	Width across flats	Height (mm)	13434... Ident. No.	
M12	1.75	36 mm	14	120	●
M14	2	36 mm	14	140	●
M16	2	41 mm	18	160	●
M20	2.5	41 mm	18	200	●
M24	3	50 mm	22	240	●
M30	3.5	60 mm	25	300	●

Prod. Gr. 1KI

ATORN HSS hexagonal threading die set (DIN 382)

for universal use up to 700 N/mm2

M | HSS | DIN 13 6g

Application:
For retapping and repairing damaged metric male threads in the steel and NF metal material groups up to a strength of 700 N/mm².

Execution:
- Right-handed die set, hexagonal, for M3, M4, M5, M6, M8, M10 and M12, tol. 6g

Advantage:
- Innovative cutting geometry for high process reliability
- Micro-cutting edge treatment and special lapping process for high process reliability and a long service life
- Hexagonal design for tapping difficult to reach threads
- Sturdy metal case protects the tool from dirt and damage

Min./max. thread-cutting area, metric		3-12 mm
Number of pieces in assortment/set (PCS)		7
13434...	Ident. No.	500 ●

Prod. Gr. 1KI

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●					●					●	●							

ORION ATORN HSS threading die (EN standard 22568)

For universal use up to 700 N/mm²

MF | HSS | DIN 13 6g

No. 13440

No. 13442

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Application:
No. 13440: For tapping fine metric male threads in the steel and NF metal material groups up to a strength of 700 N/mm².
No. 13442–13445: For cutting fine metric threads externally in the material groups of steel and non-ferrous metals up to a strength of 700 N/mm².

Execution:
- **No. 13440: Right-handed** die, MF2 = tol. 6h, MF2.6 to MF50 = tol. 6g, MF63 = tol. 8g with spiral point, pre-slotted, 1.75-threaded chamfer
- **No. 13442: left** die, tol. 6 g with spiral point, pre-slotted and 1.75 pitch
- **No. 13445: right** die, tol. 6 g with spiral point, pre-slotted and 1.75 pitch

Advantage:
- **No. 13440:**
  - Universal use for maximum flexibility
  - Micro-cutting edge treatment and special lapping process for high process reliability and a long service life
- **No. 13442:**
  - universal use for maximum flexibility during application
  - micro cut edge treatment and special lapping method for excellent process reliability and long service life
- **No. 13445:** standard geometry with excellent price/performance ratio

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●					●					●	●							

				ATORN		ORION		ATORN	
			Cutting direction	Right-hand cutting		Right-hand cutting		Left-hand cutting	
Thread type x nominal Ø	Pitch (mm)	Outer Ø (mm)	Height (mm)	13440... Ident. No.		13445... Ident. No.		13442... Ident. No.	
MF2	0.25	16	5	020	●	-	-	-	-
MF2.6	0.35	16	5	026	○	-	-	-	-
MF3	0.35	20	5	030	○	030	●	-	-
MF4	0.35	20	5	040	●	-	-	-	-
MF4	0.5	20	5	045	●	045	●	-	-
MF5	0.5	20	5	050	●	050	●	-	-
MF6	0.5	20	5	060	●	060	●	-	-
MF6	0.75	20	7	065	●	065	●	-	-
MF7	0.75	25	9	070	●	-	-	-	-
MF8	0.5	25	9	080	●	080	●	-	-
MF8	0.75	25	9	083	●	083	●	083	○
MF8	1	25	9	086	●	086	●	086	●
MF9	1	25	9	090	●	-	-	-	-
MF10	0.75	30	11	100	●	-	-	-	-
MF10	1	30	11	103	●	103	●	103	●
MF10	1.25	30	11	106	●	106	●	-	-
MF11	1	30	11	110	●	-	-	-	-
MF12	1	38	10	120	●	120	●	120	○
MF12	1.25	38	10	123	●	123	●	-	-
MF12	1.5	38	10	126	●	126	●	126	●
MF14	1	38	10	140	●	140	●	-	-
MF14	1.25	38	10	143	●	143	●	-	-

				ATORN		ORION		ATORN	
			Cutting direction	Right-hand cutting		Right-hand cutting		Left-hand cutting	
Thread type x nominal Ø	Pitch (mm)	Outer Ø (mm)	Height (mm)	13440... Ident. No.		13445... Ident. No.		13442... Ident. No.	
MF14	1.5	38	10	146	●	146	●	146	●
MF15	1	38	10	150	●	-	-	-	-
MF16	1	45	14	160	●	160	●	-	-
MF16	1.5	45	14	165	●	165	●	165	●
MF18	1	45	14	180	●	180	●	-	-
MF18	1.5	45	14	183	●	183	●	183	●
MF20	1	45	14	200	●	200	●	-	-
MF20	1.5	45	14	203	●	203	●	203	●
MF20	2	45	14	206	●	206	●	-	-
MF22	1	55	16	220	●	-	-	-	-
MF22	1.5	55	16	223	●	223	●	-	-
MF22	2	55	16	226	●	-	-	-	-
MF24	1	55	16	240	●	-	-	-	-
MF24	1.5	55	16	243	●	243	●	243	○
MF24	2	55	16	246	●	246	●	-	-
MF25	1.5	55	16	250	●	255	●	-	-
MF26	1.5	55	16	260	●	-	-	-	-
MF27	2	65	18	275	●	275	●	-	-
MF27	1.5	65	18	-	-	270	●	-	-
MF28	1.5	65	18	280	●	-	-	-	-
MF30	1.5	65	18	303	●	303	●	-	-
MF30	2	65	18	306	●	306	●	-	-
MF32	1.5	65	18	320	●	320	●	-	-
MF33	1.5	65	18	330	●	-	-	-	-
MF33	2	65	18	335	●	-	-	-	-
MF34	1.5	65	18	340	○	-	-	-	-
MF35	1.5	65	18	350	●	-	-	-	-
MF36	1.5	65	18	360	●	-	-	-	-
MF36	2	65	18	363	●	-	-	-	-
MF36	3	65	25	366	○	-	-	-	-
MF40	1.5	75	20	400	●	405	●	-	-
MF42	1.5	75	20	420	●	-	-	-	-
MF42	2	75	20	423	●	-	-	-	-
MF45	1.5	90	22	450	●	-	-	-	-
MF48	1.5	90	22	480	○	-	-	-	-
MF50	1.5	90	22	500	●	505	●	-	-
MF63	1.5	105	22	630	○	-	-	-	-

ORION = Prod. Gr. 1DC
ATORN® = Prod. Gr. 1KJ

ORION® ATORN® HSSE threading die (EN standard 22568)

For universal use and stainless steel

MF | HSSE | DIN 13 6g

Application:
For cutting fine metric threads externally in the material groups of steel, stainless steel, non-ferrous metals and special alloys up to a strength of 1300 N/mm².

Execution:
- right die. tol. 6 g with spiral point, nitrided, pre-slotted and 2.0 pitch

Advantage:
- **No. 13446:**
  - specialised application with optimised cutting geometry for use in difficult-to-machine materials
  - micro cut edge treatment and special lapping method for excellent process reliability and long service life
- **No. 13447:** standard geometry with excellent price/performance ratio

No. 13446

No. 13447

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		●	●	●	●	●					●				●	●	●		

				ATORN		ORION	
			Cutting direction	Right-hand cutting		Right-hand cutting	
Thread type x nominal Ø	Pitch (mm)	Outer Ø (mm)	Height (mm)	13446... Ident. No.		13447... Ident. No.	
MF5	0.5	20	5	050	●	-	-
MF6	0.75	20	7	065	●	-	-
MF8	0.75	25	9	083	●	-	-
MF8	1	25	9	086	●	086	●
MF10	1	30	11	103	●	103	●
MF12	1	38	10	120	●	120	●
MF12	1.5	38	10	126	●	126	●

				ATORN		ORION	
			Cutting direction	Right-hand cutting		Right-hand cutting	
Thread type x nominal Ø	Pitch (mm)	Outer Ø (mm)	Height (mm)	13446... Ident. No.		13447... Ident. No.	
MF14	1.5	38	10	146	●	146	●
MF16	1.5	45	14	165	●	165	●
MF18	1.5	45	14	183	●	183	●
MF20	1.5	45	14	203	●	203	●
MF22	1.5	55	16	223	●	-	-
MF24	1.5	55	16	243	●	-	-
MF30	1.5	65	18	303	●	-	-

ORION = Prod. Gr. 1DC
ATORN® = Prod. Gr. 1KJ

ORION ATORN HSS threading die (EN standard 24231)

For universal use up to 700 N/mm²

G | HSS | A

Application:
For cutting G (pipe) threads externally in the material groups of steel and non-ferrous metals up to a strength of 700 N/mm².

Execution:
- right die. tol. A with spiral point and 1.75 pitch

Advantage:
- **No. 13480:**
  - universal use for maximum flexibility during application
  - micro cut edge treatment and special lapping method for excellent process reliability and long service life
- **No. 13487:** standard geometry with excellent price/performance ratio

No. 13480 No. 13487

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●					●					●	●							

				ORION		ATORN	
			Cutting direction	Right-hand cutting		Right-hand cutting	
Thread type x nominal Ø in inches	Number of thread starts per inch	Outer Ø (mm)	Height (mm)	13487... Ident. No.		13480... Ident. No.	
G 1/8 in	28	30	11	010	●	010	●
G 1/4 in	19	38	10	020	●	020	●
G 3/8 in	19	45	14	030	●	030	●
G 1/2 in	14	45	14	040	●	040	●
G 5/8 in	14	55	16	050	●	-	-
G 3/4 in	14	55	16	060	●	060	●

				ORION		ATORN	
			Cutting direction	Right-hand cutting		Right-hand cutting	
Thread type x nominal Ø in inches	Number of thread starts per inch	Outer Ø (mm)	Height (mm)	13487... Ident. No.		13480... Ident. No.	
G 7/8 in	14	65	18	070	●	-	-
G 1 in	11	65	18	080	●	080	●
G 1-1/4 in	11	75	20	100	●	-	-
G 1-1/2 in	11	90	22	-	-	120	●
G 2 in	11	105	22	-	-	140	●

ORION = Prod. Gr. 1DC
ATORN® = Prod. Gr. 1KJ

ORION ATORN HSSE threading die (EN standard 24231)

For use in steel up to 1,300 N/mm², stainless steel and special alloys

G | HSSE | A

Application:
No. 13484: For cutting G (pipe) threads externally in the material groups of steel, stainless steel, non-ferrous metals and special alloys up to a strength of 1300 N/mm².
No. 13488: For tapping male (pipe) threads in the steel, stainless steel, NF metal and special alloy material groups up to a strength of 1300 N/mm².

Execution:
- **No. 13484:** right die. tol. A with spiral point, nitrided, pre-slotted and 2.0 pitch
- **No. 13488:** Right-handed die, tol. A with spiral point, pre-slotted, 2.0-threaded chamfer

Advantage:
- **No. 13484:**
  - specialised application with optimised cutting geometry for use in difficult-to-machine materials
  - micro cut edge treatment and special lapping method for excellent process reliability and long service life
- **No. 13488:** Standard geometry with a very good price-performance ratio

No. 13484 No. 13488

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		●	●	●	●	●					●				●	●	●		

				ATORN		ORION	
			Cutting direction	Right-hand cutting		Right-hand cutting	
Thread type x nominal Ø in inches	Number of thread starts per inch	Outer Ø (mm)	Height (mm)	13484... Ident. No.		13488... Ident. No.	
G 1/8 in	28	30	11	010	●	010	●
G 1/4 in	19	38	10	020	●	020	●
G 3/8 in	19	45	14	030	●	030	●

				ATORN		ORION	
			Cutting direction	Right-hand cutting		Right-hand cutting	
Thread type x nominal Ø in inches	Number of thread starts per inch	Outer Ø (mm)	Height (mm)	13484... Ident. No.		13488... Ident. No.	
G 1/2 in	14	45	14	040	●	040	●
G 3/4 in	14	55	16	060	●	060	●
G 1 in	11	65	18	080	●	080	●

ORION = Prod. Gr. 1DC
ATORN® = Prod. Gr. 1KJ

ATORN HSS threading die (EN standard 22568)

for universal use up to 700 N/mm2

BSW | HSS

Application:
For cutting BSW (British Whitworth) threads externally in the material groups of steel and non-ferrous metals up to a strength of 700 N/mm².

Execution:
- right die with spiral point and 1.75 pitch

Advantage:
- universal use for maximum flexibility during application
- micro cut edge treatment and special lapping method for excellent process reliability and long service life

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●						●			●		●							

Thread type x nominal Ø in inches	Number of thread starts per inch	Outer Ø (mm)	Height (mm)	Cutting direction: Right-hand cutting, 13470... Ident. No.	
BSW 1/8 in	40	20	5	030	●
BSW 5/32 in	32	20	7	040	○
BSW 7/32 in	24	20	7	060	○
BSW 1/4 in	20	20	7	070	●

Thread type x nominal Ø in inches	Number of thread starts per inch	Outer Ø (mm)	Height (mm)	Cutting direction: Right-hand cutting, 13470... Ident. No.	
BSW 5/16 in	18	25	9	080	●
BSW 3/8 in	16	30	11	090	●
BSW 1/2 in	12	38	14	110	●
BSW 5/8 in	11	45	18	130	○

Prod. Gr. 1KJ

ATORN HSS threading die (EN standard 24230)

for universal use up to 700 N/mm2

NPT | HSS

Application:
For cutting tapered 1: 16 NPT (National Pipe Taper) threads externally in the material groups of steel and non-ferrous metals up to a strength of 700 N/mm².

Execution:
- right die with spiral point and 1.75 pitch

Advantage:
- universal use for maximum flexibility during application
- micro cut edge treatment and special lapping method for excellent process reliability and long service life

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●						●			●		●							

Thread type x nominal Ø in inches	Number of thread starts per inch	Outer Ø (mm)	Height (mm)	Cutting direction: Right-hand cutting, 13466... Ident. No.	
NPT 1/8 in	27	30	11	010	●
NPT 1/4 in	18	38	14	020	●
NPT 3/8 in	18	45	14	030	●

Thread type x nominal Ø in inches	Number of thread starts per inch	Outer Ø (mm)	Height (mm)	Cutting direction: Right-hand cutting, 13466... Ident. No.	
NPT 1/2 in	14	45	18	040	●
NPT 3/4 in	14	55	22	050	●

Prod. Gr. 1KJ

ATORN HSS threading die (EN standard 22568)

for universal use up to 700 N/mm2

UNC | HSS | 2A

Application:
For cutting UNC (Unified Coarse) threads externally in the material groups of steel and non-ferrous metals up to a strength of 700 N/mm².

Execution:
- right die. tol. 2A with spiral point and 1.75 pitch

Advantage:
- universal use for maximum flexibility during application
- micro cut edge treatment and special lapping method for excellent process reliability and long service life

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●						●			●		●							

			Cutting direction	Right-hand cutting	
Thread type x nominal Ø in inches	Number of thread starts per inch	Outer Ø (mm)	Height (mm)	13450... Ident. No.	
UNC 2 in	56	16	5	020	○
UNC 4 in	40	16	5	040	○
UNC 6 in	32	20	7	060	●
UNC 8 in	32	20	7	070	●
UNC 10 in	24	20	7	080	●
UNC 1/4 in	20	20	7	100	●
UNC 5/16 in	18	25	9	110	●

			Cutting direction	Right-hand cutting	
Thread type x nominal Ø in inches	Number of thread starts per inch	Outer Ø (mm)	Height (mm)	13450... Ident. No.	
UNC 3/8 in	16	30	11	120	●
UNC 7/16 in	14	30	11	130	●
UNC 1/2 in	13	38	14	140	●
UNC 9/16 in	12	38	14	150	●
UNC 5/8 in	11	45	18	160	●
UNC 3/4 in	10	45	18	170	●
UNC 1 in	8	55	22	190	●

Prod. Gr. 1KJ

ATORN HSS threading die (EN standard 22568)

For universal use up to 700 N/mm2

UNF | HSS | 2A

Application:
For cutting UNF (Unified Fine) threads externally in the material groups of steel and non-ferrous metals up to a strength of 700 N/mm².

Execution:
- right die. tol. 2A with spiral point and 1.75 pitch

Advantage:
- universal use for maximum flexibility during application
- micro cut edge treatment and special lapping method for excellent process reliability and long service life

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	●						●			●		●							

			Cutting direction	Right-hand cutting	
Thread type x nominal Ø in inches	Number of thread starts per inch	Outer Ø (mm)	Height (mm)	13460... Ident. No.	
UNF 4 in	48	16	5	050	○
UNF 6 in	40	20	5	070	○
UNF 8 in	36	20	7	080	○
UNF 10 in	32	20	7	090	●
UNF 12 in	28	20	7	100	●
UNF 1/4 in	28	20	7	110	●
UNF 5/16 in	24	25	9	120	●

			Cutting direction	Right-hand cutting	
Thread type x nominal Ø in inches	Number of thread starts per inch	Outer Ø (mm)	Height (mm)	13460... Ident. No.	
UNF 3/8 in	24	30	11	130	●
UNF 7/16 in	20	30	11	140	●
UNF 1/2 in	20	38	10	150	●
UNF 9/16 in	18	38	10	160	●
UNF 5/8 in	18	45	14	170	●
UNF 3/4 in	16	45	14	180	●

Prod. Gr. 1KJ

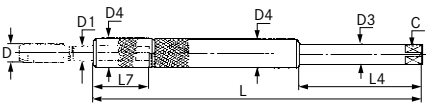
ORION® Machine tap extension

For use of machine taps

Application:
For extending machine taps in conjunction with deep and difficult to reach threads on CNC and conventional machines, in tapping chucks or quick-change chucks.

Execution:
- Steel tool holder with collet chuck and clamping nut; steel shank of the extension pursuant to DIN for high requirements for process reliability and service life

Advantage:
- Very flexible and fast solution as there is no need to procure special machine taps
- User-friendly handling with short changeover times
- Excellent value for money



									Coolant supply	External	
Suitable for DIN 371 screw tap	Suitable for DIN 374/376 screw tap	Suitable for screw tap square socket size (mm)	C (mm)	L7 (mm)	D1 (mm)	D4 (mm)	D3 (mm)	L (mm)	L4 (mm)	13533... Ident. No.	
M2-M2.6	M4	2.1	4.9	22	2.8	6.1	6	130	60	001	●
M2-M2.6	M4	2.1	4.9	22	2.8	6.1	6	230	70	011	○
M3	M4.5-M5	2.7	4.9	23	3.5	7.5	6	130	60	002	●
M3	M4.5-M5	2.7	4.9	23	3.5	7.5	6	230	70	020	○
M4	M6	3.4	4.9	23	4.5	8.4	6	130	60	003	●
M4	M6	3.4	4.9	23	4.5	8.4	6	230	70	030	●
M4.5-M6	M8	4.9	5.5	26	6	12.1	7	130	60	004	●
M4.5-M6	M8	4.9	5.5	26	6	12.1	7	230	70	040	●
M7	M9-M10	5.5	5.5	26	7	12.1	7	130	60	005	●
M7	M9-M10	5.5	5.5	26	7	12.1	7	230	70	050	●
M8	M11	6.2	6.2	30	8	13	8	130	60	006	●
M8	M11	6.2	6.2	30	8	13	8	230	80	060	●
M9	M12	7	7	31	9	15	9	130	60	007	●
M9	M12	7	7	31	9	15	9	230	80	070	●
M10	-	8	8	33	10	15	10	130	60	008	●
M10	-	8	8	33	10	15	10	230	80	080	●
-	M14	9	9	36	11	18	11	130	90	009	●
-	M14	9	9	36	11	18	11	230	90	090	●
-	M16	9	9	36	12	18	12	130	90	010	●
-	M16	9	9	36	12	18	12	230	90	111	●
-	M18	11	11	46	14	22	14	200	90	021	○
-	M18	11	11	46	14	22	14	330	90	121	○
-	M20	12	12	46	16	22	16	200	90	022	●
-	M20	12	12	46	16	22	16	330	90	122	●
-	M20-M24	14.5	14.5	47	18	26	18	200	100	023	●
-	M20-M24	14.5	14.5	47	18	26	18	330	100	123	○

Prod. Gr. 1DD

ORION® Tool extension

For screw taps with straight shanks and square drives

Application:
For extending machine taps for use with threads that are deep and difficult to reach.

Execution:
- Precision-ground steel tool holder, hardened and tempered with square drive pursuant to DIN 10

Advantage:
- User-friendly handling with short changeover times
- Excellent value for money

Technical data:
- Shank style: Cylindrical

Inner square size (mm)	Length (mm)	Size of square (mm)	13532... Ident. No.	
2.1	60	2.1	021	●
2.7	80	2.7	027	●
3	90	3	030	●
3.4	95	3.4	034	●
4.3	105	4.3	043	●
4.9	110	4.9	049	●
5.5	115	5.5	055	●
6.2	120	6.2	062	●
7	125	7	070	●
8	125	8	080	●

Inner square size (mm)	Length (mm)	Size of square (mm)	13532... Ident. No.	
9	130	9	090	●
10	140	10	100	●
11	150	11	110	●
12	155	12	120	●
14.5	175	14.5	145	●
16.0	180	16	160	●
18	200	18	180	●
20	220	20	200	●
22	220	22	220	●

Prod. Gr. 139

ORION® Fixed ball-type tap wrench

For holding screw taps and reamers

Application:
For mounting screw taps and reamers with square.

Execution:
- Steel tool holder with screw-off arm and 4 square holes to DIN 10

Advantage:
- High-quality steel with very good wear characteristics and chromium-plated extensions for high corrosion resistance
- User-friendly handling and short retooling times
- Excellent value for money

Tap wrench size	Square size	Min./max. thread-cutting area, metric	Min./max. thread-cutting area, imperial	Length (mm)	13545... Ident. No.	
0	2.1 mm/2.7 mm/3 mm/3.4 mm	1-4 mm	1/16-5/32 in	170	005	●
1	3 mm/3.4 mm/4.3 mm/4.9 mm	3.5-8 mm	5/32-5/16 in	195	010	●
2	3.4 mm/4.3 mm/4.9 mm/5.5 mm	4-10 mm	5/32-3/8 in	240	020	●
3	4.9 mm/5.5 mm/6.2 mm/7 mm	5-12 mm	3/16-1/2 in	290	030	●
4	5.5 mm/6.2 mm/7 mm/9 mm	10-16 mm	3/8-5/8 in	220	040	●

Prod. Gr. 109

ORION® Adjustable tap wrench, round version

For holding screw taps and reamers

Application:
For mounting very small screw taps and reamers with square.

Execution:
- Plastic tool holders with hardened steel jaws

Advantage:
- Ergonomic design for delicate, precise operations
- Hardened clamping jaws ensure low wear
- Highly compact, robust design

Suitable for square socket size (mm)		2.4
Min./max. thread-cutting area, metric		1-2.6 mm
Min./max. thread-cutting area, imperial		1/16-3/32 in
13547...	Ident. No.	010 ●

Prod. Gr. 139

ATORN Tool holder with ratchet mechanism and centring eye

For holding screw taps and reamers

Application:
For mounting screw taps. With the aid of the centring eye, the tool can be placed straight and the thread can be cut.

Execution:
- With right/left adjustment, retaining clamp adjustable in 3 positions
- With centring eye for flush alignment of the screw tap without angle
- Clamping jaws burnished and hardened

Advantage:
- Specific alignment with the aid of the centring eye

Length (mm)		85	100	250	300
Min./max. thread-cutting area, metric		3-10 mm	5-12 mm	3-10 mm	5-12 mm
13546...	Ident. No.	072 ●	074 ●	076 ●	078 ●

Prod. Gr. 1KR

ATORN Adjustable tap wrench, round version

For holding screw taps and reamers

Application:
For holding screw taps on all common cordless drills. Thicker shank provides higher torque when cutting larger threads.

Advantage:
- Higher torque when cutting
- Precision thread cutting without stripping threads

Min./max. thread-cutting area, metric		3-8 mm	5-12 mm
13546...	Ident. No.	080 ●	082 ●

Prod. Gr. 1KR

ATORN ORION® Adjustable steel tap wrench

For holding screw taps and reamers

Application:
No. 13546: For accommodating square-head screw taps in accordance with DIN 10, reamers, screw extractors, screw tap extensions, tools with square mounts.
No. 13551: For holding
square-head screw taps in accordance with DIN 10, reamers, screw extractors, screw tap extensions, tools with square mounts

Execution:
- **No. 13546:** Housing made of high-quality steel, correct alignment of the screw tap thanks to integrated centring eye
- **No. 13551:** Housing, size 1–2, made from forged steel, size 3–7/8, welded solid-steel design, zinc-plated arm with knurling for very high loads

Advantage:
- **No. 13546:**
  - High-quality steel ensures a higher load capacity
  - Clamping jaws precision-eroded and hardened
  - Guide groove to hold the split pin and to stabilise the jaw
  - Sustainable production and packaging
- **No. 13551:**
  - Safe work even using high forces
  - Ground and hardened steel jaws

No. 13546

No. 13551

					ATORN		ORION	
Tap wrench size	Suitable for min./max. square socket size	Min./max. reamer cutting range	Min./max. thread-cutting area, metric	Length (mm)	13546... Ident. No.		13551... Ident. No.	
0	2-5 mm	2.5-6.5 mm	1-8 mm	125	016	●	-	-
1	2-6.3 mm	2.5-7 mm	1-10 mm	175	018	●	010	●
1 1/2	2-8 mm	2.5-7.5 mm	1-12 mm	175	020	●	-	-
2	4-9 mm	3-9 mm	4-12 mm	265	022	●	-	-
3	4.9-12 mm	7-15 mm	5-20 mm	370	024	●	030	●
4	5.5-16 mm	7-20 mm	9-27 mm	480	026	●	040	●
5	7-20 mm	9-26 mm	12-33 mm	700	028	●	050	●
6	9-25 mm	11-32 mm	18-42 mm	1000	030	●	-	-
7	14.5-32 mm	20-45 mm	25-52 mm	1258	032	●	-	-
8	14.5-40 mm	20-55 mm	25-90 mm	1258	034	●	-	-
2	4-9 mm	5-9 mm	4-12 mm	265	-	-	020	●
6	9-25 mm	11-32 mm	9-25 mm	1000	-	-	060	●
7	16-32 mm	20-45 mm	25-52 mm	1258	-	-	070	●

ATORN® = Prod. Gr. 1KR
ORION = Prod. Gr. 109

ATORN ORION® Adjustable die-cast zinc tap wrench

For holding screw taps and reamers

Application:
For holding
square-head screw taps in accordance with DIN 10, reamers, screw extractors, screw tap extensions, tools with square mounts

Execution:
- **No. 13546:** Housing size 0-6 made of special zinc die-casting, refined by environmentally friendly powder coating
- **No. 13549:** Housing, size 0–5, made of die-cast zinc, zinc-plated arm with knurling for medium loads

Advantage:
- **No. 13546:**
  - Innovative die-cast zinc with up to 120% higher torque
  - Clamping jaws precision-eroded and hardened
  - Guide groove to hold the split pin and to stabilise the jaw
  - Sustainable production and packaging
- **No. 13549:**
  - Die-cast zinc ensures excellent value for money
  - Ground and hardened steel jaws

No. 13546

No. 13549

					ATORN		ORION	
Tap wrench size	Suitable for min./max. square socket size	Min./max. reamer cutting range	Min./max. thread-cutting area, metric	Length (mm)	13546... Ident. No.		13549... Ident. No.	
0	2-5 mm	2.5-6.5 mm	1-8 mm	125	000	●	005	●
1	2-6.3 mm	2.5-7 mm	1-10 mm	175	002	●	010	●
1 1/2	2-8 mm	2.5-7.5 mm	1-12 mm	175	004	●	015	●
2	4-9 mm	5-9 mm	4-12 mm	265	006	●	020	●
3	4.9-12 mm	7-15 mm	5-20 mm	370	008	●	030	●
4	5.5-16 mm	7-20 mm	9-27 mm	480	010	●	040	●
5	7-20 mm	9-26 mm	12-33 mm	700	012	●	050	●
6	9-25 mm	11-32 mm	18-42 mm	1000	014	●	-	-

ATORN® = Prod. Gr. 1KR
ORION = Prod. Gr. 109

ATORN ORION® Threading die holder with manual clamp

For holding threading dies

Application:
For mounting closed and/or slotted dies to DIN EN 22568 and DIN EN 24231.

Execution:
- **No. 13546:** Housing size 0-13 made of special die-cast zinc, refined by environmentally friendly powder coating
- **No. 13559:** Housing, size 0-12, made from die-cast zinc, size 13-17, made from steel and from size 7 with screw-off arm

Advantage:
- User-friendly handling and short retooling times
- Knurling ensures safe work, even with severe contamination
- **No. 13546:**
  - Due to honeycomb shape, up to 80 % more stress-resistant
  - Due to special die-cast zinc, faulty areas in the castings are avoided

No. 13546

No. 13559

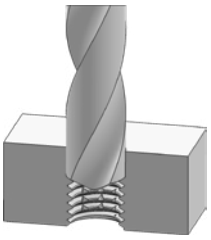
					ORION		ATORN	
Die holder size	Min./max. thread-cutting area, metric	Suitable for die size	Min./max. thread-cutting area, metric fine	Length (mm)	13559... Ident. No.		13546... Ident. No.	
0	1-2.5 mm	16 x 5 mm	1-2.5 mm	160	005	●	036	●
1	3-4 mm	20 x 5 mm	3-6 mm	180	010	●	038	●
10	22-26 mm	55 x 22 mm	-	490	100	●	054	●
11	-	65 x 18 mm	27-36 mm	630	110	●	060	●
12	27-36 mm	65 x 25 mm	-	630	120	●	058	●

					ORION		ATORN	
Die holder size	Min./max. thread-cutting area, metric	Suitable for die size	Min./max. thread-cutting area, metric fine	Length (mm)	13559... Ident. No.		13546... Ident. No.	
13	-	75 x 20 mm	38-42 mm	900	130	●	-	-
14	39-42 mm	75 x 30 mm	-	900	140	●	-	-
15	-	90 x 22 mm	45-52 mm	920	150	●	-	-
16	45-52 mm	90 x 36 mm	-	920	160	●	-	-
17	-	105 x 22 mm	55-62 mm	1100	170	●	-	-
2	4.5-6 mm	20 x 7 mm	6-6 mm	180	020	●	040	●
3	7-9 mm	25 x 9 mm	7-9 mm	210	030	●	042	●
4	10-11 mm	30 x 11 mm	10-11 mm	270	040	●	044	●
5	-	38 x 10 mm	12-15 mm	310	050	●	048	●
6	10-14 mm	38 x 14 mm	-	310	060	●	046	●
7	-	45 x 14 mm	16-20 mm	440	070	●	052	●
8	16-20 mm	45 x 18 mm	-	440	080	●	050	●
9	-	55 x 16 mm	21-26 mm	490	090	●	056	●

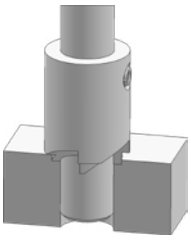
ATORN® = Prod. Gr. 1KR
ORION = Prod. Gr. 109

Thread repair
for the production of pressure-tight and continuous duty thread

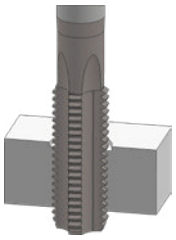
Advantages:
- ATORN thread repair bushings are designed for continuous high loads as well as frequent screwing and unscrewing
- Pressure-sealed for water, oil, other liquids and gases
- Secured against unscrewing without adhesive
- The collar makes additional fixing in the workpiece unnecessary
- Also suitable for the food industry, available in stainless steel on request
- Can be used in the following materials: Aluminium, brass, steel and cast iron materials



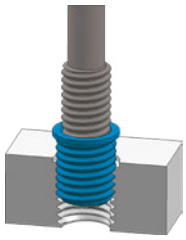
1.
Drill the damaged thread down to the bottom.
Note the drilling guidance!



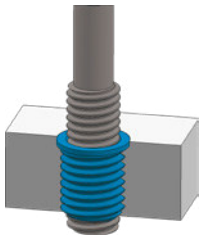
2.
Countersinking the hole to the depth stop.



3.
Thread cutting with screw tap.



4.
With the screw-in tool, the thread insert is completely screwed into the thread.
Pay attention to oil lubrication!



5.
Continue to turn the tool until the screw-in resistance is noticeably reduced again. This is the only way to ensure that the bushing is pressed into the threads of the workpiece.

Thread repair

Version:
Thread inserts are formed into a helix from rhombic-profiled stainless steel wire. This results in wear-resistant, corrosion-resistant and heat-resistant threads with narrow tolerances.

Application: ideal for
- **Thread plating** in materials with reduced shearing strength
- **Repairing** damaged or worn-out threads
- **Scrap recycling**

Important:
Thread insert at least ¼ turn below the workpiece top surface and seated only in fully cut thread.

1.
Drill the tapping hole for the insert

2.
Cut the adapter thread

3.
Screw in the thread insert

4.
Break the threaded pin

HELICOIL® Plus made by BÖLLHOFF Thread repair assortment box M5 to M12

For repairs or reinforcement of threads

Application:
For thread reinforcement in materials with low shear resistance, for repairing damaged and worn threads and for scrap recovery.

Execution:
- 230-part set containing 20x M5/M6, 10x M8/M10/M12, in 1xD/1.5xD/2.0xD and 5 x HSS twist drill, HSS screw tap, turning tool and pin breaker made from high-strength steel. Thread inserts made from rhombically profiled stainless steel wire formed in a helix

Advantage:
- Broad assortment covers a broad range of machining applications
- High-quality and durable insert, user-friendly handling
- Corrosion-resistant and heat-resistant, non-wearing, scrap recovery, even load distribution and tension distribution

Technical data:
- Suitable for screw thread: M5-M12

13568...	Ident. No.	050 ●

Prod. Gr. 153

HELICOIL® Plus made by BÖLLHOFF Thread repair sets, metric

For repairs or reinforcement of threads

Application:
For thread reinforcement in materials with low shear resistance, for repairing damaged and worn threads and for scrap recovery.

Execution:
- Repair set for thread size 20 x M4/M5/M6 or 10 x M8/M10/M12, in 1 x D/1.5 x D/2.0 x D and HSS twist drill, HSS screw tap, turning tool and pin breaker made from high-strength steel

Advantage:
- Corrosion-resistant and heat-resistant, non-wearing, scrap recovery, even load distribution and tension distribution
- Broad assortment covers a broad range of machining applications
- High-quality and durable insert, user-friendly handling

Notes:
M12 supplied without break-off tool, M16 supplied without break-off tool and core drill

Suitable for screw thread	13561... Ident. No.	
M4	004	●
M5	005	●
M6	006	●
M8	008	●

Suitable for screw thread	13561... Ident. No.	
M10	010	●
M12	012	●
M16	016	●

Prod. Gr. 153

HELICOIL® Plus made by BÖLLHOFF Screw tap

For cutting threads in Helicoil inserts

Application:
Very well suited for cutting Helicoil threads in through holes and blind holes, in steel, non-ferrous metals and (cast iron) material groups, up to a strength of 1000 N/mm² in small batch numbers.

Execution:
- Precision-ground, right-hand Helicoil screw tap with protruding shank

Advantage:
- Innovative cutting geometry ensures very high dimensional accuracy, process reliability and chip removal
- High-quality cutting material and cutting edge treatment for very high service life requirements
- Cutting geometry optimised for Helicoil inserts

Suitable for screw thread	Helicoil pilot hole Ø (mm)	13563... Ident. No.	
M4	4.2	040	●
M5	5.2	050	●
M6	6.3	060	●
M8	8.4	080	●
M10	10.5	100	●
M12	12.5	120	●

Suitable for screw thread	Helicoil pilot hole Ø (mm)	13563... Ident. No.	
M16	16.5	160	●
M20	20.75	200 201	● ●
M10 x 1	10.2	101	●
M12 x 1.25	12.25	121	●
M14 x 1.25	14.25	141	●

Prod. Gr. 153

HELICOIL® Plus made by BÖLLHOFF Installation mandrel

For screwing in Helicoil inserts

Application:
For screwing in Helicoil threads.

Execution:
- Installation mandrel made from high-quality steel

Advantage:
- High-quality burnished steel ensures a high level of wear protection
- Screw-in geometry optimised for Helicoil

Suitable for screw thread	13562... Ident. No.	
M4	040	●
M5	050	●
M6	060	●
M8	080	●
M10	100	●
M10 x 1	101	●

Suitable for screw thread	13562... Ident. No.	
M12	120	●
M12 x 1.25	121	●
M14 x 1.25	141	●
M16	160	●
M20	200	●

Prod. Gr. 153

HELICOIL® Plus made by BÖLLHOFF Tang break-off tool

For breaking off tang on Helicoil

Execution:
- Tang break-off tool made from high-strength steel

Suitable for screw thread	13561... Ident. No.	
M4	040	●
M5-M6	055	●
M8	080	●

Suitable for screw thread	13561... Ident. No.	
M10	100	●
M12	120	●

Prod. Gr. 153

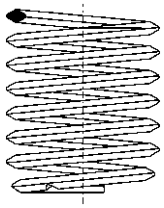
HELICOIL® Plus made by BÖLLHOFF Metric thread inserts

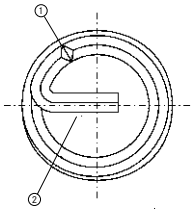
For repairs or reinforcement of threads

Application:
For thread reinforcement in materials with low shear resistance, for repairing damaged and worn threads and for scrap recovery.

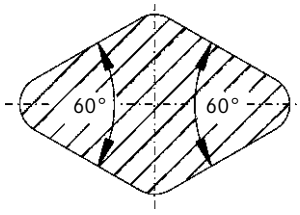
Execution:
- Made from corrosion-proof and rhombically profiled chrome-nickel steel wire

Advantage:
- High-quality and durable insert, user-friendly handling
- Corrosion-resistant and heat-resistant, non-wearing, scrap recovery, even load distribution and tension distribution





① Notch, ② Threaded pin



Wire cross section

Suitable for screw thread	Helicoil thread depth	Min. core hole depth (mm)	Usable thread length (mm)	13562... Ident. No.	
M4	1xD	7.8	3.3	220	●
M4	1.5xD	9.8	5.3	221	●
M4	2xD	11.8	7.3	222	●
M5	1xD	9.2	4.2	230	●
M5	1.5xD	11.7	6.7	231	●
M5	2xD	14.2	9.2	232	●
M6	1xD	11.1	5	240	●
M6	1.5xD	14.1	8	241	●
M6	2xD	17.1	11	242	●
M8	1xD	14.2	6.8	250	●
M8	1.5xD	18.2	10.8	251	●
M8	2xD	22.2	14.4	252	●

Suitable for screw thread	Helicoil thread depth	Min. core hole depth (mm)	Usable thread length (mm)	13562... Ident. No.	
M10	1xD	17.3	8.5	260	●
M10	1.5xD	22.3	13.5	261	●
M10	2xD	27.3	18.5	262	●
M12	1xD	20.3	10.3	270	●
M12	1.5xD	26.3	16.3	271	●
M12	2xD	32.3	22.3	272	●
M16	1xD	25.3	14	280	●
M16	1.5xD	33.3	22	281	●
M16	2xD	41.3	30	282	●
M20	1xD	31.2	17.5	290	●
M20	1.5xD	41.2	37.5	291	●

Prod. Gr. 153

HELICOIL® Plus made by BÖLLHOFF Thread inserts for spark plug threads

For repair of spark plug threads

Application:
For repairing spark plug threads.

Execution:
- Made from corrosion-proof and rhombically profiled chrome-nickel steel wire

Advantage:
- High-quality and durable insert, user-friendly handling
- Corrosion-resistant and heat-resistant, non-wearing, scrap recovery, even load distribution and tension distribution

Suitable for screw thread		M10 x 1	M12 x 1.25	M12 x 1.25	M14 x 1.25
Usable thread length (mm)		10	12	18	16.4
13562...	Ident. No.	110 ●	111 ●	112 ●	113 ●

Prod. Gr. 153

ORION® Fixed ball-type tap wrench

For holding screw taps and reamers

Application:
For mounting screw taps and reamers with square.

Execution:
- Steel tool holder with screw-off arm and 4 square holes to DIN 10

Advantage:
- High-quality steel with very good wear characteristics and chromium-plated extensions for high corrosion resistance
- User-friendly handling and short retooling times
- Excellent value for money

Tap wrench size	Square size	Min./max. thread-cutting area, metric	Min./max. thread-cutting area, imperial	Length (mm)	13545... Ident. No.	
0	2.1 mm/2.7 mm/3 mm/3.4 mm	1-4 mm	1/16-5/32 in	170	005	●
1	3 mm/3.4 mm/4.3 mm/4.9 mm	3.5-8 mm	5/32-5/16 in	195	010	●
2	3.4 mm/4.3 mm/4.9 mm/5.5 mm	4-10 mm	5/32-3/8 in	240	020	●
3	4.9 mm/5.5 mm/6.2 mm/7 mm	5-12 mm	3/16-1/2 in	290	030	●
4	5.5 mm/6.2 mm/7 mm/9 mm	10-16 mm	3/8-5/8 in	220	040	●

Prod. Gr. 109

ORION® Adjustable tap wrench, round version

For holding screw taps and reamers

Application:
For mounting very small screw taps and reamers with square.

Execution:
- Plastic tool holders with hardened steel jaws

Advantage:
- Ergonomic design for delicate, precise operations
- Hardened clamping jaws ensure low wear
- Highly compact, robust design

Suitable for square socket size (mm)		2.4
Min./max. thread-cutting area, metric		1-2.6 mm
Min./max. thread-cutting area, imperial		1/16-3/32 in
13547...	Ident. No.	010 ●

Prod. Gr. 139

ORION® Tap wrench, adjustable

For holding screw taps and reamers, with removable handle

Application:
For holding
square-head screw taps in accordance with DIN 10, reamers, screw extractors, screw tap extensions, tools with square mounts

Execution:
- **No. 13549:** Housing, size 0–5, made of die-cast zinc, zinc-plated arm with knurling for medium loads
- **No. 13551:** Housing, size 1–2, made from forged steel, size 3–7/8, welded solid-steel design, zinc-plated arm with knurling for very high loads

Advantage:
- Ground and hardened steel jaws
- **No. 13549:** Die-cast zinc ensures excellent value for money
- **No. 13551:** Safe work even using high forces

No. 13549

No. 13551

Tap wrench size	Suitable for min./max. square socket size	Min./max. reamer cutting range	Min./max. thread-cutting area, metric	Length (mm)	13549... Ident. No.		13551... Ident. No.	
0	2-5 mm	2.5-6.5 mm	1-8 mm	125	005	●	-	-
1	2-6.3 mm	2.5-7 mm	1-10 mm	175	010	●	010	●
1 1/2	2-8 mm	2.5-7.5 mm	1-12 mm	175	015	●	-	-
2	4-9 mm	5-9 mm	4-12 mm	265	020	●	020	●
3	4.9-12 mm	7-15 mm	5-20 mm	370	030	●	030	●
4	5.5-16 mm	7-20 mm	9-27 mm	480	040	●	040	●
5	7-20 mm	9-26 mm	12-33 mm	700	050	●	050	●
6	9-25 mm	11-32 mm	9-25 mm	1000	-	-	060	●
7	16-32 mm	20-45 mm	25-52 mm	1258	-	-	070	●

Prod. Gr. 109

ORION® Threading die holder with manual clamp

For holding threading dies

Application:
For mounting closed and/or slotted dies to DIN EN 22568 and DIN EN 24231.

Execution:
- Housing, size 0-12, made from die-cast zinc, size 13-17, made from steel and from size 7 with screw-off arm

Advantage:
- User-friendly handling and short retooling times
- Knurling ensures safe work, even with severe contamination

Die holder size	Min./max. thread-cutting area, metric	Suitable for die size	Min./max. thread-cutting area, metric fine	Length (mm)	13559... Ident. No.	
0	1-2.5 mm	16 x 5 mm	1-2.5 mm	160	005	●
1	3-4 mm	20 x 5 mm	3-6 mm	180	010	●
2	4.5-6 mm	20 x 7 mm	6-6 mm	180	020	●
3	7-9 mm	25 x 9 mm	7-9 mm	210	030	●
4	10-11 mm	30 x 11 mm	10-11 mm	270	040	●
5	-	38 x 10 mm	12-15 mm	310	050	●
6	10-14 mm	38 x 14 mm	-	310	060	●
7	-	45 x 14 mm	16-20 mm	440	070	●
8	16-20 mm	45 x 18 mm	-	440	080	●
9	-	55 x 16 mm	21-26 mm	490	090	●
10	22-26 mm	55 x 22 mm	-	490	100	●
11	-	65 x 18 mm	27-36 mm	630	110	●
12	27-36 mm	65 x 25 mm	-	630	120	●
13	-	75 x 20 mm	38-42 mm	900	130	●
14	39-42 mm	75 x 30 mm	-	900	140	●
15	-	90 x 22 mm	45-52 mm	920	150	●
16	45-52 mm	90 x 36 mm	-	920	160	●
17	-	105 x 22 mm	55-62 mm	1100	170	●

Prod. Gr. 109

core hole diameter for thread cutting and thread milling
standard metric ISO thread DIN 13

nominal dia.	pitch P	core hole (drill) Ø DIN 336	core dia. female thread 6H*	
	mm	mm	min. mm	max. mm
M 1	0,25	0,75	0,729	0,785
M 1.1	0,25	0,85	0,829	0,885
M 1.2	0,25	0,95	0,929	0,985
M 1.4	0,30	1,10	1,075	1,142
M 1.6	0,35	1,25	1,221	1,321
M 1.8	0,35	1,45	1,421	1,521
M 2	0,40	1,60	1,567	1,679
M 2.2	0,45	1,75	1,713	1,838
M 2.5	0,45	2,05	2,013	2,138
M 3	0,50	2,50	2,459	2,599
M 3.5	0,60	2,90	2,850	3,010
M 4	0,70	3,30	3,242	3,422
M 4.5	0,75	3,70	3,688	3,878
M 5	0,80	4,20	4,134	4,334
M 6	1,00	5,00	4,917	5,153
M 7	1,00	6,00	5,917	6,153
M 8	1,25	6,80	6,647	6,912
M 9	1,25	7,80	7,647	7,912
M 10	1,50	8,50	8,376	8,676

nominal dia.	pitch P	core hole (drill) Ø DIN 336	core dia. female thread 6H*	
	mm	mm	min. mm	max. mm
M 11	1,50	9,50	9,376	9,676
M 12	1,75	10,20	10,106	10,441
M 14	2,00	12,00	11,835	12,210
M 16	2,00	14,00	13,835	14,210
M 18	2,50	15,50	15,294	15,744
M 20	2,50	17,50	17,294	17,744
M 22	2,50	19,50	19,294	19,744
M 24	3,00	21,00	20,752	21,252
M 27	3,00	24,00	23,752	24,252
M 30	3,50	26,50	26,211	26,771
M 33	3,50	29,50	29,211	29,771
M 36	4,00	32,00	31,670	32,270
M 39	4,00	35,00	34,670	35,270
M 42	4,50	37,50	37,129	37,799
M 45	4,50	40,50	40,129	40,799
M 48	5,00	43,00	42,587	43,297
M 52	5,00	47,00	46,587	47,297
M 56	5,50	50,50	50,046	50,796

* M 1.1 to M 1.4 core dia. female thread 5H

core hole diameter for thread cutting and thread milling
metric ISO fine thread DIN 13

nominal dia. x pitch P	core hole (drill) Ø DIN 336	core dia. female thread 6H	
mm	mm	min. mm	max. mm
M 2.5 x 0.35	2,15	2,121	2,221
M 3.0 x 0.35	2,65	2,621	2,721
M 3.5 x 0.35	3,15	3,121	3,221
M 4.0 x 0.50	3,50	3,459	3,599
M 4.5 x 0.50	4,00	3,959	4,099
M 5.0 x 0.50	4,50	4,459	4,599
M 5.5 x 0.50	5,00	4,959	5,099
M 6.0 x 0.75	5,20	5,188	5,378
M 7.0 x 0.75	6,20	6,188	6,378
M 8.0 x 0.50	7,50	7,459	7,599
M 8.0 x 0.75	7,20	7,188	7,378
M 8.0 x 1.00	7,00	6,917	7,153
M 9.0 x 0.75	8,20	8,188	8,378
M 9.0 x 1.00	8,00	7,917	8,153
M 10 x 0.75	9,20	9,188	9,378
M 10 x 1.00	9,00	8,917	9,153
M 10 x 1.25	8,80	8,647	8,912
M 11 x 0.75	10,20	10,188	10,378
M 11 x 1.00	10,00	9,917	10,153
M 12 x 1.00	11,00	10,917	11,153
M 12 x 1.25	10,80	10,647	10,912
M 12 x 1.50	10,50	10,376	10,676
M 14 x 1.00	13,00	12,917	13,153
M 14 x 1.25	12,80	12,647	12,912
M 14 x 1.50	12,50	12,376	12,676
M 15 x 1.00	14,00	13,917	14,153
M 15 x 1.50	13,50	13,376	13,676
M 16 x 1.00	15,00	14,917	15,153
M 16 x 1.25	14,80	14,647	14,912
M 16 x 1.50	14,50	14,376	14,676
M 17 x 1.00	16,00	15,917	16,153
M 17 x 1.50	15,50	15,376	15,676

nominal dia. x pitch P	core hole (drill) Ø DIN 336	core dia. female thread 6H	
mm	mm	min. mm	max. mm
M 18 x 1.00	17,00	16,917	17,153
M 18 x 1.50	16,50	16,376	16,676
M 20 x 1.00	19,00	18,917	19,153
M 20 x 1.50	18,50	18,376	18,676
M 20 x 2.00	18,00	17,835	18,210
M 22 x 1.00	21,00	20,917	21,153
M 22 x 1.50	20,50	20,376	20,676
M 22 x 2.00	20,00	19,835	20,210
M 24 x 1.00	23,00	22,917	23,153
M 24 x 1.50	22,50	22,376	22,676
M 24 x 2.00	22,00	21,835	22,210
M 25 x 1.00	24,00	23,917	24,153
M 25 x 1.50	23,50	23,376	23,676
M 25 x 2.00	23,00	22,835	23,210
M 27 x 1.00	26,00	25,917	26,153
M 27 x 1.50	25,50	25,376	25,676
M 27 x 2.00	25,00	24,835	25,210
M 28 x 1.00	27,00	26,917	27,153
M 28 x 1.50	26,50	26,376	26,676
M 28 x 2.00	26,00	25,835	26,210
M 30 x 1.00	29,00	28,917	29,153
M 30 x 1.50	28,50	28,376	28,676
M 30 x 2.00	28,00	27,835	28,210
M 30 x 3.00	27,00	26,752	27,252
M 32 x 1.50	30,50	30,376	30,676
M 32 x 2.00	30,00	29,835	30,210
M 33 x 1.50	31,50	31,376	31,676
M 33 x 2.00	31,00	30,835	31,210
M 33 x 3.00	30,00	29,752	30,252
M 35 x 1.50	33,50	33,376	33,676
M 36 x 1.50	34,50	34,376	34,676

core hole diameter for thread cutting and thread milling
UNC thread ASME B1.1

nominal dia.	gear per inch	core hole (drill) Ø DIN 336 mm	core dia. female thread 2B min. mm	core dia. female thread 2B max. mm
No. 1-64		1,55	1,425	1,580
No. 2-56		1,85	1,694	1,872
No. 3-48		2,10	1,941	2,146
No. 4-40		2,35	2,157	2,385
No. 5-40		2,65	2,487	2,698
No. 6-32		2,85	2,642	2,896
No. 8-32		3,50	3,302	3,531
No. 10-24		3,90	3,683	3,937
No. 12-24		4,50	4,343	4,597
1/4-20		5,10	4,978	5,258
5/16-18		6,60	6,401	6,731
3/8-16		8,00	7,798	8,153
7/16-14		9,40	9,144	9,550

nominal dia.	gear per inch	core hole (drill) Ø DIN 336 mm	core dia. female thread 2B min. mm	core dia. female thread 2B max. mm
1/2-13		10,80	10,592	11,024
9/16-12		12,20	11,989	12,446
5/8-11		13,50	13,386	13,868
3/4-10		16,50	16,307	16,840
7/8-9		19,50	19,177	19,761
1-8		22,25	21,971	22,606
1 1/8-7		25,00	24,638	25,349
1 1/4-7		28,00	27,813	28,524
1 3/8-6		30,75	30,353	31,115
1 1/2-6		34,00	33,528	34,290
1 3/4-5		39,50	38,938	39,802
2-4.5		45,00	44,679	45,593

core hole diameter for thread cutting and thread milling
MJ thread DIN ISO 5855

nominal dia. x pitch P mm	core hole (drill) dia. mm	core dia. female thread 5H* min. mm	core dia. female thread 5H* max. mm
MJ 3 x 0.50	2,60	2,513	2,653
MJ 4 x 0.70	3,40	3,318	3,498
MJ 5 x 0.80	4,30	4,221	4,421
MJ 6 x 0.50	5,55	5,513	5,625
MJ 6 x 0.75	5,35	5,269	5,419
MJ 6 x 1.00	5,10	5,026	5,216
MJ 8 x 0.50	7,55	7,513	7,625
MJ 8 x 0.75	7,35	7,269	7,419

nominal dia. x pitch P mm	core hole (drill) dia. mm	core dia. female thread 5H* min. mm	core dia. female thread 5H* max. mm
MJ 8 x 1.00	7,10	7,026	7,216
MJ 8 x 1.25	6,90	6,782	6,994
MJ 10 x 1.00	9,10	9,026	9,216
MJ 10 x 1.25	8,90	8,782	8,994
MJ 10 x 1.50	8,60	8,539	8,775
MJ 12 x 1.75	10,40	10,295	10,560
MJ 16 x 2.00	14,20	14,051	14,351

* MJ 3 x 0.50 to MJ 5 x 0.80 core dia. female thread 6H

core hole diameter for thread cutting and thread milling
UNJC thread ISO 3161

nominal dia.	gear per inch	core hole (drill) dia. mm	core dia. female thread 3B min. mm	core dia. female thread 3B max. mm
No. 6-32		2,85	2,733	2,939
No. 8-32		3,55	3,393	3,599
No. 10-24		4,00	3,795	4,064
No. 12-24		4,60	4,455	4,704
No. 1/4-20		5,30	5,113	5,387
5/16-18		6,75	6,563	6,833

nominal dia.	gear per inch	core hole (drill) dia. mm	core dia. female thread 3B min. mm	core dia. female thread 3B max. mm
3/8-16		8,20	7,978	8,255
7/16-14		9,60	9,346	9,639
1/2-13		11,00	10,798	11,095
9/16-12		12,40	12,228	12,482
5/8-11		13,80	13,627	13,904

core hole diameter for thread cutting and thread milling
UNJF thread ISO 3161

nominal dia.	gear per inch	core hole (drill) dia. mm	core dia. female thread 3B min. mm	core dia. female thread 3B max. mm
No. 6-40		3,00	2,888	3,053
No. 8-36		3,60	3,480	3,663
No. 10-32		4,20	4,054	4,255
No. 12-28		4,75	4,602	4,816
No. 1/4-28		5,60	5,466	5,662
5/16-24		7,00	6,906	7,109

nominal dia.	gear per inch	core hole (drill) dia. mm	core dia. female thread 3B min. mm	core dia. female thread 3B max. mm
3/8-24		8,60	8,494	8,679
7/16-20		10,00	9,876	10,084
1/2-20		11,60	11,463	11,661
9/16-18		13,00	12,913	13,122
5/8-18		14,60	14,501	14,702

core hole diameter for thread cutting and thread milling
UNF thread ASME B1.1

nominal dia.	gear	core hole (drill) Ø DIN 336	core dia. female thread 2B	
	per inch	mm	min. mm	max. mm
No. 1-72		1,55	1,473	1,610
No. 2-64		1,85	1,755	1,910
No. 3-56		2,15	2,024	2,197
No. 4-48		2,40	2,271	2,459
No. 5-44		2,70	2,550	2,741
No. 6-40		2,95	2,819	3,023
No. 8-36		3,50	3,404	3,607
No. 10-32		4,10	3,962	4,166
No. 12-28		4,60	4,496	4,724
1/4-28		5,50	5,359	5,588
5/16-24		6,90	6,782	7,036
3/8-24		8,50	8,382	8,636

nominal dia.	gear	core hole (drill) Ø DIN 336	core dia. female thread 2B	
	per inch	mm	min. mm	max. mm
7/16-20		9,90	9,728	10,033
1/2-20		11,50	11,328	11,608
9/16-18		12,90	12,751	13,081
5/8-18		14,50	14,351	14,681
3/4-16		17,50	17,323	17,678
7/8-14		20,40	20,269	20,650
1-12		23,25	23,114	23,571
1 1/8-12		26,50	26,289	26,746
1 1/4-12		29,50	29,464	29,921
1 3/8-12		32,75	32,639	33,096
1 1/2-12		36,00	35,814	36,271

core hole diameter for thread cutting and thread milling
steel-armoured pipe thread according to DIN 40430

nominal dia.	gear	core hole (drill) dia.	core dia. female thread	
	per inch	mm	min. mm	max. mm
Pg 7	20	11,40	11,280	11,430
Pg 9	18	14,00	13,860	14,010
Pg 11	18	17,30	17,260	17,410
Pg 13.5	18	19,00	19,060	19,210
Pg 16	18	21,30	21,160	21,310

nominal dia.	gear	core hole (drill) dia.	core dia. female thread	
	per inch	mm	min. mm	max. mm
Pg 21	16	26,90	26,780	27,030
Pg 29	16	35,50	35,480	35,730
Pg 36	16	45,50	45,480	45,730
Pg 42	16	52,50	52,480	52,730
Pg 48	16	57,80	57,780	58,030

core hole diameter for thread cutting and thread milling
NPT ANSI B 2.1 Americ. tapered pipe thread, taper 1:16

nominal dia.	gear	core hole dia. cylindr. (A)	core hole dia. conical (B)	incision depth ET	drilling depth BT
	per inch	d_1	D_1	mm	min. mm
1/16-27		6,15	6,39	9,29	10,7
1/8-27		8,40	8,74	9,32	10,8
1/4-18		11,10	11,36	13,52	15,6
3/8-18		14,30	14,80	13,83	16,0
1/2-14		17,90	18,32	18,07	20,8
3/4-14		23,30	23,67	18,55	21,3

nominal dia.	gear	core hole dia. cylindr. (A)	core hole dia. conical (B)	incision depth ET	drilling depth BT
	per inch	d_1	D_1	mm	min. mm
1-11.5		29,00	29,69	22,29	25,6
1 1/4-11.5		37,70	38,45	22,80	26,1
1 1/2-11.5		43,70	44,52	22,80	26,1
2-11.5		55,60	56,56	23,20	26,5
2 1/2-8		66,30	67,62	31,75	36,3
3-8		82,30	83,52	33,74	38,5

recommended drill diameter for thread forming
metric ISO thread DIN 13

nominal dia.	pitch P	drilling dia.	drilling dia.		core dia. female thread 7H*	
	mm	mm	min. mm	max. mm	min. mm	max. mm
M 1	0,25	0,90	0,89	0,92	0,729	0,819
M 1.2	0,25	1,10	1,09	1,12	0,929	1,019
M 1.4	0,30	1,28	1,27	1,30	1,075	1,181
M 1.6	0,35	1,46	1,45	1,48	1,221	1,346
M 1.7	0,35	1,56	1,55	1,58	1,321	1,446
M 1.8	0,35	1,66	1,65	1,68	1,421	1,546
M 2	0,40	1,85	1,84	1,88	1,567	1,679
M 2.2	0,45	2,00	2,01	2,05	1,713	1,838
M 2.5	0,45	2,30	2,28	2,32	2,013	2,138
M 3	0,50	2,80	2,78	2,85	2,459	2,639
M 3.5	0,60	3,25	3,23	3,30	2,850	3,050
M 4	0,70	3,70	3,68	3,76	3,242	3,466
M 4.5	0,75	4,20				
M 5	0,80	4,65	4,62	4,71	4,134	4,384
M 6	1,00	5,55	5,52	5,62	4,917	5,217
M 7	1,00	6,55	6,52	6,62	5,917	6,217
M 8	1,25	7,40	7,36	7,47	6,647	6,982

* M 2 to M 2.5 core dia. female thread 6H

nominal dia.	pitch P	drilling dia.	drilling dia.		core dia. female thread 7H*	
	mm	mm	min. mm	max. mm	min. mm	max. mm
M 9	1,25	8,40	8,36	8,47	7,647	7,982
M 10	1,50	9,30	9,26	9,38	8,376	8,751
M 11	1,50	10,30	10,26	10,38	9,376	9,751
M 12	1,75	11,20	11,15	11,29	10,106	10,531
M 14	2,00	13,10	13,05	13,20	11,835	12,310
M 16	2,00	15,10	15,05	15,20	13,835	14,310
M 18	2,50	16,90	16,83	17,02	15,294	15,854
M 20	2,50	18,90	18,83	19,02	17,294	17,854
M 22	2,50	20,90	20,83	21,02	19,294	19,854
M 24	3,00	22,70	22,62	22,80	20,752	21,382
M 27	3,00	25,70	25,62	25,80	23,752	24,382
M 30	3,50	28,50	28,40	28,60	26,211	26,921
M 33	3,50	31,50	31,40	31,60	29,211	29,921
M 36	4,00	34,30	34,17	34,40	31,670	32,420
M 39	4,00	37,30	37,17	37,40	34,670	35,420
M 42	4,50	40,10	39,95	40,20	37,129	37,979

recommended drill diameter for thread forming
metric ISO fine thread DIN 13

nominal dia. x pitch P	drilling dia.	drilling dia.		core dia. female thread 7H*	
mm	mm	min. mm	max. mm	min. mm	max. mm
M 2.5 x 0.35	2,35	2,35	2,38	2,121	2,221
M 3 x 0.35	2,85	2,85	2,88	2,621	2,721
M 4 x 0.35	3,85	3,85	3,88	3,621	3,721
M 4 x 0.50	3,80	3,78	3,83	3,459	3,639
M 5 x 0.50	4,80	4,78	4,83	4,459	4,639
M 5.5 x 0.50	5,30	5,28	5,33	4,959	5,139
M 6 x 0.75	5,65	5,62	5,70	5,188	5,424
M 7 x 0.75	6,65	6,62	6,70	6,188	6,424
M 8 x 0.75	7,65	7,62	7,70	7,188	7,424
M 8 x 1.00	7,55	7,52	7,62	6,917	7,217
M 9 x 0.75	8,65	8,62	8,70	8,188	8,424
M 9 x 1.00	8,55	8,52	8,62	7,917	8,217
M 10 x 0.75	9,65	9,62	9,70	9,188	9,424
M 10 x 1.00	9,55	9,52	9,62	8,917	9,217
M 10 x 1.25	9,40	9,36	9,47	8,647	8,982
M 11 x 0.75	10,65	10,62	10,70	10,188	10,424
M 11 x 1.00	10,55	10,52	10,62	9,917	10,217
M 12 x 1.00	11,55	11,52	11,62	10,917	11,217
M 12 x 1.25	11,40	11,36	11,47	10,647	10,982
M 12 x 1.50	11,30	11,26	11,38	10,376	10,751
M 14 x 1.00	13,55	13,52	13,62	12,917	13,217
M 14 x 1.25	13,40	13,36	13,47	12,647	12,982

* M 2.5 x 0.35 to M 4 x 0.35 core dia. female thread 6H

nominal dia.	drilling dia.	drilling dia.		core dia. female thread 7H*	
	mm	min. mm	max. mm	min. mm	max. mm
M 14 x 1.50	13,30	13,26	13,38	12,376	12,751
M 15 x 1.00	14,55	14,52	14,62	13,917	14,217
M 15 x 1.50	14,30	14,26	14,38	13,376	13,751
M 16 x 1.00	15,55	15,52	15,62	14,917	15,217
M 16 x 1.50	15,30	15,26	15,38	14,376	14,751
M 17 x 1.00	16,55	16,52	16,62	15,917	16,217
M 17 x 1.50	16,30	16,26	16,38	15,376	15,751
M 18 x 1.00	17,55	17,52	17,62	16,917	17,217
M 18 x 1.50	17,30	17,26	17,38	16,376	16,751
M 18 x 2.00	17,10	17,05	17,20	15,835	16,310
M 20 x 1.00	19,55	19,52	19,62	18,917	19,217
M 20 x 1.50	19,30	19,26	19,38	18,376	19,751
M 24 x 1.00	23,55	23,52	23,62	22,917	23,217
M 24 x 1.50	23,30	23,26	23,38	22,376	22,751
M 24 x 2.00	23,10	23,05	23,20	21,835	22,310
M 27 x 1.50	26,30	26,26	26,38	25,376	25,751
M 30 x 1.50	29,30	29,26	29,38	28,376	28,751
M 33 x 1.50	32,30	32,26	32,38	31,376	31,751
M 36 x 1.50	35,30	35,26	35,38	34,376	34,751
M 39 x 1.50	38,30	38,26	38,38	37,376	37,751
M 42 x 1.50	41,30	41,26	41,38	42,376	42,751

recommended drill diameter for thread forming
UNC thread ASME B1.1

nominal dia.	gear	drilling dia.	drilling dia.		core dia. female thread 2B	
	per inch	mm	min. mm	max. mm	min. mm	max. mm
No. 1-64		1,68	1,67	1,70	1,425	1,580
No. 2-56		1,98	1,97	2,01	1,694	1,872
No. 3-48		2,28	2,27	2,32	1,941	2,146
No. 4-40		2,55	2,54	2,59	2,157	2,385
No. 5-40		2,90	2,89	2,94	2,487	2,698
No. 6-32		3,15	3,14	3,19	2,642	2,896
No. 8-32		3,80	3,78	3,82	3,302	3,531
No. 10-24		4,35	4,33	4,39	3,683	3,937
No. 12-24		5,00	4,97	5,03	4,343	4,597
1/4-20		5,75	5,72	5,80	4,978	5,258

nominal dia.	gear	drilling dia.	drilling dia.		core dia. female thread 7H*	
	per inch	mm	min. mm	max. mm	min. mm	max. mm
5/16-18		7,30	7,26	7,37	6,401	6,731
3/8-16		8,80	8,77	8,88	7,798	8,153
7/16-14		10,30	10,27	10,37	9,144	9,550
1/2-13		11,80	11,77	11,88	10,592	11,024
9/16-12		13,30	13,28	13,39	11,989	12,446
5/8-11		14,80	14,78	14,90	13,386	13,868
3/4-10		17,90	17,85	17,97	16,307	16,840
7/8-9		21,00	20,95	21,10	19,177	19,761
1-8		24,00	23,95	24,12	21,971	22,606

recommended drill diameter for thread forming
UNF thread ASME B1.1

nominal dia.	gear	drilling dia.	drilling dia.		core dia. female thread 2B	
	per inch	mm	min. mm	max. mm	min. mm	max. mm
No. 1-72		1,68	1,67	1,70	1,425	1,580
No. 2-64		1,98	1,97	2,01	1,694	1,872
No. 3-56		2,28	2,27	2,32	1,941	2,146
No. 4-48		2,55	2,54	2,59	2,157	2,385
No. 5-44		2,90	2,89	2,94	2,487	2,698
No. 6-40		3,15	3,14	3,19	2,642	2,896
No. 8-36		3,80	3,78	3,82	3,302	3,531
No. 10-32		4,35	4,33	4,39	3,683	3,937
No. 12-28		5,00	4,97	5,03	4,343	4,597
1/4-28		5,75	5,72	5,80	4,978	5,258

nominal dia.	gear	drilling dia.	drilling dia.		core dia. female thread 7H*	
	per inch	mm	min. mm	max. mm	min. mm	max. mm
5/16-24		7,30	7,26	7,37	6,401	6,731
3/8-24		8,80	8,77	8,88	7,798	8,153
7/16-20		10,30	10,27	10,37	9,144	9,550
1/2-20		11,80	11,77	11,88	10,592	11,024
9/16-18		13,30	13,28	13,39	11,989	12,446
5/8-18		14,80	14,78	14,90	13,386	13,868
3/4-16		17,90	17,85	17,97	16,307	16,840
7/8-14		21,00	20,95	21,10	19,177	19,761
1-12		24,00	23,95	24,12	21,971	22,606

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Sawing process

Sawing is a process of separation involving circular or linear cutting movements to sever or cut semi-finished products or profile material. The material is cut by the cutting teeth of the saw. The resulting chip material is transported out of the kerf between the gaps in the teeth.

A distinction is made between the following saw types:

Bow saws:

A machine-operated bow saw is driven by a motor and a gear that converts the rotary movement into forward or reverse thrust. The saw blade is driven either hydraulically or mechanically.

Advantages:
- Low purchase price
- Compact machine design
- Easy to use
- Low maintenance intensity

Disadvantages:
- Small diameter range
- Low machining speed

Bandsaws:

A bandsaw is a machine tool with guide and drive rollers on which the saw belt is tensioned and driven.

Advantages:
- High machining speed
- Low purchase price
- Good cutting quality
- Low tool costs
- Very large dimensional range
- Easy to use
- Automation

Disadvantages:
- Large footprint
- Difficult to change tools
- Low machining speed

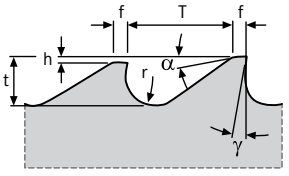
Circular saws:

Advantages:
- High machining speed
- Low purchase price
- Very good cutting quality
- Rapid tool replacement
- Very wide range of dimensions
- Easy to use
- Automation

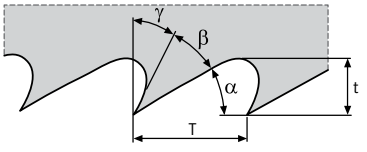
Disadvantages:
- High tool costs
- Low machining speed
- Narrow range of dimensions

Angle and pitch at saw tooth

The size of the angle is defined by the shape of the saw blade. The clearance angle defines the size of the chip space. As the size of the clearance angle increases, so does the size of the chip space.
The lip angle in turn gives the saw tooth stability. Hard and tough materials therefore require a large lip angle. In general, the lip angle is approximately 50°; the clearance and lip angle together are approx. 90°.



Circular saws

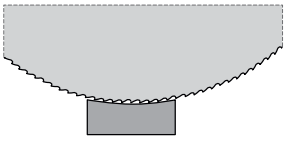


Bandsaws

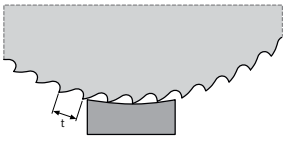
α clearance angle (°)
β lip angle (°)
γ chip angle (°)
T tooth pitch (mm)
t tooth depth (mm)
h height difference (mm)
f clearance angle chamfer (mm)
r curvature radius (mm)

Number of contact teeth on metal circular saws

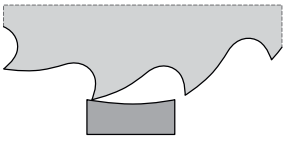
When selecting the number of teeth, it is important that two to three teeth are in use. If too many teeth are in use, the cutting forces are too high and it leads to saw blade breakage. If too few teeth are in use, too much cutting performance is being expected per tooth. The following graphics illustrate the relationship.



Too fine



Correct



Too coarse

Cutting materials on metal circular saws

When separating and cutting slots (grooves), the following cutting materials are used.

HSS

HSS metal circular saws can be used in materials up to 1000 N/mm². This cutting material can also be used in materials up to 1300 N/mm² under certain conditions (increased wear). The cutting material has high bending strength and can be used with unstable machine conditions. The cutting speed is relatively low when machining with this cutting material.

HSSE

Metal circular saws made from HSSE cutting material can be used in materials up to 1300 N/mm². The addition of cobalt allows even difficult materials with high toughness or hardness to be processed. This cutting material has a high flexural strength and can be used in unstable machining conditions. The cutting speed can be slightly increased compared to HSS circular saws.

VHM

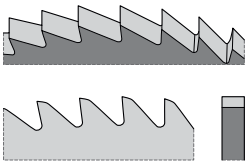
Metal circular saws made of cemented carbide cutting material can be used in all materials. This cutting material allows difficult materials with high toughness or hardness to be processed. The cutting material has a low flexural strength and can only be used in stable machines and clamping conditions. However, the low bending resistance is an advantage in terms of machining accuracy.

Carbide-tipped circular saw blades have a carbide piece soldered onto a steel support. This technology shows its benefits particularly when it comes to machining non-ferrous metals.

Tooth shapes for metal circular saw

When machining with metal circular saw blades, the selection of tooth shape is crucial in the various machining tasks. A distinction is made between the following tooth shapes and their applications:

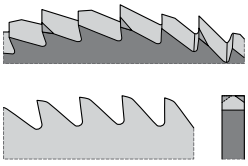
SHAPE A - Metal circular saw blades DIN 1837 A (fine-toothed with angular serration)



Tooth shape A has been developed for working with brittle, short-chipping materials. For this kind of toothing, the chip space is relatively small and can hold only a small volume of chips. The low tooth pitch and low chip volume make the saw blade only suitable for low cutting depths or thin-walled materials.

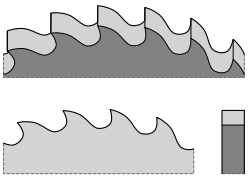
Tooth pitches < 2 are suitable for cutting depths down to 4 mm. With tooth pitch > 2, cutting depths greater than 15 mm depth or cross-section are possible.

SHAPE Aw - Metal circular saw blades DIN 1837 Aw (fine-toothed with alternating toothing)



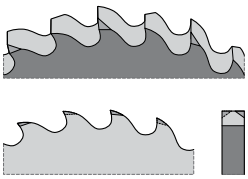
Tooth shape AW has been developed for cutting of thin-walled profiles with low cut depths. With this tooth shape, the chip spaces are relatively small and only a small volume of chips can be accepted.

SHAPE B - Metal circular saw blades DIN 1838 B (coarse-toothed with arc serration)



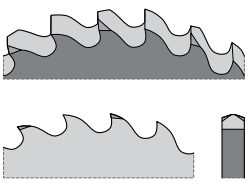
Tooth shape B has been developed for cutting solid material with high cutting depths. For this kind of toothing, the chip space is relatively large and can hold a large volume of chips. It is therefore used universally in numerous applications. The tooth spacing allows 30 % greater chip volume. This tooth shape caters to tough as well as soft materials. Depending on the blade thickness, the tooth pitches range from 3.15 to 12.5 mm. Components with cutting depths and cross-sections up to 100 mm can be sawn.

SHAPE Bw - Metal circular saw blades DIN 1838 Bw (coarse-toothed with alternating toothing)



Tooth shape Bw has been developed for cutting solid material with high cutting depths (applications with cutting depths in excess of 5 % of the saw blade diameter). This tooth shape produces narrower chips and allows the chip material to expand laterally (heat-induced). This tooth shape caters to tough as well as soft materials. The chips are 1/3 narrower and reduce the cutting forces at the tooth base by 30 %. More space is created for the coolant in the area to be cut.

SHAPE C - Metal circular saw blades DIN 1838 C (coarse-toothed with arc serration with pre- and post-cutter = HZ serration)



Tooth shape C is used to separate materials. Owing to its chip-separating tooth shape, it works especially well when machining materials of low to medium strength thanks to high cutting performance.

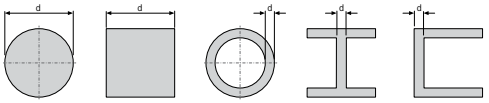
Tooth shape C is best used to produce very deep cuts and with large diameters when cutting workpieces. When producing grooves, a groove is formed in the cut base due to the exaggerated pre-cutter. No straight cut base area is therefore achieved. The taper tap has a 0.1-0.3 mm greater radius than the post-cutting tooth.

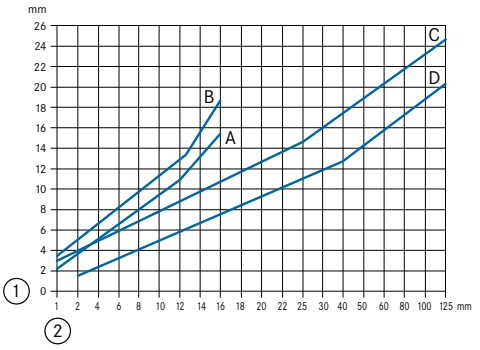
This provides large saw blades with better guidance and therefore greater precision in cutting.

Tooth pitch selection table for machine saw blades

When selecting the tooth pitch, the cross-section of the workpiece to be machined is the key consideration. The following ratio essentially applies: The smaller the cross-section to be machined, the lower the pitch. As a rule of thumb, 2-3 teeth should always be engaged.
The chart illustrates the ratio:

Material	Pipes / Profiles	Solid material
Steel < 800 Nmm²	B	D
Steel 800 to 1200 N/mm²	C	D
Grey cast iron		D
Copper	B	C
Bronze	B	C
Brass, zinc alloys	A	D
Aluminium alloys	B	C





① Pitch in mm ② Cross-section d in mm

ATORN Metal-cutting circular saw blade, finely toothed, shape A, SC (DIN 1837)

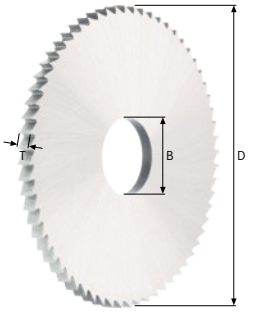
Up to 1,300 N/mm² in thin-walled workpieces and low cutting depths, CNC machines

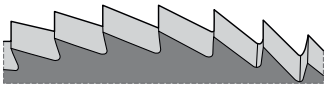
A | VHM

Application:
For making saw cuts in thin-walled workpieces and shallow cutting depths in the material groups of steel, stainless steel, cast iron and non-ferrous metals.

Execution:
- precision-ground metal circular saw blade with tooth shape A, fine-toothed, hollow ground on side

Advantage:
- innovative cutting geometry for very high dimensional accuracy, process reliability and chip removal
- high-quality cutting material for very high service life requirements
- universal use in numerous applications





TYPE A, fine-toothed

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	135	95	45	50	60	600	900	350	350	250	300	300		120	50	50	40		

Cutting material				SC	
Tooth shape				A	
Tolerance of cutting edge Ø				j15	
Tolerance of cutting edge thickness				j11	
Tolerance of hole Ø				H6	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.	
15	0.1	5	64	020	○
15	0.15	5	64	021	○
15	0.2	5	64	022	○
15	0.25	5	64	023	●
15	0.3	5	64	024	●
15	0.35	5	64	025	●
15	0.4	5	64	026	○
15	0.5	5	48	027	○
15	0.6	5	48	028	○
15	0.7	5	48	029	○
15	0.8	5	40	030	○
15	0.9	5	40	031	○
15	1	5	40	032	●
15	1.1	5	40	033	●
15	1.2	5	40	034	●
15	1.3	5	40	035	○
15	1.4	5	40	036	○

Cutting material				SC	
Tooth shape				A	
Tolerance of cutting edge Ø				j15	
Tolerance of cutting edge thickness				j11	
Tolerance of hole Ø				H6	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.	
15	1.5	5	40	037	●
15	1.6	5	40	038	●
15	1.7	5	40	039	○
15	1.8	5	40	040	○
15	1.9	5	40	041	○
15	2	5	40	042	●
15	2.5	5	40	043	○
15	3	5	40	044	○
15	3.5	5	40	045	○
15	4	5	40	046	○
15	4.5	5	40	047	○
15	5	5	40	048	○
15	5.5	5	40	049	○
15	6	5	40	050	○
20	0.1	5	80	051	○
20	0.15	5	80	052	○
20	0.2	5	80	053	●

Cutting material				SC	
Tooth shape				A	
Tolerance of cutting edge Ø				j15	
Tolerance of cutting edge thickness				j11	
Tolerance of hole Ø				H6	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.	
20	0.25	5	64	054	●
20	0.3	5	64	055	●
20	0.35	5	64	056	●
20	0.4	5	64	057	●
20	0.5	5	48	058	●
20	0.6	5	48	059	●
20	0.7	5	48	060	○
20	0.8	5	48	061	●
20	0.9	5	40	062	○
20	1	5	40	063	●
20	1.1	5	40	064	●
20	1.2	5	40	065	●
20	1.3	5	40	066	●
20	1.4	5	40	067	○
20	1.5	5	40	068	●
20	1.6	5	40	069	●
20	1.7	5	40	070	○

Cutting material				SC	
Tooth shape				A	
Tolerance of cutting edge Ø				j15	
Tolerance of cutting edge thickness				j11	
Tolerance of hole Ø				H6	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.	
20	1.8	5	32	071	○
20	1.9	5	32	072	○
20	2	5	32	073	●
20	2.5	5	32	074	●
20	3	5	32	075	●
20	3.5	5	24	076	○
20	4	5	24	077	○
20	4.5	5	24	078	○
20	5	5	24	079	○
20	5.5	5	24	080	○
20	6	5	24	081	○
25	0.1	8	80	082	○
25	0.15	8	80	083	○
25	0.2	8	80	084	●
25	0.25	8	80	085	●
25	0.3	8	80	086	●
25	0.35	8	64	087	○
25	0.4	8	64	088	○
25	0.5	8	64	089	●
25	0.6	8	64	090	●
25	0.7	8	48	091	●
25	0.8	8	48	092	●
25	0.9	8	48	093	○
25	1	8	48	094	●
25	1.1	8	48	095	○
25	1.2	8	48	096	●
25	1.3	8	40	097	○
25	1.4	8	40	098	●
25	1.5	8	40	099	●
25	1.6	8	40	100	●
25	1.7	8	40	101	○
25	1.8	8	40	102	○
25	1.9	8	40	103	○
25	2	8	40	104	●
25	2.5	8	40	105	○
25	3	8	32	106	●
25	3.5	8	32	107	○
25	4	8	32	108	○
25	4.5	8	32	109	○
25	5	8	32	110	○
25	5.5	8	24	111	○
25	6	8	24	112	○
30	0.1	8	100	113	○
30	0.15	8	100	114	○
30	0.2	8	100	115	○
30	0.25	8	100	116	●
30	0.3	8	80	117	●
30	0.35	8	80	118	●
30	0.4	8	80	119	●
30	0.5	8	80	120	●
30	0.6	8	64	121	●
30	0.7	8	64	122	○
30	0.8	8	64	123	●
30	0.9	8	64	124	○
30	1	8	64	125	●
30	1.1	8	64	126	○
30	1.2	8	48	127	●
30	1.3	8	48	128	●
30	1.4	8	48	129	○
30	1.5	8	48	130	●
30	1.6	8	48	131	●
30	1.7	8	48	132	○
30	1.8	8	48	133	○
30	1.9	8	48	134	○
30	2	8	48	135	●
30	2.5	8	40	136	●
30	3	8	40	137	○
30	3.5	8	40	138	○
30	4	8	40	139	○
30	4.5	8	32	140	○
30	5	8	32	141	○
30	5.5	8	32	142	○
30	6	8	32	143	●
40	0.1	10	128	144	○
40	0.15	10	128	145	○
40	0.2	10	128	146	●

Cutting material				SC	
Tooth shape				A	
Tolerance of cutting edge Ø				j15	
Tolerance of cutting edge thickness				j11	
Tolerance of hole Ø				H6	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.	
40	0.25	10	100	147	○
40	0.3	10	100	148	●
40	0.35	10	100	149	○
40	0.4	10	100	150	●
40	0.5	10	80	151	●
40	0.6	10	80	152	●
40	0.7	10	80	153	●
40	0.8	10	80	154	●
40	0.9	10	64	155	●
40	1	10	64	156	●
40	1.1	10	64	157	○
40	1.2	10	64	158	○
40	1.3	10	64	159	○
40	1.4	10	64	160	●
40	1.5	10	64	161	●
40	1.6	10	64	162	●
40	1.7	10	48	163	○
40	1.8	10	48	164	○
40	1.9	10	48	165	○
40	2	10	48	166	●
40	2.5	10	48	167	●
40	3	10	48	168	●
40	3.5	10	48	169	○
40	4	10	40	170	○
40	4.5	10	40	171	○
40	5	10	40	172	○
40	5.5	10	40	173	○
40	6	10	40	174	○
50	0.1	13	128	175	○
50	0.15	13	128	176	○
50	0.2	13	128	177	○
50	0.25	13	128	178	●
50	0.3	13	128	179	●
50	0.35	13	100	180	○
50	0.4	13	100	181	○
50	0.5	13	100	182	●
50	0.6	13	100	183	○
50	0.7	13	80	184	○
50	0.8	13	80	185	●
50	0.9	13	80	186	○
50	1	13	80	187	●
50	1.1	13	80	188	●
50	1.2	13	80	189	●
50	1.3	13	64	190	○
50	1.4	13	64	191	○
50	1.5	13	64	192	●
50	1.6	13	64	193	○
50	1.7	13	64	194	○
50	1.8	13	64	195	○
50	1.9	13	64	196	●
50	2	13	64	197	●
50	2.5	13	64	198	●
50	3	13	48	199	●
50	3.5	13	48	200	○
50	4	13	48	201	●
50	4.5	13	48	202	○
50	5	13	48	203	●
50	5.5	13	40	204	○
50	6	13	40	205	●
63	0.2	16	160	206	○
63	0.25	16	160	207	○
63	0.3	16	128	208	●
63	0.35	16	128	209	○
63	0.4	16	128	210	●
63	0.5	16	128	211	●
63	0.6	16	100	212	●
63	0.7	16	100	213	●
63	0.8	16	100	214	●
63	0.9	16	100	215	○
63	1	16	100	216	●
63	1.1	16	80	217	○
63	1.2	16	80	218	●
63	1.3	16	80	220	○
63	1.4	16	80	221	○
63	1.5	16	80	222	●
63	1.6	16	80	223	●

Cutting material				SC	
Tooth shape				A	
Tolerance of cutting edge Ø				j15	
Tolerance of cutting edge thickness				j11	
Tolerance of hole Ø				H6	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.	
63	1.7	16	80	224	○
63	1.8	16	80	225	○
63	1.9	16	80	226	○
63	2	16	80	227	●
63	2.5	16	64	228	●
63	3	16	64	229	●
63	3.5	16	64	230	●
63	4	16	64	231	●
63	4.5	16	64	232	○
63	5	16	48	233	○
63	5.5	16	48	234	○
63	6	16	48	235	●
80	0.3	22	160	236	○
80	0.35	22	160	237	○
80	0.4	22	160	238	○
80	0.5	22	128	239	○
80	0.6	22	128	240	○
80	0.7	22	128	241	●
80	0.8	22	128	242	○
80	0.9	22	100	243	●
80	1	22	100	244	●
80	1.1	22	100	245	○
80	1.2	22	100	246	●
80	1.3	22	100	247	○
80	1.4	22	100	248	○
80	1.5	22	100	249	●
80	1.6	22	100	250	●
80	1.7	22	80	251	○
80	1.8	22	80	252	○
80	1.9	22	80	253	○
80	2	22	80	254	●
80	2.5	22	80	255	○
80	3	22	80	256	●
80	3.5	22	64	257	○
80	4	22	64	258	●
80	4.5	22	64	259	○
80	5	22	64	260	○
80	5.5	22	64	261	●
80	6	22	64	262	●
100	0.5	22	160	263	●
100	0.6	22	160	264	●
100	0.7	22	128	265	○
100	0.8	22	128	266	●
100	0.9	22	128	267	○
100	1	22	128	268	●
100	1.1	22	128	269	○
100	1.2	22	128	270	○
100	1.3	22	100	271	●
100	1.4	22	100	272	○
100	1.5	22	100	273	●
100	1.6	22	120	274	●
100	1.7	22	100	275	○
100	1.8	22	100	276	○
100	1.9	22	100	277	○
100	2	22	100	278	●
100	2.5	22	100	279	○
100	3	22	80	280	●
100	3.5	22	80	281	●
100	4	22	80	282	●
100	4.5	22	80	283	○
100	5	22	80	284	○
100	5.5	22	64	285	○
100	6	22	64	286	●
125	0.6	22	160	287	●
125	0.7	22	160	288	○
125	0.8	22	160	289	●
125	0.9	22	160	290	○
125	1	22	160	291	●
125	1.1	22	128	292	○
125	1.2	22	128	293	○
125	1.3	22	128	294	○
125	1.4	22	128	295	○
125	1.5	22	128	296	○
125	1.6	22	128	297	●
125	1.7	22	128	298	○
125	1.8	22	128	299	○

Cutting material				SC	
Tooth shape				A	
Tolerance of cutting edge Ø				j15	
Tolerance of cutting edge thickness				j11	
Tolerance of hole Ø				H6	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.	
125	1.9	22	128	300	●
125	2	22	128	301	●
125	2.5	22	100	302	○
125	3	22	100	303	○
125	3.5	22	100	304	○
125	4	22	100	305	○
125	4.5	22	100	306	○
125	5	22	80	307	○
125	5.5	22	80	308	○
125	6	22	80	309	○
150	1	32	150	310	○

Cutting material				SC	
Tooth shape				A	
Tolerance of cutting edge Ø				j15	
Tolerance of cutting edge thickness				j11	
Tolerance of hole Ø				H6	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.	
150	1.2	32	150	311	○
150	1.5	32	150	312	○
150	1.6	32	150	313	○
150	2	32	128	314	○
150	2.5	32	128	315	○
150	3	32	128	316	○
150	4	32	128	317	○
160	1	32	160	318	○
160	1.2	32	160	319	○
160	1.5	32	160	320	○
160	1.6	32	160	321	●

Cutting material				SC	
Tooth shape				A	
Tolerance of cutting edge Ø				j15	
Tolerance of cutting edge thickness				j11	
Tolerance of hole Ø				H6	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.	
160	2	32	128	322	○
160	2.5	32	128	323	○
160	3	32	128	324	○
160	4	32	100	325	○
200	1.5	32	160	326	○
200	1.6	32	160	327	○
200	2	32	160	328	○
200	2.5	32	160	329	○
200	3	32	128	330	○
200	4	32	128	331	○

Prod. Gr. 1QA

ORION® Metal-cutting circular saw blade, finely toothed, shape A, HSS (DIN 1837)

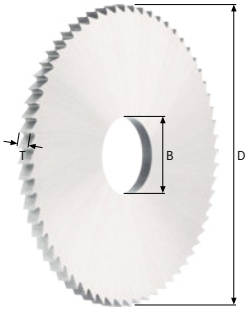
Up to 1,300 N/mm² in thin-walled workpieces and low cutting depths, CNC machines

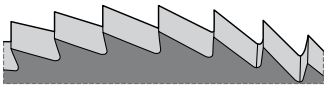
A | HSS

Application:
For making saw cuts in thin-walled workpieces and shallow cutting depths in the material groups of steel, stainless steel, cast iron and non-ferrous metals.

Execution:
- Precision-ground circular metal saw blade with tooth shape A, finely toothed, laterally hollow ground, hole without keyway, up to a diameter of 160 mm without collar, from a diameter of 200 mm with collar

Advantage:
- Innovative cutting geometry ensures very high dimensional accuracy, process reliability and chip removal
- High-quality cutting material for very high service life requirements
- Universal use in numerous applications





TYPE A, fine-toothed

p. 344 p. 355

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	45	35	20	10	10	230	300	120	100	70	80	60		35					

Cutting material				HSS	
Tooth shape				A	
Tolerance of cutting edge Ø				js15	
Tolerance of cutting edge thickness				js11	
Tolerance of hole Ø				H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14002... Ident. No.	
20	0.2	5	80	005	●
20	0.3	5	64	060	●
20	0.4	5	64	095	●
20	0.5	5	48	130	●
20	0.6	5	48	170	●
20	0.8	5	48	215	●
20	1	5	40	260	●
20	1.2	5	40	315	●
20	1.6	5	40	370	●
20	2	5	32	430	●
20	0.25	5	64	702	○
20	0.7	5	48	703	○
20	0.9	5	40	704	○
20	1.7	5	32	706	○
20	2.5	5	32	707	●
20	3	5	32	708	●
20	4	5	24	709	○
20	5	5	24	711	○
20	6	5	24	712	○
25	0.2	8	80	010	●
25	0.3	8	80	065	●
25	0.4	8	64	100	●

Cutting material				HSS	
Tooth shape				A	
Tolerance of cutting edge Ø				js15	
Tolerance of cutting edge thickness				js11	
Tolerance of hole Ø				H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14002... Ident. No.	
25	0.5	8	64	135	●
25	0.6	8	64	175	●
25	0.8	8	48	220	●
25	1	8	48	265	●
25	2	8	40	435	●
25	0.25	8	80	713	●
25	1.2	8	48	714	●
25	1.5	8	40	716	●
25	1.6	8	40	717	●
25	2.5	8	40	718	○
25	3	8	32	719	●
25	4	8	32	721	●
25	5	8	32	722	○
25	6	8	24	723	○
32	0.2	8	100	015	●
32	0.4	8	80	105	●
32	0.5	8	80	140	●
32	0.6	8	64	180	●
32	0.8	8	64	225	●
32	1	8	64	270	●
32	1.2	8	48	325	●
32	1.6	8	48	380	●

Cutting material				HSS	
Tooth shape				A	
Tolerance of cutting edge Ø				js15	
Tolerance of cutting edge thickness				js11	
Tolerance of hole Ø				H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14002... Ident. No.	
32	2	8	48	440	●
32	3	8	40	565	●
32	0.25	8	100	724	○
32	0.3	8	80	725	●
32	0.7	8	64	726	●
32	2.5	8	40	727	●
32	4	8	40	728	○
32	5	8	32	729	○
32	6	8	32	730	○
40	0.2	10	128	020	●
40	0.3	10	100	075	●
40	0.4	10	100	110	●
40	0.5	10	80	145	●
40	0.6	10	80	185	●
40	0.8	10	80	230	●
40	1	10	64	275	●
40	1.2	10	64	330	●
40	1.6	10	64	385	●
40	2	10	48	445	●
40	2.5	10	48	505	●
40	3	10	48	570	●
40	0.25	10	100	731	○

Cutting material				HSS	
Tooth shape				A	
Tolerance of cutting edge Ø				js15	
Tolerance of cutting edge thickness				js11	
Tolerance of hole Ø				H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14002... Ident. No.	
40	0.9	10	64	732	○
40	4	10	40	733	●
40	5	10	40	734	●
40	6	10	40	736	●
50	0.2	13	128	025	●
50	0.3	13	128	080	●
50	0.4	13	100	115	●
50	0.5	13	100	150	●
50	0.6	13	100	190	●
50	0.8	13	80	235	●
50	1	13	80	280	●
50	1.2	13	80	335	●
50	1.6	13	64	390	●
50	2	13	64	450	●
50	2.5	13	64	510	●
50	3	13	48	575	●
50	0.25	13	128	737	○
50	1.5	13	64	738	●
50	4	13	48	739	●
50	5	13	48	740	●
50	6	13	40	741	○
63	0.3	16	128	085	●
63	0.4	16	128	120	●
63	0.5	16	128	155	●
63	0.6	16	100	195	●
63	0.8	16	100	240	●
63	1	16	100	285	●
63	1.2	16	80	340	●
63	1.6	16	80	395	●
63	2	16	80	455	●
63	2.5	16	64	515	●
63	3	16	64	580	●
63	0.25	16	160	742	○
63	4	16	64	743	○
63	5	16	48	744	○

Cutting material				HSS	
Tooth shape				A	
Tolerance of cutting edge Ø				js15	
Tolerance of cutting edge thickness				js11	
Tolerance of hole Ø				H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14002... Ident. No.	
63	6	16	48	745	●
80	0.3	22	160	090	●
80	0.4	22	160	125	●
80	0.5	22	128	160	●
80	0.6	22	128	200	●
80	0.8	22	128	245	●
80	1	22	100	290	●
80	1.2	22	100	345	●
80	1.6	22	100	400	●
80	2	22	80	460	●
80	2.5	22	80	520	●
80	3	22	80	585	●
80	4	22	64	746	●
80	5	22	64	747	●
80	6	22	64	748	●
100	0.5	22	160	165	●
100	0.6	22	160	205	●
100	1	22	128	295	●
100	1.6	22	100	405	●
100	2	22	100	465	●
100	2.5	22	100	525	●
100	3	22	80	590	●
100	0.8	22	128	749	●
100	1.2	22	128	750	●
100	4	22	80	751	●
100	5	22	80	752	●
100	6	22	64	753	●
125	0.6	22	160	210	●
125	0.8	22	160	255	●
125	1	22	160	300	●
125	1.2	22	128	355	●
125	1.6	22	128	410	●
125	2	22	128	470	●
125	2.5	22	100	530	●
125	3	22	100	595	●

Cutting material				HSS	
Tooth shape				A	
Tolerance of cutting edge Ø				js15	
Tolerance of cutting edge thickness				js11	
Tolerance of hole Ø				H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14002... Ident. No.	
125	3.5	22	100	754	●
125	4	22	100	755	●
125	5	22	80	756	●
125	6	22	80	757	●
160	1	32	160	305	●
160	1.6	32	160	415	●
160	2	32	128	475	●
160	3	32	128	600	●
160	1.2	32	160	758	●
160	2.5	32	128	759	●
160	4	32	100	760	○
160	5	32	100	761	○
160	6	32	100	762	●
200	1	32	200	310	●
200	1.6	32	160	420	●
200	2	32	160	480	●
200	1.2	32	200	763	○
200	2.5	32	160	764	○
200	3	32	128	765	●
200	4	32	128	766	○
200	5	32	128	767	●
200	6	32	100	768	○
250	1.6	32	200	769	○
250	2	32	200	770	●
250	2.5	32	160	771	○
250	3	32	160	772	○
250	4	32	160	773	●
250	5	32	128	774	●
250	6	32	128	775	○
315	2.5	40	200	776	●
315	3	40	200	777	○
315	4	40	160	778	●
315	5	40	160	779	○
315	6	40	160	781	○

Prod. Gr. 1QK

ATORN ORION® Coarse-toothed metal-cutting circular saw blade, shape B (DIN 1838)

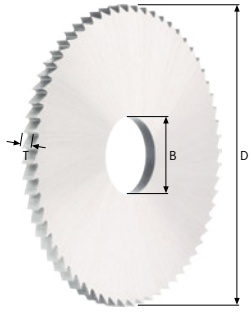
Up to 1,300 N/mm² large cross sections and cutting depths, on CNC machines

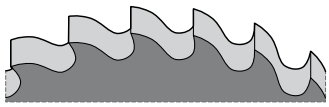
B | HSS | VHM

Application:
For making saw cuts in large cross-sections and for medium to deep cutting depths in the material groups of steel, (stainless steel), cast iron and (non-ferrous metals).

Execution:
- **No. 14004:** precision-ground metal circular saw blade with tooth type B, coarse serrated, laterally hollow ground and hole without keyway
- **No. 14020:** precision-ground metal circular saw blade with tooth shape B, fine-toothed, hollow ground on side

Advantage:
- innovative cutting geometry with large chip space ensures chip removal and universal application
- **No. 14004:**
  - top-quality cutting material for extremely demanding requirements in terms of service life
  - universal use for a multitude of applications
- **No. 14020:**
  - high-quality cutting material for very high service life requirements
  - universal use in numerous applications





TYPE B, coarse-toothed

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
14004	45	35	20	10	10	230	300	120	100	70	80	60		35					
14020332-628	135	95	45	50	60	600	900	350	350	250	300	300		120	50	50	40		

				ATORN		ORION	
			Cutting material	SC		HSS	
			Tooth shape	B		B	
			Tolerance of cutting edge Ø	j15		js15	
			Tolerance of cutting edge thickness	j11		js11	
			Tolerance of hole Ø	H6		H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.		14004... Ident. No.	
15	0.2	5	20	332	○	-	-
15	0.25	5	20	333	○	-	-
15	0.3	5	20	334	○	-	-
15	0.35	5	20	335	●	-	-
15	0.4	5	20	336	○	-	-
15	0.5	5	20	337	●	-	-
15	0.6	5	20	338	○	-	-
15	0.7	5	20	339	○	-	-
15	0.8	5	20	340	○	-	-
15	0.9	5	20	341	●	-	-
15	1	5	20	342	○	-	-
15	1.1	5	20	343	○	-	-
15	1.2	5	20	344	●	-	-
15	1.3	5	20	345	○	-	-
15	1.4	5	20	346	○	-	-
15	1.5	5	20	347	●	-	-
15	1.6	5	20	348	●	-	-
15	1.7	5	20	349	○	-	-
15	1.8	5	20	350	○	-	-
15	1.9	5	20	351	○	-	-
15	2	5	20	352	○	-	-
15	2.5	5	20	353	○	-	-
15	3	5	20	354	●	-	-
15	3.5	5	20	355	○	-	-
15	4	5	20	356	○	-	-
15	4.5	5	20	357	○	-	-
15	5	5	20	358	○	-	-
15	5.5	5	20	359	○	-	-
15	6	5	20	360	○	-	-
20	0.2	5	20	361	○	-	-
20	0.25	5	20	362	●	-	-
20	0.3	5	20	363	●	-	-
20	0.35	5	20	364	●	-	-
20	0.4	5	20	365	○	-	-
20	0.5	5	20	366	●	-	-
20	0.6	5	20	367	●	-	-
20	0.7	5	20	368	●	-	-
20	0.8	5	20	369	○	-	-
20	0.9	5	20	370	○	-	-
20	1	5	20	371	●	-	-
20	1.1	5	20	372	○	-	-
20	1.2	5	20	373	○	-	-
20	1.3	5	20	374	○	-	-
20	1.4	5	20	375	○	-	-
20	1.5	5	20	376	●	-	-
20	1.6	5	20	377	○	-	-
20	1.7	5	20	378	○	-	-
20	1.8	5	20	379	○	-	-
20	1.9	5	20	380	○	-	-
20	2	5	20	381	●	-	-
20	2.5	5	20	382	○	-	-
20	3	5	20	383	○	-	-
20	3.5	5	20	384	○	-	-
20	4	5	20	385	○	-	-
20	4.5	5	20	386	○	-	-
20	5	5	20	387	○	-	-
20	5.5	5	20	388	○	-	-
20	6	5	20	389	○	-	-
25	0.2	8	20	390	○	-	-
25	0.25	8	20	391	○	-	-
25	0.3	8	20	392	●	-	-
25	0.35	8	20	393	●	-	-
25	0.4	8	20	394	○	-	-
25	0.5	8	20	395	●	-	-
25	0.6	8	20	396	●	-	-
25	0.7	8	20	397	●	-	-
25	0.8	8	20	398	○	-	-
25	0.9	8	20	399	○	-	-
25	1	8	20	400	●	-	-
25	1.1	8	20	401	○	-	-
25	1.2	8	20	402	○	-	-
25	1.3	8	20	403	●	-	-
25	1.4	8	20	404	○	-	-

				ATORN		ORION	
			Cutting material	SC		HSS	
			Tooth shape	B		B	
			Tolerance of cutting edge Ø	j15		js15	
			Tolerance of cutting edge thickness	j11		js11	
			Tolerance of hole Ø	H6		H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.		14004... Ident. No.	
25	1.5	8	20	405	●	-	-
25	1.6	8	20	406	●	-	-
25	1.7	8	20	407	○	-	-
25	1.8	8	20	408	●	-	-
25	1.9	8	20	409	●	-	-
25	2	8	20	410	●	-	-
25	2.5	8	20	411	○	-	-
25	3	8	20	412	●	-	-
25	3.5	8	20	413	○	-	-
25	4	8	20	414	○	-	-
25	4.5	8	20	415	○	-	-
25	5	8	20	416	○	-	-
25	5.5	8	20	417	○	-	-
25	6	8	20	418	○	-	-
30	0.2	8	30	419	○	-	-
30	0.25	8	30	420	○	-	-
30	0.3	8	30	421	●	-	-
30	0.35	8	30	422	○	-	-
30	0.4	8	30	423	○	-	-
30	0.5	8	30	424	●	-	-
30	0.6	8	30	425	●	-	-
30	0.7	8	30	426	○	-	-
30	0.8	8	24	427	○	-	-
30	0.9	8	24	428	○	-	-
30	1	8	24	429	●	-	-
30	1.1	8	24	430	○	-	-
30	1.2	8	24	431	●	-	-
30	1.3	8	24	432	●	-	-
30	1.4	8	24	433	○	-	-
30	1.5	8	24	434	●	-	-
30	1.6	8	24	435	○	-	-
30	1.7	8	24	436	○	-	-
30	1.8	8	24	437	○	-	-
30	1.9	8	24	438	○	-	-
30	2	8	24	439	●	-	-
30	2.5	8	24	440	●	-	-
30	3	8	24	441	●	-	-
30	3.5	8	24	442	○	-	-
30	4	8	24	443	○	-	-
30	4.5	8	24	444	○	-	-
30	5	8	24	445	○	-	-
30	5.5	8	24	446	○	-	-
30	6	8	24	447	●	-	-
40	0.2	10	40	448	○	-	-
40	0.25	10	40	449	○	-	-
40	0.3	10	40	450	○	-	-
40	0.35	10	40	451	○	-	-
40	0.4	10	40	452	○	-	-
40	0.5	10	40	453	●	-	-
40	0.6	10	40	454	●	-	-
40	0.7	10	40	455	○	-	-
40	0.8	10	32	456	●	-	-
40	0.9	10	32	457	●	-	-
40	1	10	32	458	●	-	-
40	1.1	10	32	459	○	-	-
40	1.2	10	32	460	○	-	-
40	1.3	10	32	461	●	-	-
40	1.4	10	32	462	●	-	-
40	1.5	10	32	463	●	-	-
40	1.6	10	32	464	○	-	-
40	1.7	10	32	465	○	-	-
40	1.8	10	32	466	○	-	-
40	1.9	10	32	467	○	-	-
40	2	10	32	468	●	-	-
40	2.5	10	32	469	●	-	-
40	3	10	32	470	●	-	-
40	3.5	10	32	471	●	-	-
40	4	10	32	472	○	-	-
40	4.5	10	32	473	○	-	-
40	5	10	32	474	○	-	-
40	5.5	10	32	475	○	-	-
40	6	10	32	476	○	-	-
50	0.5	13	48	482	●	150	●

				ATORN		ORION	
			Cutting material	SC		HSS	
			Tooth shape	B		B	
			Tolerance of cutting edge Ø	j15		js15	
			Tolerance of cutting edge thickness	j11		js11	
			Tolerance of hole Ø	H6		H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.		14004... Ident. No.	
50	0.6	13	48	483	●	190	●
50	0.8	13	40	485	○	235	○
50	1	13	40	487	●	280	●
50	1.2	13	40	489	●	335	●
50	1.6	13	32	493	●	390	●
50	3	13	32	-	-	575	○
50	1.5	13	32	492	●	601	●
50	2	13	32	497	●	602	●
50	2.5	13	32	498	●	603	●
50	4	13	24	501	●	604	○
50	5	13	24	503	○	606	○
50	6	13	20	505	○	607	○
50	0.2	13	48	477	●	-	-
50	0.25	13	48	478	○	-	-
50	0.3	13	48	479	○	-	-
50	0.35	13	48	480	○	-	-
50	0.4	13	48	481	●	-	-
50	0.7	13	40	484	●	-	-
50	0.9	13	40	486	○	-	-
50	1.1	13	40	488	○	-	-
50	1.3	13	32	490	●	-	-
50	1.4	13	32	491	○	-	-
50	1.7	13	32	494	○	-	-
50	1.8	13	32	495	○	-	-
50	1.9	13	32	496	○	-	-
50	3	13	24	499	●	-	-
50	3.5	13	24	500	○	-	-
50	4.5	13	24	502	○	-	-
50	5.5	13	20	504	○	-	-
63	0.5	16	64	509	●	155	●
63	0.6	16	48	510	●	195	●
63	0.8	16	48	512	●	240	●
63	1	16	48	514	●	285	●
63	1.2	16	40	516	●	340	●
63	1.6	16	40	520	○	395	●
63	2	16	40	524	●	455	●
63	3	16	32	526	●	580	●
63	2.5	16	32	525	●	608	○
63	4	16	32	528	○	609	○
63	5	16	24	530	○	611	●
63	6	16	24	532	○	612	●
63	0.3	16	64	506	●	-	-
63	0.35	16	64	507	●	-	-
63	0.4	16	64	508	●	-	-
63	0.7	16	48	511	○	-	-
63	0.9	16	48	513	●	-	-
63	1.1	16	40	515	○	-	-
63	1.3	16	40	517	○	-	-
63	1.4	16	40	518	●	-	-
63	1.5	16	40	519	●	-	-
63	1.7	16	40	521	○	-	-
63	1.8	16	40	522	○	-	-
63	1.9	16	40	523	○	-	-
63	3.5	16	32	527	●	-	-
63	4.5	16	32	529	●	-	-
63	5.5	16	24	531	○	-	-
80	0.5	22	64	536	●	160	●
80	0.6	22	64	537	○	200	○
80	0.8	22	64	539	○	245	●
80	1	22	48	541	●	290	●
80	1.6	22	48	547	●	400	●
80	3	22	40	553	●	585	●
80	1.2	22	48	543	●	613	●
80	2	22	40	551	●	614	●
80	2.5	22	40	552	●	615	●
80	4	22	32	555	○	616	●
80	5	22	32	557	○	617	○
80	6	22	32	559	○	618	●
80	0.3	22	64	533	○	-	-
80	0.35	22	64	534	○	-	-
80	0.4	22	64	535	●	-	-
80	0.7	22	64	538	○	-	-
80	0.9	22	48	540	○	-	-

				ATORN		ORION	
			Cutting material	SC		HSS	
			Tooth shape	B		B	
			Tolerance of cutting edge Ø	j15		js15	
			Tolerance of cutting edge thickness	j11		js11	
			Tolerance of hole Ø	H6		H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.		14004... Ident. No.	
80	1.1	22	48	542	●	-	-
80	1.3	22	48	544	●	-	-
80	1.4	22	48	545	○	-	-
80	1.5	22	48	546	●	-	-
80	1.7	22	40	548	○	-	-
80	1.8	22	40	549	●	-	-
80	1.9	22	40	550	○	-	-
80	3.5	22	32	554	○	-	-
80	4.5	22	32	556	○	-	-
80	5.5	22	32	558	○	-	-
100	0.6	22	80	561	●	205	○
100	0.8	22	64	563	○	250	●
100	1	22	64	565	●	295	●
100	1.2	22	64	567	○	350	●
100	1.6	22	48	571	●	405	●
100	2	22	48	575	●	465	●
100	2.5	22	48	576	●	525	●
100	3	22	40	577	●	590	●
100	0.5	22	80	560	●	619	●
100	4	22	40	579	○	620	○
100	5	22	40	581	○	621	●
100	6	22	32	583	○	622	●
100	0.7	22	80	562	●	-	-
100	0.9	22	64	564	○	-	-
100	1.1	22	64	566	●	-	-
100	1.3	22	48	568	○	-	-
100	1.4	22	48	569	○	-	-
100	1.5	22	48	570	●	-	-
100	1.7	22	48	572	○	-	-
100	1.8	22	48	573	○	-	-
100	1.9	22	48	574	○	-	-
100	3.5	22	40	578	●	-	-
100	4.5	22	40	580	○	-	-
100	5.5	22	32	582	○	-	-
125	1	22	80	588	●	300	●
125	1.2	22	64	590	○	355	●
125	1.6	22	64	594	●	410	●
125	2	22	64	598	●	470	●
125	2.5	22	48	599	●	530	●
125	0.6	22	80	584	○	623	●
125	0.8	22	80	586	○	624	○
125	3	22	48	600	○	625	○
125	3.5	22	48	601	●	626	●
125	4	22	48	602	○	627	●
125	5	22	40	604	○	628	○
125	6	22	40	606	○	629	○
125	0.7	22	80	585	○	-	-
125	0.9	22	80	587	○	-	-
125	1.1	22	64	589	●	-	-
125	1.3	22	64	591	●	-	-
125	1.4	22	64	592	○	-	-
125	1.5	22	64	593	○	-	-
125	1.7	22	64	595	○	-	-
125	1.8	22	64	596	○	-	-
125	1.9	22	64	597	○	-	-
125	4.5	22	40	603	○	-	-
125	5.5	22	40	605	○	-	-
150	1	32	80	607	○	-	-
150	1.2	32	80	608	○	-	-
150	1.5	32	80	609	○	-	-
150	1.6	32	80	610	○	-	-
150	2	32	64	611	○	-	-
150	2.5	32	64	612	○	-	-
150	3	32	64	613	○	-	-
150	4	32	48	614	○	-	-
160	1	32	80	615	○	305	●
160	1.6	32	80	618	●	415	●
160	2.5	32	64	620	○	535	○
160	3	32	64	621	●	600	●
160	1.2	32	80	616	○	630	●
160	2	32	64	619	○	631	●
160	4	32	48	622	○	632	○
160	5	32	48	-	-	633	○

				ATORN		ORION	
Cutting material				SC		HSS	
Tooth shape				B		B	
Tolerance of cutting edge Ø				j15		js15	
Tolerance of cutting edge thickness				j11		js11	
Tolerance of hole Ø				H6		H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.		14004... Ident. No.	
160	6	32	48	-	-	634	○
160	1.5	32	80	617	○	-	-
200	1	32	100	-	-	635	●
200	1.2	32	100	-	-	636	●
200	1.6	32	80	624	○	637	○
200	2	32	80	625	○	638	●
200	2.5	32	80	626	○	639	●
200	3	32	64	627	○	640	●
200	4	32	64	628	○	641	○
200	5	32	64	-	-	642	○
200	6	32	48	-	-	643	○
200	1.5	32	80	623	○	-	-

				ATORN		ORION	
Cutting material				SC		HSS	
Tooth shape				B		B	
Tolerance of cutting edge Ø				j15		js15	
Tolerance of cutting edge thickness				j11		js11	
Tolerance of hole Ø				H6		H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14020... Ident. No.		14004... Ident. No.	
250	1.6	32	100	-	-	644	○
250	2	32	100	-	-	646	●
250	2.5	32	80	-	-	647	●
250	3	32	80	-	-	648	○
250	4	32	80	-	-	649	○
250	5	32	64	-	-	651	○
250	6	32	64	-	-	652	○
315	2.5	40	100	-	-	653	●
315	3	40	100	-	-	654	○
315	4	40	80	-	-	656	○
315	5	40	80	-	-	657	○
315	6	40	80	-	-	658	○

ATORN = Prod. Gr. 1QA
ORION = Prod. Gr. 1QK

ORION HSS metal-cutting circular saw blade, coarse-toothed with taper tap and third tap, shape C (DIN 1838)

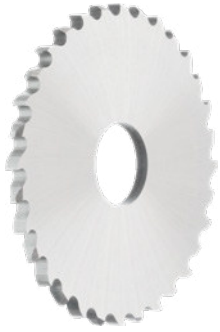
Up to 1,000 N/mm² large cross sections and cutting depths

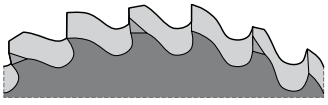
c | HSS

Application:
For creating separation cuts in medium to large cutting depths in the material groups of steel, (stainless steel), cast iron and (non-ferrous metals) up to a strength of 1000 N/mm².

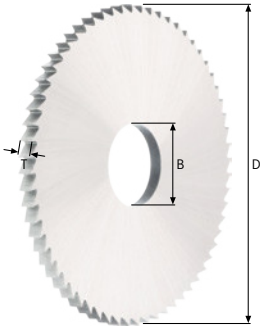
Execution:
- precision-ground metal circular saw blade with tooth type B, coarse serrated with taper tap and third tap, laterally hollow-ground, hole without keyway

Advantage:
- innovative cutting geometry with large chip space plus taper tap and third tap ensures cutting distribution and increases cutting performance
- top-quality cutting material for extremely demanding requirements in terms of service life
- universal use for a multitude of applications





Shape C, coarse-toothed with curved teeth with pre- and post-cutter



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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	45	35	20	10	10	230	300	120	100	70	80	60		35					

				HSS	
Cutting material					
Tooth shape				C	
Tolerance of cutting edge Ø				js15	
Tolerance of cutting edge thickness				js11	
Tolerance of hole Ø				H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14008... Ident. No.	
50	2	13	32	450	●
50	2.5	13	32	510	○
50	1	13	40	611	○
50	1.2	13	40	612	●
50	1.6	13	32	613	○
50	3	13	24	614	○
50	4	13	24	615	○
50	5	13	24	616	○
50	6	13	20	617	○
63	1	16	48	285	●
63	1.6	16	40	395	●

				HSS	
Cutting material					
Tooth shape				C	
Tolerance of cutting edge Ø				js15	
Tolerance of cutting edge thickness				js11	
Tolerance of hole Ø				H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14008... Ident. No.	
63	2	16	40	455	●
63	2.5	16	32	515	●
63	3	16	32	580	○
63	1.2	16	40	618	○
63	4	16	32	619	●
63	5	16	24	620	●
63	6	16	24	621	○
80	1	22	48	290	●
80	1.2	22	48	345	●
80	1.6	22	48	400	●
80	2	22	40	460	●

				HSS	
Cutting material					
Tooth shape				C	
Tolerance of cutting edge Ø				js15	
Tolerance of cutting edge thickness				js11	
Tolerance of hole Ø				H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14008... Ident. No.	
80	3	22	40	585	●
80	2.5	22	40	622	●
80	4	22	32	623	○
80	5	22	32	624	●
80	6	22	32	625	●
100	1	22	64	295	●
100	1.2	22	64	350	●
100	1.6	22	48	405	●
100	2	22	48	465	●
100	3	22	40	590	●
100	2.5	22	48	626	○

Cutting material				HSS	
Tooth shape				C	
Tolerance of cutting edge Ø				js15	
Tolerance of cutting edge thickness				js11	
Tolerance of hole Ø				H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14008... Ident. No.	
100	4	22	40	627	○
100	5	22	40	628	○
100	6	22	32	629	○
125	1.2	22	64	355	○
125	1.6	22	64	410	●
125	2	22	64	470	●
125	3	22	48	595	●
125	1	22	80	630	●
125	2.5	22	48	631	●
125	4	22	48	632	○
125	5	22	40	633	○
125	6	22	40	634	○
160	2	32	64	475	●
160	3	32	64	600	●

Cutting material				HSS	
Tooth shape				C	
Tolerance of cutting edge Ø				js15	
Tolerance of cutting edge thickness				js11	
Tolerance of hole Ø				H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14008... Ident. No.	
160	1	32	80	635	○
160	1.2	32	80	636	○
160	1.6	32	80	637	○
160	2.5	32	64	638	●
160	4	32	48	639	○
160	5	32	48	640	○
160	6	32	48	641	○
200	2	32	80	480	●
200	2.5	32	80	540	●
200	3	32	64	605	●
200	1	32	100	642	○
200	1.2	32	100	643	○
200	1.6	32	80	644	●
200	4	32	64	646	○

Cutting material				HSS	
Tooth shape				C	
Tolerance of cutting edge Ø				js15	
Tolerance of cutting edge thickness				js11	
Tolerance of hole Ø				H7	
D (mm)	T (mm)	B (mm)	Z (PCS)	14008... Ident. No.	
200	5	32	64	647	○
200	6	32	48	648	○
250	1.6	32	100	649	○
250	2	32	100	651	○
250	2.5	32	80	652	○
250	3	32	80	653	●
250	4	32	80	654	●
250	5	32	64	656	○
250	6	32	64	657	●
315	2.5	40	100	658	○
315	3	40	100	659	○
315	4	40	80	661	○
315	5	40	80	662	○
315	6	40	80	663	○

Prod. Gr. 1QK

ATORN Carbide-tipped circular saw blades

For use in non-ferrous metals

HM

Application:

No. 14009: For separation cuts, mitre cutting, trimming and longitudinal cuts in aluminium, CuZN, plastics and profiles on high-speed machines, whether fed horizontally or from underneath.

No. 14011: For separation cuts, mitre cutting, trimming and longitudinal cuts in aluminium, CuZN, plastics in thin-walled profiles on high-speed machines, fed from above.

Execution:

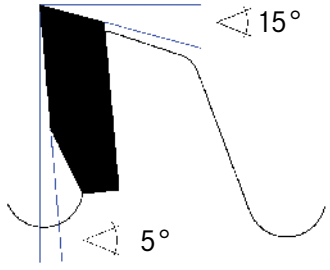
- **No. 14009:** circular saw blade with trapezoid carbide inserts with positive 5° chip angle, taper tap and third tap, free-cutting
- **No. 14011:** circular saw blade with trapezoid carbide plates with negative 6° chip angle, taper tap and third tap, free-cutting

Advantage:

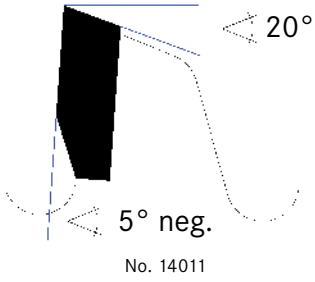
- innovative cutting geometry with large chip space plus taper tap and third tap ensures cutting distribution and increases cutting performance
- top-quality cemented carbide for extremely demanding requirements in terms of service life
- **No. 14009:** special geometry ensures smooth and burr-free cuts

No. 14009

No. 14011



No. 14009



No. 14011

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						800	400	450	350	300	200	400							

						Cutting edge geometry		Positive		Negative	
Cutting edge Ø (mm)	Bore Ø (mm)	Teeth type	Thickness of cutting edge (mm)	Teeth spacing (mm)	Side holes	Z (PCS)	Type	14009... Ident. No.		14011... Ident. No.	
250	30	Fine	3.2	9.8	2/10/60 | 2/11/63 | 2/12/64 | 2/7/42	80	-	010	●	210	●
250	32	Fine	3.2	9.8	2/10/60 | 2/11/63 | 2/12/64	80	Kaltenbach | Berg and Schmid	020	●	220	●
250	40	Medium	3.2	13.1	2/9/55 | 4/12/64	60	Eisele | Trennjäger | Häberle	030	●	-	-
300	30	Fine	3.2	9.8	2/10/60 | 2/11/63 | 2/12/64	96	-	040	●	240	●
350	30	Fine	3.2	9.8	2/10/60 | 2/11/63 | 2/12/64	108	-	-	-	250	●
350	40	Medium	3.2	13.1	2/9/55 | 4/12/64	84	Eisele | Trennjäger | Häberle	060	●	260	●
400	30	Medium	3.2	11.6	2/10/60 | 2/11/63 | 2/12/64	108	-	-	-	270	●

Prod. Gr. 1QA

ORION® Metal-cutting circular saw blades with secondary pinholes HSS/HSSE

For cutting on sawing machines

C | HSS | HSSE Co5

Application:

Ident. No. 050, 080, 110, 230, 290, 310: For creating saw cuts on low-speed machines such as Eisele, Trennjäger and other brands.

Ident. No. 060–070, 090, 120, 240–250, 300, 410–510: for creating saw cuts on low-speed machines such as Eisele, Trennjäger and other brands.

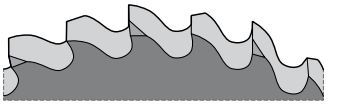
Execution:

- precision-ground metal circular saw blade with Bw tooth type (curved tooth = alternate bevel) and C tooth type (with taper tap and third tap)

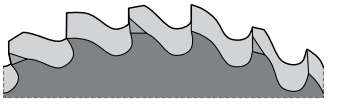
Advantage:

- innovative cutting geometry for cutting solid material with high cutting depths
- steam-treated protects against metal welding
- **Ident. No. 050, 080, 110, 230, 290, 310–410, 430–510:** short narrow swarf is created
- **Ident. No. 060–070, 090, 120, 240–250, 300, 420:** cut distribution enables high cutting performance

Ident. No. 050, 080, 110, 230, 290, 310



SHAPE Bw coarse-toothed with alternate top bevel



Shape C, coarse-toothed with curved teeth with pre- and post-cutter

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Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
14015	45	35	20	20	18	230	300	45	45	40	40	60		35					

						Cutting material	HSS		HSSE Co5	
D (mm)	Bore Ø (mm)	Thickness of cutting edge (mm)	Teeth spacing (mm)	Tooth shape	Side holes	Number of teeth	14015... Ident. No.		14015... Ident. No.	
225	32	2	4	BW	2/8/45 | 2/9/50 | 2/11/63	180	050	●	-	-
225	32	2	6	C	2/8/45 | 2/9/50 | 2/11/63	120	060	●	-	-
225	32	2	8	C	2/8/45 | 2/9/50 | 2/11/63	90	070	●	-	-
225	40	2	4	BW	2/8/55 | 4/12/64	180	080	●	-	-
225	40	2	6	C	2/8/55 | 4/12/64	120	090	●	-	-
250	40	2	4	BW	2/8/55 | 4/12/64	200	110	●	410	●
250	40	2	6	C	2/8/55 | 4/12/64	128	120	●	420	●
315	40	3	4	BW	2/8/55 | 4/12/64	220	230	●	430	●
315	40	3	6	C	2/8/55 | 4/12/64	160	240	●	440	●
315	40	3	8	C	2/8/55 | 4/12/64	120	250	●	450	●
350	40	3	5	BW	2/8/55 | 4/12/64	220	290	●	490	●
350	40	3	9	C	2/8/55 | 4/12/64	120	300	●	500	●
350	40	3	4	BW	2/8/55 | 4/12/64	280	310	●	510	●

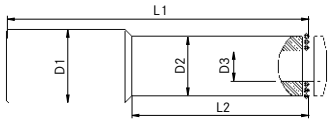
Prod. Gr. 1QK

ORION® Mount for metal-cutting circular saws

Application:
For holding metal circular saw blades 14002-14008 and 16385.

Execution:
- precision-engineered clamp HSSE with 64 HRC, concentricity tolerance = 0.01 mm, straight shank and clamping surface as per DIN 1835 B

Advantage:
- top-quality substrate with high-quality finish for precise work



Suitable for sawblade Ø (mm)	L1 (mm)	L2 (mm)	D2 (mm)	D3 (mm)	D1 (mm)	14010... Ident. No.	
20	90	30	10	5	20	022	●
25	100	42	13	8	20	027	●
32	105	53	16	8	20	034	●
40	110	60	20	10	20	042	●
50	136	77	24.5	13	25	052	●
63	136	77	24.5	16	25	065	●

Prod. Gr. 1QK

ORION® Clamp set for metal-cutting circular saws

Application:
For holding metal circular saw blades 14002-14008 and 16385.

Execution:
- precision-engineered clamp set HSSE with 64 HRC, concentricity tolerance = 0.01 mm, straight shank and clamping surface as per DIN 1835, available for saw blade clamp diameters of 20/25/32/40/50/63, clamping screws and clamping discs

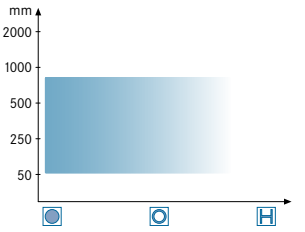
Advantage:
- top-quality substrate with high-quality finish for precise work

14010...	Ident. No.	900 ●

Prod. Gr. 1QK

Basic bandsaw blades for workshop and production saws for universal use
Entry-level blades with excellent value for money

For cutting solid material and profiles with a large cross-section with medium to large dimensions in the workshop and production environment. Bandsaw blades with positive chip angle and medium to coarse tooth pitch in basic quality with excellent value for money.



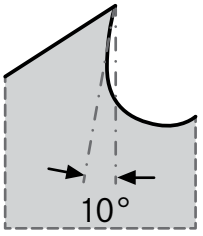
ATORN Bandsaw blades, bimetal, product sold by metre, type PRIMAR® and UNI MAX Basic 10°

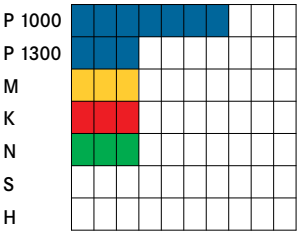
UNI application - 1,300 N/mm² solid material profile

Application:
Cutting of solid material, beams and profiles with medium cross-sections in steel, stainless steel, cast iron and non-ferrous metals.

Advantage:
- Positive tooth geometry ensures a soft cut with a long service life on production bandsaws.
- Basic quality with an excellent price/performance ratio.

Notes:
Please quote in the order:
- Order number of the bandsaw blade and welding seam (“bandsaw blade welding service”)
- The length of the blade in millimetres (mm)
- Minimum order quantity 5 pieces





Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20	100	100	65	65	40	40			60					

			Bandsaw blades, bimetal, product sold by metre, type PRIMAR® and UNI MAX Basic 10°		ATORN welding service	
		Cutting material	HSS M42			
		Type	UNI MAX 10° Basic			
Width x thickness	mm	Teeth per inch	mm	14053... Ident. No.		14054... Ident. No.	
20 x 0.9 mm	25-70 mm	4/6	3-30 mm	004	○	004	○
27 x 0.9 mm	50-150 mm	3/4	5-50 mm	009	○	009	○
27 x 0.9 mm	25-70 mm	4/6	3-30 mm	010	○	010	○
34 x 1.1 mm	120-250 mm	2/3	8-150 mm	015	○	015	○
34 x 1.1 mm	50-150 mm	3/4	5-50 mm	016	○	016	○
34 x 1.1 mm	25-70 mm	4/6	3-30 mm	017	○	017	○
41 x 1.3 mm	120-250 mm	2/3	8-150 mm	021	○	021	○
41 x 1.3 mm	50-150 mm	3/4	5-50 mm	022	○	022	○
41 x 1.3 mm	25-70 mm	4/6	3-30 mm	023	○	023	○
54 x 1.6 mm	350-800 mm	1,0/1,4	100-300 mm	027	○	027	○
54 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	028	○	028	○
54 x 1.6 mm	120-250 mm	2/3	8-150 mm	029	○	029	○
54 x 1.6 mm	50-150 mm	3/4	5-50 mm	030	○	030	○

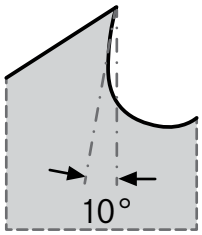
Prod. Gr. 1DJ

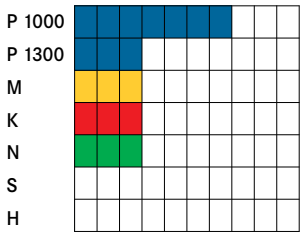
Bandsaw blades, bimetal, product sold by metre, type PRIMAR® and UNI MAX Basic 10°

UNI application - 1,300 N/mm² solid material profile

Application:
Cutting of solid material, beams and profiles with medium cross-sections in steel, stainless steel, cast iron and non-ferrous metals.

Advantage:
- Positive tooth geometry ensures a soft cut with a long service life on production bandsaws.
- Basic quality with excellent value for money.





Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20	100	100	65	65	40	40			60					

				Bandsaw blades, bimetal, product sold by metre, type PRIMAR® and UNI MAX Basic 10°		ATORN welding service	
				WIKUS			
			Cutting material	HSS M42			
			Type	PRIMAR® M42			
Width x thickness	mm	Teeth per inch	mm	14047... Ident. No.		14052... Ident. No.	
6 x 0.9 mm	50-80 mm	6	4-50 mm	108	○	108	○
10 x 0.9 mm	3-8 mm	4	1.5-4 mm	110	○	110	○
10 x 0.9 mm	50-80 mm	6	4-50 mm	111	○	111	○
13 x 0.5 mm	50-120 mm	14	5-30 mm	112	○	112	○
20 x 0.9 mm	25-70 mm	4/6	3-30 mm	120	○	120	○
27 x 0.9 mm	25-70 mm	4/6	3-30 mm	125	○	125	○
27 x 0.9 mm	50-150 mm	3/4	5-50 mm	126	○	126	○
27 x 0.9 mm	120-250 mm	2/3	8-150 mm	127	○	127	○
27 x 0.9 mm	1-4 mm	18	1-2 mm	128	○	128	○
27 x 0.9 mm	1-10 mm	14	1-8 mm	129	○	129	○
27 x 0.9 mm	50-120 mm	4	5-30 mm	130	○	130	○
27 x 0.9 mm	100-180 mm	3	30-100 mm	131	○	131	○
27 x 0.9 mm	200-300 mm	2	75-250 mm	132	○	132	○
34 x 1.1 mm	25-70 mm	4/6	3-30 mm	136	○	136	○
34 x 1.1 mm	50-150 mm	3/4	5-50 mm	137	○	137	○
34 x 1.1 mm	120-250 mm	2/3	8-150 mm	138	○	138	○
34 x 1.1 mm	100-180 mm	3	30-100 mm	140	○	140	○
41 x 1.3 mm	25-70 mm	4/6	3-30 mm	141	○	141	○
41 x 1.3 mm	50-150 mm	3/4	5-50 mm	142	○	142	○
41 x 1.3 mm	120-250 mm	2/3	8-150 mm	143	○	143	○
41 x 1.3 mm	200-400 mm	1,4/2,0	100-250 mm	144	○	144	○
54 x 1.3 mm	50-150 mm	3/4	5-50 mm	145	○	145	○
54 x 1.3 mm	120-250 mm	2/3	8-150 mm	146	○	146	○
54 x 1.6 mm	50-150 mm	3/4	5-50 mm	147	○	147	○
54 x 1.6 mm	120-250 mm	2/3	8-150 mm	148	○	148	○
54 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	149	○	149	○
54 x 1.6 mm	500-1000 mm	1,0/1,4	100-350 mm	150	○	150	○
67 x 1.6 mm	120-250 mm	2/3	8-150 mm	151	○	151	○
67 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	152	○	152	○
67 x 1.6 mm	500-1000 mm	1,0/1,4	100-350 mm	153	○	153	○

Prod. Gr. 1DK

ATORN Bandsaw blades, welded, bimetal, type MARATHON® and UNI MAX Basic 10°

UNI insert -1,300 N/mm² solid material profile

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20	100	100	65	65	40	40			60					

		Width x thickness		20 x 0.9 mm		27 x 0.9 mm		34 x 1.1 mm		41 x 1.1 mm		41 x 1.3 mm	
		Type		UNI MAX Basic 10°		UNI MAX Basic 10°		UNI MAX Basic 10°		UNI MAX Basic 10°		UNI MAX Basic 10°	
L (mm)	Number of teeth per inch	mm	mm	14055... Ident. No.		14055... Ident. No.		14055... Ident. No.		14055... Ident. No.		14055... Ident. No.	
2140	4/6	25-70 mm	3-30 mm	053	●	-	-	-	-	-	-	-	-
2450	4/6	25-70 mm	3-30 mm	-	-	069	●	-	-	-	-	-	-
2480	4/6	25-70 mm	3-30 mm	-	-	087	●	-	-	-	-	-	-
2710	4/6	25-70 mm	3-30 mm	-	-	101	●	-	-	-	-	-	-
2720	4/6	25-70 mm	3-30 mm	-	-	107	●	-	-	-	-	-	-
2750	3/4	50-150 mm	5-50 mm	-	-	123	●	-	-	-	-	-	-
2750	4/6	25-70 mm	3-30 mm	-	-	125	●	-	-	-	-	-	-
2760	4/6	25-70 mm	3-30 mm	-	-	135	●	-	-	-	-	-	-
2765	4/6	25-70 mm	3-30 mm	-	-	141	●	-	-	-	-	-	-
2835	3/4	50-150 mm	5-50 mm	-	-	151	●	-	-	-	-	-	-
2835	4/6	25-70 mm	3-30 mm	-	-	153	●	-	-	-	-	-	-
2890	3/4	50-150 mm	5-50 mm	-	-	157	●	-	-	-	-	-	-
2890	4/6	25-70 mm	3-30 mm	-	-	159	●	-	-	-	-	-	-
2910	3/4	50-150 mm	5-50 mm	-	-	165	●	-	-	-	-	-	-
2910	4/6	25-70 mm	3-30 mm	-	-	167	●	-	-	-	-	-	-
2950	3/4	50-150 mm	5-50 mm	-	-	173	●	-	-	-	-	-	-
2950	4/6	25-70 mm	3-30 mm	-	-	175	●	-	-	-	-	-	-
3000	3/4	50-150 mm	5-50 mm	-	-	191	●	-	-	-	-	-	-
3150	3/4	50-150 mm	5-50 mm	-	-	197	●	-	-	-	-	-	-
3150	4/6	25-70 mm	3-30 mm	-	-	199	●	-	-	-	-	-	-
3280	3/4	50-150 mm	5-50 mm	-	-	205	●	-	-	-	-	-	-
3280	4/6	25-70 mm	3-30 mm	-	-	207	●	-	-	-	-	-	-
3320	3/4	50-150 mm	5-50 mm	-	-	213	●	-	-	-	-	-	-
3320	4/6	25-70 mm	3-30 mm	-	-	219	●	-	-	-	-	-	-
3350	4/6	25-70 mm	3-30 mm	-	-	221	●	-	-	-	-	-	-
3370	3/4	50-150 mm	5-50 mm	-	-	229	●	-	-	-	-	-	-
3370	4/6	25-70 mm	3-30 mm	-	-	231	●	-	-	-	-	-	-
3660	4/6	25-70 mm	3-30 mm	-	-	253	●	-	-	-	-	-	-
3660	3/4	50-150 mm	5-50 mm	-	-	265	●	-	-	-	-	-	-
3700	3/4	50-150 mm	5-50 mm	-	-	271	●	-	-	-	-	-	-
3700	4/6	25-70 mm	3-30 mm	-	-	273	●	-	-	-	-	-	-
3770	3/4	50-150 mm	5-50 mm	-	-	279	●	-	-	-	-	-	-
3770	4/6	25-70 mm	3-30 mm	-	-	281	●	-	-	-	-	-	-
3800	3/4	50-150 mm	5-50 mm	-	-	287	●	-	-	-	-	-	-
3800	4/6	25-70 mm	3-30 mm	-	-	289	●	-	-	-	-	-	-
3830	3/4	50-150 mm	5-50 mm	-	-	295	●	-	-	-	-	-	-
3830	4/6	25-70 mm	3-30 mm	-	-	297	●	-	-	-	-	-	-
3950	3/4	50-150 mm	5-50 mm	-	-	-	-	307	●	-	-	-	-
4100	3/4	50-150 mm	5-50 mm	-	-	-	-	315	●	-	-	-	-
4100	4/6	25-70 mm	3-30 mm	-	-	-	-	317	●	-	-	-	-
4100	2/3	120-250 mm	8-150 mm	-	-	-	-	321	●	-	-	-	-
4150	3/4	50-150 mm	5-50 mm	-	-	325	●	-	-	-	-	-	-
4200	3/4	50-150 mm	5-50 mm	-	-	-	-	329	●	-	-	-	-
4200	4/6	25-70 mm	3-30 mm	-	-	-	-	331	●	-	-	-	-
4400	2/3	120-250 mm	8-150 mm	-	-	-	-	345	●	-	-	-	-
4400	3/4	50-150 mm	5-50 mm	-	-	-	-	347	●	-	-	-	-
4400	4/6	25-70 mm	3-30 mm	-	-	-	-	349	●	-	-	-	-
4530	4/6	25-70 mm	3-30 mm	-	-	-	-	351	●	-	-	-	-
4530	2/3	120-250 mm	8-150 mm	-	-	-	-	353	●	-	-	-	-
4530	3/4	50-150 mm	5-50 mm	-	-	-	-	355	●	-	-	-	-
4640	2/3	120-250 mm	8-150 mm	-	-	-	-	357	●	-	-	-	-
5090	2/3	120-250 mm	8-150 mm	-	-	-	-	385	●	389	●	-	-
5090	3/4	50-150 mm	5-50 mm	-	-	-	-	387	●	391	●	-	-
5400	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	393	●	-	-
5400	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	395	●	-	-
5700	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	-	-	397	●
5700	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	-	-	399	●
5800	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	-	-	409	●
5800	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	-	-	411	●
5800	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	-	-	413	●

Prod. Gr. 1DJ

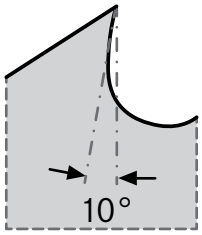
ORION® UNI MAX 10° bimetal bandsaw blades, product sold by metre

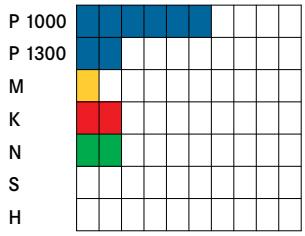
UNI insert -1,300 N/mm² solid material profile

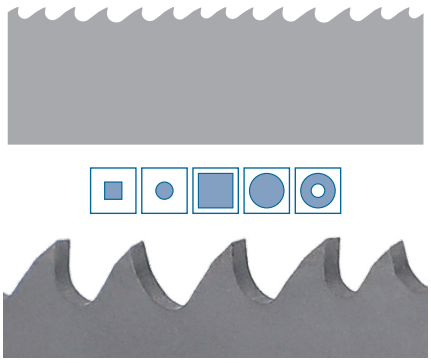
Application:
Cutting of solid material, beams and profiles with medium cross-sections in steel, stainless steel, cast iron and non-ferrous metals.

Advantage:
- Positive tooth geometry ensures a soft cut with a long service life on production bandsaws.
- Basic quality with an excellent price/performance ratio

Notes:
Please quote in the order:
- Order number saw belt+welding seam (“Saw belt welding service”)
- The length of the belt in millimetres (mm)
- Minimum order quantity 5 pieces







Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20	100	100	65	65	40	40			60					

Width x thickness	mm	Teeth per inch	mm	UNI MAX 10° bi-metal bandsaw blades, product sold by metre		ORION welding service	
				Cutting material		HSS M42	
				Type		UNI MAX Basic 10°	
				14049... Ident. No.		14050... Ident. No.	
20 x 0.9 mm	25-70 mm	4/6	3-30 mm	030	○	030	○
27 x 0.9 mm	120-250 mm	2/3	8-150 mm	031	○	031	○
27 x 0.9 mm	50-150 mm	3/4	5-50 mm	032	○	032	○
27 x 0.9 mm	25-70 mm	4/6	3-30 mm	033	○	033	○
34 x 1.1 mm	120-250 mm	2/3	8-150 mm	034	○	034	○
34 x 1.1 mm	50-150 mm	3/4	5-50 mm	035	○	035	○
34 x 1.1 mm	25-70 mm	4/6	3-30 mm	036	○	036	○
41 x 1.3 mm	120-250 mm	2/3	8-150 mm	037	○	037	○
41 x 1.3 mm	50-150 mm	3/4	5-50 mm	038	○	038	○
41 x 1.3 mm	25-70 mm	4/6	3-30 mm	039	○	039	○
54 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	040	○	040	○
54 x 1.6 mm	120-250 mm	2/3	8-150 mm	041	○	041	○
54 x 1.6 mm	50-150 mm	3/4	5-50 mm	042	○	042	○
54 x 1.6 mm	25-70 mm	4/6	3-30 mm	043	○	043	○
67 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	044	○	044	○
67 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	045	○	045	○
67 x 1.6 mm	120-250 mm	2/3	8-150 mm	046	○	046	○
67 x 1.6 mm	50-150 mm	3/4	5-50 mm	047	○	047	○

Prod. Gr. 1QM

ORION® UNI MAX 10° bimetal welded bandsaw blades

UNI insert -1,300 N/mm² solid material profile

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20	100	100	65	65	40	40			60					

L (mm)	Number of teeth per inch	mm	mm	Width x thickness	19 x 0.9 mm		20 x 0.9 mm		27 x 0.9 mm		34 x 1.1 mm		41 x 1.3 mm	
				Type	UNI MAX		UNI MAX		UNI MAX		UNI MAX		UNI MAX	
					14049... Ident. No.		14049... Ident. No.		14049... Ident. No.		14049... Ident. No.		14049... Ident. No.	
2360	4/6	25-70 mm	3-30 mm		400	●	-	-	-	-	-	-	-	-
2360	6/10	50-150 mm	5-50 mm		402	●	-	-	-	-	-	-	-	-
2375	6/10	50-150 mm	5-50 mm		-	-	404	●	-	-	-	-	-	-
2375	10/14	3-8 mm	1.5-4 mm		-	-	406	●	-	-	-	-	-	-
2450	4/6	25-70 mm	3-30 mm		-	-	-	-	408	●	-	-	-	-

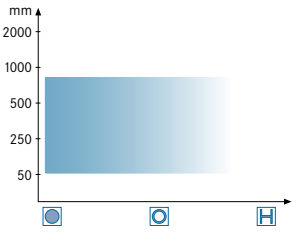
		Width x thickness		19 x 0.9 mm		20 x 0.9 mm		27 x 0.9 mm		34 x 1.1 mm		41 x 1.3 mm	
		Type		UNI MAX		UNI MAX		UNI MAX		UNI MAX		UNI MAX	
L (mm)	Number of teeth per inch	mm	mm	14049... Ident. No.		14049... Ident. No.		14049... Ident. No.		14049... Ident. No.		14049... Ident. No.	
2450	5/8	15-40 mm	2-20 mm	-	-	-	-	410	●	-	-	-	-
2450	6/10	50-150 mm	5-50 mm	-	-	-	-	412	●	-	-	-	-
2480	4/6	25-70 mm	3-30 mm	-	-	-	-	414	●	-	-	-	-
2480	5/8	15-40 mm	2-20 mm	-	-	-	-	416	●	-	-	-	-
2480	6/10	50-150 mm	5-50 mm	-	-	-	-	418	●	-	-	-	-
2700	3/4	50-150 mm	5-50 mm	-	-	-	-	420	●	-	-	-	-
2700	4/6	25-70 mm	3-30 mm	-	-	-	-	422	●	-	-	-	-
2710	4/6	25-70 mm	3-30 mm	-	-	-	-	424	●	-	-	-	-
2710	6/10	50-150 mm	5-50 mm	-	-	-	-	426	●	-	-	-	-
2710	8/12	5-20 mm	2-8 mm	-	-	-	-	428	●	-	-	-	-
2720	3/4	50-150 mm	5-50 mm	-	-	-	-	430	●	-	-	-	-
2720	4/6	25-70 mm	3-30 mm	-	-	-	-	432	●	-	-	-	-
2750	3/4	50-150 mm	5-50 mm	-	-	-	-	434	●	-	-	-	-
2750	4/6	25-70 mm	3-30 mm	-	-	-	-	436	●	-	-	-	-
2750	5/8	15-40 mm	2-20 mm	-	-	-	-	438	●	-	-	-	-
2750	6/10	50-150 mm	5-50 mm	-	-	-	-	440	●	-	-	-	-
2750	10/14	3-8 mm	1.5-4 mm	-	-	-	-	442	●	-	-	-	-
2760	4/6	25-70 mm	3-30 mm	-	-	-	-	444	●	-	-	-	-
2760	8/12	5-20 mm	2-8 mm	-	-	-	-	446	●	-	-	-	-
2765	3/4	50-150 mm	5-50 mm	-	-	-	-	448	●	-	-	-	-
2765	4/6	25-70 mm	3-30 mm	-	-	-	-	450	●	-	-	-	-
2765	5/8	15-40 mm	2-20 mm	-	-	-	-	452	●	-	-	-	-
2765	6/10	50-150 mm	5-50 mm	-	-	-	-	454	●	-	-	-	-
2825	3/4	50-150 mm	5-50 mm	-	-	-	-	456	●	-	-	-	-
2825	5/8	15-40 mm	2-20 mm	-	-	-	-	458	●	-	-	-	-
2835	5/8	15-40 mm	2-20 mm	-	-	-	-	460	●	-	-	-	-
2835	6/10	50-150 mm	5-50 mm	-	-	-	-	462	●	-	-	-	-
2835	3/4	50-150 mm	5-50 mm	-	-	-	-	464	●	-	-	-	-
2835	4/6	25-70 mm	3-30 mm	-	-	-	-	466	●	-	-	-	-
2835	10/14	3-8 mm	1.5-4 mm	-	-	-	-	468	●	-	-	-	-
2890	2/3	120-250 mm	8-150 mm	-	-	-	-	470	●	-	-	-	-
2890	3/4	50-150 mm	5-50 mm	-	-	-	-	472	●	-	-	-	-
2890	4/6	25-70 mm	3-30 mm	-	-	-	-	474	●	-	-	-	-
2890	5/8	15-40 mm	2-20 mm	-	-	-	-	476	●	-	-	-	-
2890	6/10	50-150 mm	5-50 mm	-	-	-	-	478	●	-	-	-	-
2910	3/4	50-150 mm	5-50 mm	-	-	-	-	480	●	-	-	-	-
2910	4/6	25-70 mm	3-30 mm	-	-	-	-	482	●	-	-	-	-
2910	5/8	15-40 mm	2-20 mm	-	-	-	-	484	●	-	-	-	-
2910	6/10	50-150 mm	5-50 mm	-	-	-	-	488	●	-	-	-	-
2910	8/12	5-20 mm	2-8 mm	-	-	-	-	490	●	-	-	-	-
2950	3/4	50-150 mm	5-50 mm	-	-	-	-	494	●	-	-	-	-
2950	4/6	25-70 mm	3-30 mm	-	-	-	-	496	●	-	-	-	-
2950	5/8	15-40 mm	2-20 mm	-	-	-	-	498	●	-	-	-	-
2950	6/10	50-150 mm	5-50 mm	-	-	-	-	502	●	-	-	-	-
2950	8/12	5-20 mm	2-8 mm	-	-	-	-	504	●	-	-	-	-
3000	4/6	25-70 mm	3-30 mm	-	-	-	-	508	●	-	-	-	-
3000	5/8	15-40 mm	2-20 mm	-	-	-	-	510	●	-	-	-	-
3010	2/3	120-250 mm	8-150 mm	-	-	-	-	512	●	-	-	-	-
3010	3/4	50-150 mm	5-50 mm	-	-	-	-	514	●	-	-	-	-
3010	4/6	25-70 mm	3-30 mm	-	-	-	-	516	●	-	-	-	-
3010	5/8	15-40 mm	2-20 mm	-	-	-	-	518	●	-	-	-	-
3150	3/4	50-150 mm	5-50 mm	-	-	-	-	520	●	-	-	-	-
3150	5/8	15-40 mm	2-20 mm	-	-	-	-	522	●	-	-	-	-
3150	6/10	50-150 mm	5-50 mm	-	-	-	-	524	●	-	-	-	-
3280	2/3	120-250 mm	8-150 mm	-	-	-	-	526	●	-	-	-	-
3280	3/4	50-150 mm	5-50 mm	-	-	-	-	528	●	-	-	-	-
3280	4/6	25-70 mm	3-30 mm	-	-	-	-	530	●	-	-	-	-
3280	5/8	15-40 mm	2-20 mm	-	-	-	-	532	●	-	-	-	-
3280	6/10	50-150 mm	5-50 mm	-	-	-	-	534	●	-	-	-	-
3320	3/4	50-150 mm	5-50 mm	-	-	-	-	536	●	-	-	-	-
3320	5/8	15-40 mm	2-20 mm	-	-	-	-	538	●	-	-	-	-
3320	6/10	50-150 mm	5-50 mm	-	-	-	-	540	●	-	-	-	-
3370	3/4	50-150 mm	5-50 mm	-	-	-	-	542	●	-	-	-	-
3370	4/6	25-70 mm	3-30 mm	-	-	-	-	544	●	-	-	-	-
3370	5/8	15-40 mm	2-20 mm	-	-	-	-	546	●	-	-	-	-
3370	6/10	50-150 mm	5-50 mm	-	-	-	-	548	●	-	-	-	-
3660	2/3	120-250 mm	8-150 mm	-	-	-	-	550	●	-	-	-	-
3660	3/4	50-150 mm	5-50 mm	-	-	-	-	552	●	-	-	-	-
3660	4/6	25-70 mm	3-30 mm	-	-	-	-	554	●	-	-	-	-
3660	5/8	15-40 mm	2-20 mm	-	-	-	-	556	●	-	-	-	-
3660	6/10	50-150 mm	5-50 mm	-	-	-	-	558	●	-	-	-	-
3660	10/14	3-8 mm	1.5-4 mm	-	-	-	-	560	●	-	-	-	-
3770	2/3	120-250 mm	8-150 mm	-	-	-	-	562	●	-	-	-	-
3770	3/4	50-150 mm	5-50 mm	-	-	-	-	564	●	-	-	-	-
3770	4/6	25-70 mm	3-30 mm	-	-	-	-	566	●	-	-	-	-
3770	6/10	50-150 mm	5-50 mm	-	-	-	-	570	●	-	-	-	-
3800	3/4	50-150 mm	5-50 mm	-	-	-	-	572	●	580	●	-	-

		Width x thickness		19 x 0.9 mm		20 x 0.9 mm		27 x 0.9 mm		34 x 1.1 mm		41 x 1.3 mm	
		Type		UNI MAX		UNI MAX		UNI MAX		UNI MAX		UNI MAX	
L (mm)	Number of teeth per inch	mm	mm	14049... Ident. No.		14049... Ident. No.		14049... Ident. No.		14049... Ident. No.		14049... Ident. No.	
3800	4/6	25-70 mm	3-30 mm	-	-	-	-	574	●	582	●	-	-
3800	5/8	15-40 mm	2-20 mm	-	-	-	-	576	●	-	-	-	-
3800	6/10	50-150 mm	5-50 mm	-	-	-	-	578	●	-	-	-	-
3830	2/3	120-250 mm	8-150 mm	-	-	-	-	584	●	-	-	-	-
3830	3/4	50-150 mm	5-50 mm	-	-	-	-	586	●	-	-	-	-
3830	5/8	15-40 mm	2-20 mm	-	-	-	-	588	●	-	-	-	-
3830	6/10	50-150 mm	5-50 mm	-	-	-	-	590	●	-	-	-	-
3930	3/4	50-150 mm	5-50 mm	-	-	-	-	592	●	-	-	-	-
3930	4/6	25-70 mm	3-30 mm	-	-	-	-	594	●	-	-	-	-
4100	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	596	●	-	-
4100	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	598	●	-	-
4100	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	600	●	-	-
4100	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	602	●	-	-
4115	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	604	●	610	●
4115	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	606	●	612	●
4115	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	-	-	608	●
4150	3/4	50-150 mm	5-50 mm	-	-	-	-	614	●	624	●	-	-
4150	4/6	25-70 mm	3-30 mm	-	-	-	-	616	●	626	●	-	-
4150	5/8	15-40 mm	2-20 mm	-	-	-	-	618	●	-	-	-	-
4150	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	622	●	-	-
4200	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	628	●	-	-
4200	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	630	●	-	-
4200	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	632	●	-	-
4240	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	634	●	-	-
4240	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	636	●	-	-
4400	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	638	●	-	-
4400	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	640	●	-	-
4400	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	642	●	-	-
4400	6/10	50-150 mm	5-50 mm	-	-	-	-	-	-	644	●	-	-
4450	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	646	●	-	-
4450	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	648	●	-	-
4570	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	650	●	-	-
4570	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	652	●	-	-
4570	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	654	●	-	-
4640	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	656	●	-	-
4640	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	658	●	-	-
4860	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	660	●	-	-
4860	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	662	●	-	-
4930	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	664	●	-	-
5000	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	666	●	-	-
5000	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	668	●	-	-
5334	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	-	-	674	●
5334	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	-	-	676	●
5400	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	-	-	678	●
5400	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	-	-	680	●
5800	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	-	-	682	●
5800	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	-	-	684	●
5800	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	-	-	686	●
5800	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	-	-	688	●

Prod. Gr. 1QM

Bandsaw blades for production saws for universal use
High-performance production bandsaw blades

For cutting solid material and profiles with a medium to large cross-section in a production environment. Bandsaw blades with a positive chip angle and medium to coarse tooth pitch for high service life and performance requirements.



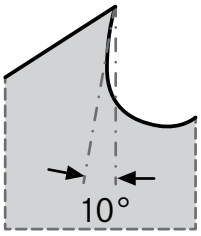
ATORN UNI MAX 10° bimetal bandsaw blades, product sold by metre

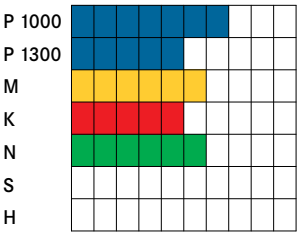
UNI insert -1,300 N/mm² solid material pipes, thick-walled

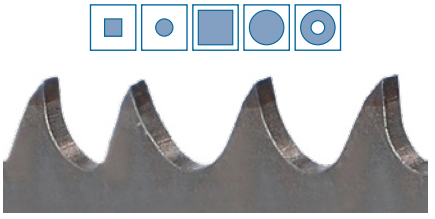
Application:
Cutting of solid material, beams and profiles with medium cross-sections in steel, stainless steel, cast iron and non-ferrous metals.

Advantage:
- Positive tooth geometry ensures a soft cut with a long service life on production bandsaws.
- Microfinishing technology ensures a long service life and reduces the running-in of bandsaw blades.

Notes:
Please quote in the order:
- Order number of the bandsaw blade and welding seam (“bandsaw blade welding service”)
- The length of the blade in millimetres (mm)
- Minimum order quantity 5 pieces







Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20	100	100	65	65	40	40			60					

				UNI MAX 10° bi-metal bandsaw blades, product sold by metre		ATORN welding service	
			Cutting material	HSS M42			
Width x thickness	mm	Teeth per inch	mm	14053... Ident. No.		14054... Ident. No.	
54 x 1.3 mm	350-800 mm	1,0/1,4	100-300 mm	058	○	058	○
27 x 0.9 mm	120-250 mm	2/3	8-150 mm	040	○	040	○
27 x 0.9 mm	50-150 mm	3/4	5-50 mm	041	○	041	○
27 x 0.9 mm	25-70 mm	4/6	3-30 mm	042	○	042	○
27 x 0.9 mm	15-40 mm	5/8	2-20 mm	043	○	043	○
34 x 1.1 mm	200-400 mm	1,4/2,0	100-250 mm	044	○	044	○
34 x 1.1 mm	120-250 mm	2/3	8-150 mm	045	○	045	○
34 x 1.1 mm	50-150 mm	3/4	5-50 mm	046	○	046	○
34 x 1.1 mm	25-70 mm	4/6	3-30 mm	047	○	047	○
34 x 1.1 mm	15-40 mm	5/8	2-20 mm	048	○	048	○
41 x 1.3 mm	200-400 mm	1,4/2,0	100-250 mm	053	○	053	○
41 x 1.3 mm	120-250 mm	2/3	8-150 mm	054	○	054	○
41 x 1.3 mm	50-150 mm	3/4	5-50 mm	055	○	055	○
41 x 1.3 mm	25-70 mm	4/6	3-30 mm	056	○	056	○
41 x 1.3 mm	15-40 mm	5/8	2-20 mm	057	○	057	○
54 x 1.3 mm	200-400 mm	1,4/2,0	100-250 mm	059	○	059	○
54 x 1.3 mm	120-250 mm	2/3	8-150 mm	060	○	060	○
54 x 1.3 mm	50-150 mm	3/4	5-50 mm	061	○	061	○
54 x 1.3 mm	25-70 mm	4/6	3-30 mm	062	○	062	○
54 x 1.6 mm	350-800 mm	1,0/1,4	100-300 mm	063	○	063	○
54 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	064	○	064	○
54 x 1.6 mm	120-250 mm	2/3	8-150 mm	065	○	065	○
54 x 1.6 mm	50-150 mm	3/4	5-50 mm	066	○	066	○
54 x 1.6 mm	25-70 mm	4/6	3-30 mm	067	○	067	○
67 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	068	○	068	○
67 x 1.6 mm	350-800 mm	1,0/1,4	100-300 mm	069	○	069	○

				UNI MAX 10° bi-metal bandsaw blades, product sold by metre		ATORN welding service	
			Cutting material	HSS M42			
Width x thickness	mm	Teeth per inch	mm	14053... Ident. No.		14054... Ident. No.	
67 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	070	○	070	○
67 x 1.6 mm	120-250 mm	2/3	8-150 mm	071	○	071	○
67 x 1.6 mm	50-150 mm	3/4	5-50 mm	072	○	072	○
67 x 1.6 mm	25-70 mm	4/6	3-30 mm	073	○	073	○
80 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	074	○	074	○
80 x 1.6 mm	350-800 mm	1,0/1,4	100-350 mm	075	○	075	○
80 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	076	○	076	○
80 x 1.6 mm	120-250 mm	2/3	8-150 mm	077	○	077	○

Prod. Gr. 1DJ

ATORN UNI MAX 10° bimetal welded bandsaw blades

UNI insert -1,300 N/mm² solid material profile

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20	100	100	65	65	40	40			60					

			Width x thickness	27 x 0.9 mm		34 x 1.1 mm		41 x 1.1 mm		41 x 1.3 mm	
L (mm)	Number of teeth per inch	mm	mm	14055... Ident. No.		14055... Ident. No.		14055... Ident. No.		14055... Ident. No.	
2480	4/6	25-70 mm	3-30 mm	421	●	-	-	-	-	-	-
2480	5/8	15-40 mm	2-20 mm	423	●	-	-	-	-	-	-
2480	6/10	10-25 mm	3-15 mm	425	●	-	-	-	-	-	-
2720	4/6	25-70 mm	3-30 mm	427	●	-	-	-	-	-	-
2720	5/8	15-40 mm	2-20 mm	429	●	-	-	-	-	-	-
2750	2/3	120-250 mm	8-150 mm	433	●	-	-	-	-	-	-
2750	3/4	50-150 mm	5-50 mm	435	●	-	-	-	-	-	-
2750	4/6	25-70 mm	3-30 mm	437	●	-	-	-	-	-	-
2750	5/8	15-40 mm	2-20 mm	439	●	-	-	-	-	-	-
2750	8/12	5-20 mm	2-8 mm	441	●	-	-	-	-	-	-
2750	6/10	10-25 mm	3-15 mm	443	●	-	-	-	-	-	-
2750	10/14	3-8 mm	1.5-4 mm	445	●	-	-	-	-	-	-
2835	3/4	50-150 mm	5-50 mm	447	●	-	-	-	-	-	-
2835	4/6	25-70 mm	3-30 mm	449	●	-	-	-	-	-	-
2835	5/8	15-40 mm	2-20 mm	451	●	-	-	-	-	-	-
2890	3/4	50-150 mm	5-50 mm	453	●	-	-	-	-	-	-
2890	4/6	25-70 mm	3-30 mm	455	●	-	-	-	-	-	-
2890	5/8	15-40 mm	2-20 mm	457	●	-	-	-	-	-	-
2890	6/10	10-25 mm	3-15 mm	459	●	-	-	-	-	-	-
2910	3/4	50-150 mm	5-50 mm	461	●	-	-	-	-	-	-
2910	4/6	25-70 mm	3-30 mm	463	●	-	-	-	-	-	-
2910	5/8	15-40 mm	2-20 mm	465	●	-	-	-	-	-	-
2910	6/10	10-25 mm	3-15 mm	467	●	-	-	-	-	-	-
3000	3/4	50-150 mm	5-50 mm	469	●	-	-	-	-	-	-
3000	4/6	25-70 mm	3-30 mm	471	●	-	-	-	-	-	-
3000	5/8	15-40 mm	2-20 mm	473	●	-	-	-	-	-	-
3280	3/4	50-150 mm	5-50 mm	475	●	-	-	-	-	-	-
3280	4/6	25-70 mm	3-30 mm	477	●	-	-	-	-	-	-
3280	5/8	15-40 mm	2-20 mm	479	●	-	-	-	-	-	-
3280	6/10	10-25 mm	3-15 mm	481	●	-	-	-	-	-	-
3660	3/4	50-150 mm	5-50 mm	483	●	-	-	-	-	-	-
3660	4/6	25-70 mm	3-30 mm	485	●	-	-	-	-	-	-
3660	5/8	15-40 mm	2-20 mm	487	●	-	-	-	-	-	-
3660	6/10	10-25 mm	3-15 mm	489	●	-	-	-	-	-	-
3660	2/3	120-250 mm	8-150 mm	491	●	-	-	-	-	-	-
3660	8/12	5-20 mm	2-8 mm	493	●	-	-	-	-	-	-
3660	10/14	3-8 mm	1.5-4 mm	495	●	-	-	-	-	-	-
3770	3/4	50-150 mm	5-50 mm	503	●	-	-	-	-	-	-
3770	4/6	25-70 mm	3-30 mm	505	●	-	-	-	-	-	-
3770	5/8	15-40 mm	2-20 mm	507	●	-	-	-	-	-	-
3770	6/10	10-25 mm	3-15 mm	509	●	-	-	-	-	-	-
3800	3/4	50-150 mm	5-50 mm	511	●	-	-	-	-	-	-
3800	4/6	25-70 mm	3-30 mm	513	●	-	-	-	-	-	-
3800	5/8	15-40 mm	2-20 mm	515	●	-	-	-	-	-	-

			Width x thickness	27 x 0.9 mm		34 x 1.1 mm		41 x 1.1 mm		41 x 1.3 mm	
L (mm)	Number of teeth per inch	mm	mm	14055... Ident. No.		14055... Ident. No.		14055... Ident. No.		14055... Ident. No.	
3800	6/10	10-25 mm	3-15 mm	517	●	-	-	-	-	-	-
3830	2/3	120-250 mm	8-150 mm	518	●	-	-	-	-	-	-
3830	3/4	50-150 mm	5-50 mm	519	●	-	-	-	-	-	-
3830	4/6	25-70 mm	3-30 mm	521	●	-	-	-	-	-	-
3830	5/8	15-40 mm	2-20 mm	523	●	-	-	-	-	-	-
3830	6/10	10-25 mm	3-15 mm	525	●	-	-	-	-	-	-
3950	4/6	25-70 mm	3-30 mm	-	-	526	●	-	-	-	-
4100	3/4	50-150 mm	5-50 mm	-	-	527	●	-	-	-	-
4100	4/6	25-70 mm	3-30 mm	-	-	529	●	-	-	-	-
4100	5/8	15-40 mm	2-20 mm	-	-	531	●	-	-	-	-
4100	2/3	120-250 mm	8-150 mm	-	-	533	●	-	-	-	-
4150	2/3	120-250 mm	8-150 mm	535	●	-	-	-	-	-	-
4150	3/4	50-150 mm	5-50 mm	537	●	-	-	-	-	-	-
4150	5/8	15-40 mm	2-20 mm	539	●	-	-	-	-	-	-
4200	3/4	50-150 mm	5-50 mm	-	-	541	●	-	-	-	-
4200	4/6	25-70 mm	3-30 mm	-	-	543	●	-	-	-	-
4400	2/3	120-250 mm	8-150 mm	-	-	557	●	-	-	-	-
4400	3/4	50-150 mm	5-50 mm	-	-	559	●	-	-	-	-
4400	4/6	25-70 mm	3-30 mm	-	-	561	●	-	-	-	-
5000	2/3	120-250 mm	8-150 mm	-	-	567	●	-	-	-	-
5000	3/4	50-150 mm	5-50 mm	-	-	569	●	-	-	-	-
5090	2/3	120-250 mm	8-150 mm	-	-	571	●	575	●	-	-
5090	3/4	50-150 mm	5-50 mm	-	-	573	●	577	●	-	-
5400	2/3	120-250 mm	8-150 mm	-	-	-	-	579	●	-	-
5400	3/4	50-150 mm	5-50 mm	-	-	-	-	581	●	-	-
5800	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	589	●
5800	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	591	●

Prod. Gr. 1DJ

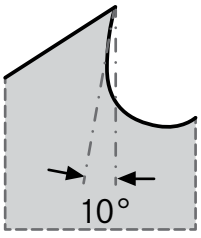
ATORN Bimetal bandsaw blade product sold by metre type UNI MAX 10°

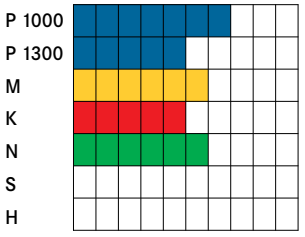
UNI application - 1,300 N/mm² solid material profile

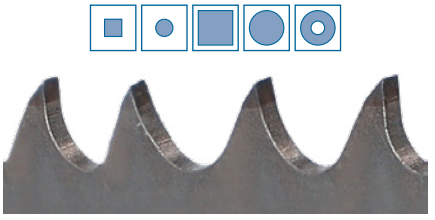
Application:
Cutting of solid material, beams and profiles with medium cross-sections in steel, stainless steel, cast iron and non-ferrous metals.

Advantage:
- Positive tooth geometry ensures a soft cut with a long service life on production bandsaws.
- Microfinishing technology ensures a long service life and reduces the running-in of bandsaw blades.

Notes:
Please specify in the order:
- Order number saw belt and welding seam ("Saw belt welding service")
- The length of the belt in millimetres (mm)
- Minimum order quantity 5 pieces







Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20	100	100	65	65	40	40			60					

			Bimetal bandsaw blade product sold by metre type UNI MAX 10°		ATORN welding service	
			Cutting material		HSS M42	
Width x thickness	mm	Teeth per inch	mm	14048... Ident. No.		14049... Ident. No.	
6 x 0.9 mm	50-120 mm	4	5-30 mm	800	○	800	○
6 x 0.9 mm	50-80 mm	6	4-50 mm	801	○	801	○
10 x 0.9 mm	50-120 mm	4	5-30 mm	805	○	805	○
10 x 0.9 mm	50-80 mm	6	4-50 mm	806	○	806	○
13 x 0.65 mm	50-120 mm	4	5-30 mm	810	○	810	○
13 x 0.65 mm	50-80 mm	6	4-50 mm	811	○	811	○
13 x 0.9 mm	100-180 mm	3	30-100 mm	817	○	817	○
13 x 0.9 mm	50-120 mm	4	5-30 mm	818	○	818	○
13 x 0.9 mm	50-80 mm	6	4-50 mm	819	○	819	○
20 x 0.9 mm	25-70 mm	4/6	3-30 mm	829	○	829	○
27 x 0.9 mm	100-180 mm	3	30-100 mm	834	○	834	○
27 x 0.9 mm	50-120 mm	4	5-30 mm	835	○	835	○
27 x 0.9 mm	120-250 mm	2/3	8-150 mm	837	○	837	○

				Bimetal bandsaw blade product sold by metre type UNI MAX 10°		ATORN welding service	
			Cutting material	HSS M42			
Width x thickness	mm	Teeth per inch	mm	**14048...** Ident. No.		**14049...** Ident. No.	
27 x 0.9 mm	50-150 mm	3/4	5-50 mm	**839**	○	**839**	○
27 x 0.9 mm	25-70 mm	4/6	3-30 mm	**842**	○	**842**	○
27 x 0.9 mm	15-40 mm	5/8	2-20 mm	**844**	○	**844**	○
34 x 1.1 mm	200-400 mm	1,4/2,0	100-250 mm	**848**	○	**848**	○
34 x 1.1 mm	120-250 mm	2/3	8-150 mm	**849**	○	**849**	○
34 x 1.1 mm	50-150 mm	3/4	5-50 mm	**851**	○	**851**	○
34 x 1.1 mm	25-70 mm	4/6	3-30 mm	**853**	○	**853**	○
41 x 1.3 mm	200-400 mm	1,4/2,0	100-250 mm	**857**	○	**857**	○
41 x 1.3 mm	120-250 mm	2/3	8-150 mm	**858**	○	**858**	○
41 x 1.3 mm	50-150 mm	3/4	5-50 mm	**859**	○	**859**	○
41 x 1.3 mm	25-70 mm	4/6	3-30 mm	**860**	○	**860**	○
54 x 1.3 mm	200-400 mm	1,4/2,0	100-250 mm	**863**	○	**863**	○
54 x 1.3 mm	120-250 mm	2/3	8-150 mm	**864**	○	**864**	○
54 x 1.3 mm	50-150 mm	3/4	5-50 mm	**865**	○	**865**	○
54 x 1.3 mm	25-70 mm	4/6	3-30 mm	**866**	○	**866**	○
54 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	**867**	○	**867**	○
54 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	**868**	○	**868**	○
54 x 1.6 mm	120-250 mm	2/3	8-150 mm	**869**	○	**869**	○
54 x 1.6 mm	50-150 mm	3/4	5-50 mm	**870**	○	**870**	○
54 x 1.6 mm	25-70 mm	4/6	3-30 mm	**871**	○	**871**	○
67 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	**872**	○	**872**	○
67 x 1.6 mm	120-250 mm	2/3	8-150 mm	**873**	○	**873**	○
67 x 1.6 mm	50-150 mm	3/4	5-50 mm	**874**	○	**874**	○
67 x 1.6 mm	25-70 mm	4/6	3-30 mm	**875**	○	**875**	○
80 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	**876**	○	**876**	○
80 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	**877**	○	**877**	○
80 x 1.6 mm	120-250 mm	2/3	8-150 mm	**878**	○	**878**	○
80 x 1.6 mm	50-150 mm	3/4	5-50 mm	**879**	○	**879**	○

Prod. Gr. 1DJ

ATORN UNI MAX 10° bimetal welded bandsaw blade

UNI application - 1,300 N/mm² solid material profile

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	**40**	25	**20**	20	**100**	**100**	**65**	**65**	**40**	**40**			**60**					

			Width x thickness	19 x 0.9 mm		27 x 0.9 mm		34 x 1.1 mm		41 x 1.3 mm	
L (mm)	Number of teeth per inch	mm	mm	**14048...** Ident. No.		**14048...** Ident. No.		**14048...** Ident. No.		**14048...** Ident. No.	
2360	4/6	25-70 mm	3-30 mm	**300**	●	-	-	-	-	-	-
2360	6/10	10-25 mm	3-15 mm	**303**	●	-	-	-	-	-	-
2450	4/6	25-70 mm	3-30 mm	-	-	**315**	●	-	-	-	-
2480	4/6	25-70 mm	3-30 mm	**312**	●	**318**	●	-	-	-	-
2700	3/4	50-150 mm	5-50 mm	-	-	**321**	●	-	-	-	-
2700	4/6	25-70 mm	3-30 mm	-	-	**324**	●	-	-	-	-
2710	4/6	25-70 mm	3-30 mm	-	-	**327**	●	-	-	-	-
2720	3/4	50-150 mm	5-50 mm	-	-	**330**	●	-	-	-	-
2720	4/6	25-70 mm	3-30 mm	-	-	**333**	●	-	-	-	-
2750	3/4	50-150 mm	5-50 mm	-	-	**336**	●	-	-	-	-
2750	4/6	25-70 mm	3-30 mm	-	-	**339**	●	-	-	-	-
2750	5/8	15-40 mm	2-20 mm	-	-	**342**	●	-	-	-	-
2750	6/10	10-25 mm	3-15 mm	-	-	**348**	●	-	-	-	-
2760	4/6	25-70 mm	3-30 mm	-	-	**351**	●	-	-	-	-
2765	3/4	50-150 mm	5-50 mm	-	-	**354**	●	-	-	-	-
2765	4/6	25-70 mm	3-30 mm	-	-	**357**	●	-	-	-	-
2835	6/8	10-50 mm	3-20 mm	-	-	**360**	●	-	-	-	-
2835	3/4	50-150 mm	5-50 mm	-	-	**363**	●	-	-	-	-
2835	4/6	25-70 mm	3-30 mm	-	-	**366**	●	-	-	-	-
2890	3/4	50-150 mm	5-50 mm	-	-	**369**	●	-	-	-	-
2890	4/6	25-70 mm	3-30 mm	-	-	**372**	●	-	-	-	-
2910	3/4	50-150 mm	5-50 mm	-	-	**375**	●	-	-	-	-
2910	4/6	25-70 mm	3-30 mm	-	-	**378**	●	-	-	-	-

			Width x thickness	19 x 0.9 mm		27 x 0.9 mm		34 x 1.1 mm		41 x 1.3 mm	
L (mm)	Number of teeth per inch	mm	mm	14048... Ident. No.		14048... Ident. No.		14048... Ident. No.		14048... Ident. No.	
2910	6/8	10-50 mm	3-20 mm	-	-	381	●	-	-	-	-
2950	3/4	50-150 mm	5-50 mm	-	-	384	●	-	-	-	-
2950	4/6	25-70 mm	3-30 mm	-	-	387	●	-	-	-	-
2950	6/8	10-50 mm	3-20 mm	-	-	390	●	-	-	-	-
2970	5/8	15-40 mm	2-20 mm	306	●	-	-	-	-	-	-
3000	4/6	25-70 mm	3-30 mm	309	●	396	●	-	-	-	-
3000	3/4	50-150 mm	5-50 mm	-	-	393	●	-	-	-	-
3150	3/4	50-150 mm	5-50 mm	-	-	399	●	-	-	-	-
3150	4/6	25-70 mm	3-30 mm	-	-	402	●	-	-	-	-
3150	6/8	10-50 mm	3-20 mm	-	-	405	●	-	-	-	-
3280	2/3	120-250 mm	8-150 mm	-	-	408	●	-	-	-	-
3280	3/4	50-150 mm	5-50 mm	-	-	411	●	-	-	-	-
3280	4/6	25-70 mm	3-30 mm	-	-	414	●	-	-	-	-
3320	3/4	50-150 mm	5-50 mm	-	-	417	●	-	-	-	-
3350	3/4	50-150 mm	5-50 mm	-	-	420	●	-	-	-	-
3350	4/6	25-70 mm	3-30 mm	-	-	423	●	-	-	-	-
3370	3/4	50-150 mm	5-50 mm	-	-	426	●	-	-	-	-
3370	4/6	25-70 mm	3-30 mm	-	-	429	●	-	-	-	-
3660	3/4	50-150 mm	5-50 mm	-	-	432	●	-	-	-	-
3660	4/6	25-70 mm	3-30 mm	-	-	435	●	-	-	-	-
3770	3/4	50-150 mm	5-50 mm	-	-	438	●	-	-	-	-
3770	4/6	25-70 mm	3-30 mm	-	-	441	●	-	-	-	-
3770	6/8	10-50 mm	3-20 mm	-	-	444	●	-	-	-	-
3800	3/4	50-150 mm	5-50 mm	-	-	447	●	-	-	-	-
3800	4/6	25-70 mm	3-30 mm	-	-	450	●	-	-	-	-
3830	2/3	120-250 mm	8-150 mm	-	-	453	●	-	-	-	-
3830	3/4	50-150 mm	5-50 mm	-	-	456	●	-	-	-	-
3830	4/6	25-70 mm	3-30 mm	-	-	459	●	-	-	-	-
3830	6/8	10-50 mm	3-20 mm	-	-	462	●	-	-	-	-
3930	3/4	50-150 mm	5-50 mm	-	-	465	●	-	-	-	-
4070	3/4	50-150 mm	5-50 mm	-	-	468	●	-	-	-	-
4100	2/3	120-250 mm	8-150 mm	-	-	-	-	483	●	-	-
4100	3/4	50-150 mm	5-50 mm	-	-	-	-	486	●	-	-
4100	4/6	25-70 mm	3-30 mm	-	-	-	-	489	●	-	-
4115	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	552	●
4115	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	555	●
4115	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	558	●
4120	4/6	25-70 mm	3-30 mm	-	-	-	-	492	●	-	-
4150	3/4	50-150 mm	5-50 mm	-	-	471	●	498	●	-	-
4150	4/6	25-70 mm	3-30 mm	-	-	474	●	501	●	-	-
4150	6/8	10-50 mm	3-20 mm	-	-	477	●	-	-	-	-
4150	2/3	120-250 mm	8-150 mm	-	-	-	-	495	●	-	-
4240	2/3	120-250 mm	8-150 mm	-	-	-	-	504	●	-	-
4240	3/4	50-150 mm	5-50 mm	-	-	-	-	507	●	-	-
4310	4/6	25-70 mm	3-30 mm	-	-	480	●	-	-	-	-
4400	2/3	120-250 mm	8-150 mm	-	-	-	-	510	●	-	-
4400	3/4	50-150 mm	5-50 mm	-	-	-	-	513	●	-	-
4450	3/4	50-150 mm	5-50 mm	-	-	-	-	516	●	-	-
4640	2/3	120-250 mm	8-150 mm	-	-	-	-	519	●	-	-
4640	3/4	50-150 mm	5-50 mm	-	-	-	-	522	●	-	-
4640	4/6	25-70 mm	3-30 mm	-	-	-	-	525	●	-	-
4860	3/4	50-150 mm	5-50 mm	-	-	-	-	528	●	-	-
4930	2/3	120-250 mm	8-150 mm	-	-	-	-	531	●	-	-
4930	4/6	25-70 mm	3-30 mm	-	-	-	-	534	●	-	-
5000	2/3	120-250 mm	8-150 mm	-	-	-	-	537	●	-	-
5000	3/4	50-150 mm	5-50 mm	-	-	-	-	540	●	-	-
5090	2/3	120-250 mm	8-150 mm	-	-	-	-	543	●	-	-
5090	3/4	50-150 mm	5-50 mm	-	-	-	-	546	●	-	-
5360	2/3	120-250 mm	8-150 mm	-	-	-	-	549	●	-	-
5800	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	561	●
5800	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	564	●
5800	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	567	●
5800	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	570	●

Prod. Gr. 1DJ

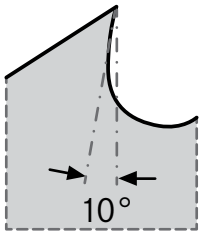
ORION® Bandsaw blades, bimetal, product sold by metre, type UNI MAX 10° M42

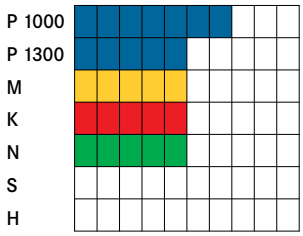
UNI insert -1,300 N/mm² solid material pipes, thick-walled

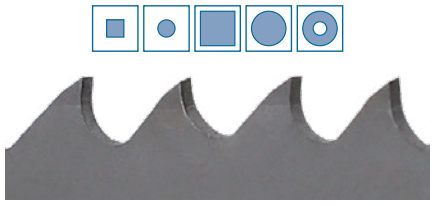
Application:
Cutting of solid material, beams and profiles with medium cross-sections in steel, stainless steel, cast iron and non-ferrous metals.

Advantage:
- Positive tooth geometry ensures a soft cut with a long service life on production bandsaws.

Notes:
Please quote in the order:
- Order number of the bandsaw blade and welding seam (“bandsaw blade welding service”)
- The length of the blade in millimetres (mm)
- Minimum order quantity 5 pieces







Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20	100	100	65	65	40	40			60					

				Bandsaw blades, bimetal, product sold by metre, type UNI MAX 10° M42		ORION welding service	
			Cutting material	HSS M42			
			Type	UNI MAX 10°			
Width x thickness	mm	Teeth per inch	mm	14049... Ident. No.		14050... Ident. No.	
20 x 0.9 mm	25-70 mm	4/6	3-30 mm	100	○	100	○
27 x 0.9 mm	120-250 mm	2/3	8-150 mm	101	○	101	○
27 x 0.9 mm	50-150 mm	3/4	5-50 mm	102	○	102	○
27 x 0.9 mm	25-70 mm	4/6	3-30 mm	103	○	103	○
34 x 1.1 mm	200-400 mm	1,4/2,0	100-250 mm	104	○	104	○
34 x 1.1 mm	120-250 mm	2/3	8-150 mm	105	○	105	○
34 x 1.1 mm	50-150 mm	3/4	5-50 mm	106	○	106	○
34 x 1.1 mm	25-70 mm	4/6	3-30 mm	107	○	107	○
41 x 1.3 mm	200-400 mm	1,4/2,0	100-250 mm	108	○	108	○
41 x 1.3 mm	120-250 mm	2/3	8-150 mm	109	○	109	○
41 x 1.3 mm	50-150 mm	3/4	5-50 mm	110	○	110	○
41 x 1.3 mm	25-70 mm	4/6	3-30 mm	111	○	111	○
54 x 1.3 mm	200-400 mm	1,4/2,0	100-250 mm	112	○	112	○
54 x 1.3 mm	120-250 mm	2/3	8-150 mm	113	○	113	○
54 x 1.3 mm	50-150 mm	3/4	5-50 mm	114	○	114	○
54 x 1.3 mm	25-70 mm	4/6	3-30 mm	115	○	115	○
54 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	116	○	116	○
54 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	117	○	117	○
54 x 1.6 mm	120-250 mm	2/3	8-150 mm	118	○	118	○
54 x 1.6 mm	50-150 mm	3/4	5-50 mm	119	○	119	○
54 x 1.6 mm	25-70 mm	4/6	3-30 mm	120	○	120	○
67 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	121	○	121	○
67 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	122	○	122	○
67 x 1.6 mm	120-250 mm	2/3	8-150 mm	123	○	123	○
80 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	124	○	124	○
80 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	125	○	125	○

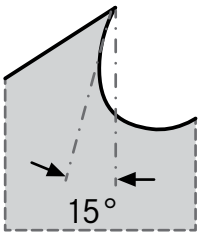
Prod. Gr. 1QM

ORION® Bandsaw blades, bimetal, product sold by metre, type UNI MAX 15° M51

UNI insert -1,300 N/mm² solid material pipes, thick-walled

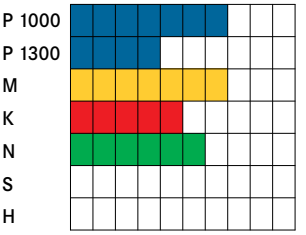
Application:
Cutting of solid material, beams and profiles with medium cross-sections in steel, stainless steel, cast iron and non-ferrous metals.

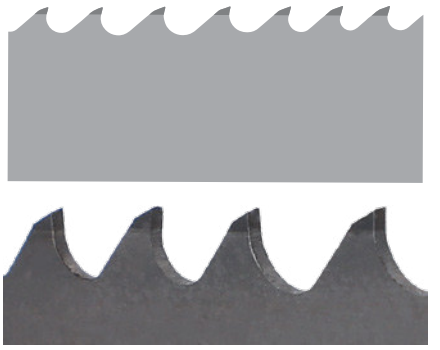
Advantage:
- Extremely positive tooth geometry, ensures a soft cut for very tough or long-chipping materials.
- Pre-honed cutting edges minimise tooth breakage and reduce the run-in times of the band saw blade.



- **Ident. No. 190–218:** High-quality M51 HSSE-PM cutting material, ensures an extremely long service life and is very heat-resistant.

Notes:
Please quote in the order:
- Order number of the bandsaw blade and welding seam (“bandsaw blade welding service”)
- The length of the blade in millimetres (mm)
- Minimum order quantity 5 pieces





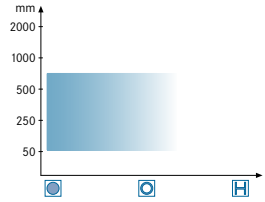
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	90	45	30	25	25	120	120	80	80	50	50			70					

				Bandsaw blades, bimetal, product sold by metre, type UNI MAX 15° M51				ORION welding service	
			Cutting material	HSSE-PM M51		HSS M42			
			Type	UNI MAX 15° M51		UNI MAX 15° M42			
Width x thickness	mm	Teeth per inch	mm	14049... Ident. No.		14049... Ident. No.		14050... Ident. No.	
27 x 0.9 mm	120-250 mm	2/3	8-150 mm	190	○	-	-	190	○
27 x 0.9 mm	50-150 mm	3/4	5-50 mm	191	○	170	○	191	○
27 x 0.9 mm	25-70 mm	4/6	3-30 mm	192	○	-	-	192	○
34 x 1.1 mm	120-250 mm	2/3	8-150 mm	193	○	171	○	193	○
34 x 1.1 mm	50-150 mm	3/4	5-50 mm	194	○	172	○	194	○
34 x 1.1 mm	25-70 mm	4/6	3-30 mm	195	○	-	-	195	○
41 x 1.3 mm	120-250 mm	2/3	8-150 mm	196	○	173	○	196	○
41 x 1.3 mm	50-150 mm	3/4	5-50 mm	197	○	174	○	197	○
41 x 1.3 mm	200-400 mm	1,4/2,0	100-250 mm	210	○	-	-	210	○
54 x 1.3 mm	120-250 mm	2/3	8-150 mm	-	-	175	○	175	○
54 x 1.6 mm	350-800 mm	1,0/1,3	100-350 mm	211	○	176	○	211	○
54 x 1.6 mm	120-250 mm	2/3	8-150 mm	-	-	177	○	177	○
54 x 1.6 mm	50-150 mm	3/4	5-50 mm	198	○	-	-	198	○
67 x 1.6 mm	350-800 mm	1,0/1,3	100-350 mm	214	○	178	○	214	○
54 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	212	○	-	-	212	○
67 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	215	○	-	-	215	○
67 x 1.6 mm	50-150 mm	3/4	5-50 mm	199	○	-	-	199	○
67 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	213	○	-	-	213	○
80 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	216	○	-	-	216	○
80 x 1.6 mm	350-800 mm	1,0/1,3	100-350 mm	217	○	-	-	217	○
80 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	218	○	-	-	218	○

Prod. Gr. 1QM

Bimetal, ground bandsaw blades for high performance sawing for production saws and automatic sawing machines

For cutting solid material and profiles with a large cross-section with medium to large dimensions in the production environment, with increased service life and quality-related requirements. Bandsaw blades with a positive ground chip angle and medium to coarse tooth pitch.



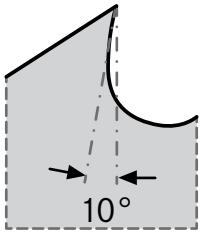
ORION® Bandsaw blade, bimetal, product sold by metre, ground, type UNI MAX S 10°

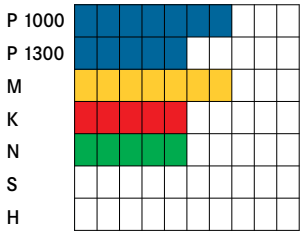
High-performance applications -1,300 N/mm², solid material, thick-walled pipes

Application:
Cutting of solid material with medium cross-sections in steel, stainless steel, cast iron and non-ferrous metals.

Advantage:
- Extremely positive ground tooth geometry ensures very smooth chip removal and precise cuts.
- Ground tooth geometry ensures excellent cutting surfaces and angularity
- High material removal rate thanks to large chip space

Notes:
Please quote in the order:
- Order number of the bandsaw blade and welding seam (“bandsaw blade welding service”)
- The length of the blade in millimetres (mm)
- Minimum order quantity 5 pieces





Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	90	50	35	25	25	120	120	75	75	50	50			70					

				Bandsaw blade, bimetal, product sold by metre, ground, type UNI MAX S 10°		ORION welding service	
			Cutting material	HSS M42			
Width x thickness	mm	Teeth per inch	mm	14049... Ident. No.		14050... Ident. No.	
27 x 0.9 mm	120-250 mm	2/3	8-150 mm	220	○	220	○
27 x 0.9 mm	50-150 mm	3/4	5-50 mm	221	○	221	○
34 x 1.1 mm	200-400 mm	1,4/2,0	100-250 mm	222	○	222	○
34 x 1.1 mm	120-250 mm	2/3	8-150 mm	223	○	223	○
34 x 1.1 mm	50-150 mm	3/4	5-50 mm	224	○	224	○
41 x 1.3 mm	200-400 mm	1,4/2,0	100-250 mm	225	○	225	○
41 x 1.3 mm	120-250 mm	2/3	8-150 mm	226	○	226	○
41 x 1.3 mm	50-150 mm	3/4	5-50 mm	227	○	227	○
54 x 1.3 mm	200-400 mm	1,4/2,0	100-250 mm	228	○	228	○
54 x 1.3 mm	120-250 mm	2/3	8-150 mm	229	○	229	○
54 x 1.3 mm	50-150 mm	3/4	5-50 mm	230	○	230	○
54 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	231	○	231	○
54 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	232	○	232	○
54 x 1.6 mm	120-250 mm	2/3	8-150 mm	233	○	233	○
54 x 1.6 mm	50-150 mm	3/4	5-50 mm	234	○	234	○
67 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	235	○	235	○
67 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	236	○	236	○
67 x 1.6 mm	120-250 mm	2/3	8-150 mm	237	○	237	○
80 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	238	○	238	○
80 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	239	○	239	○

Prod. Gr. 1QM

ORION® Bandsaw blade, bimetal, product sold by metre, ground, type UNI MAX S 10°

High-performance applications -1,300 N/mm², solid material, thick-walled pipes

				Width x thickness		27 x 0.9 mm		34 x 1.1 mm		41 x 1.3 mm	
				Type		UNI MAX S		UNI MAX S		UNI MAX S	
L (mm)	Number of teeth per inch	mm	mm	14049... Ident. No.				14049... Ident. No.		14049... Ident. No.	
2700	3/4	50-150 mm	5-50 mm	701	○	-	-	-	-	-	-
2720	3/4	50-150 mm	5-50 mm	702	●	-	-	-	-	-	-
2750	3/4	50-150 mm	5-50 mm	703	○	-	-	-	-	-	-
2825	3/4	50-150 mm	5-50 mm	704	●	-	-	-	-	-	-
2835	3/4	50-150 mm	5-50 mm	705	○	-	-	-	-	-	-
2890	2/3	120-250 mm	8-150 mm	706	○	-	-	-	-	-	-
2890	3/4	50-150 mm	5-50 mm	707	●	-	-	-	-	-	-
2910	2/3	120-250 mm	8-150 mm	708	●	-	-	-	-	-	-
2910	3/4	50-150 mm	5-50 mm	709	●	-	-	-	-	-	-
2915	3/4	50-150 mm	5-50 mm	710	○	-	-	-	-	-	-
3000	3/4	50-150 mm	5-50 mm	711	○	-	-	-	-	-	-
3010	2/3	120-250 mm	8-150 mm	712	●	-	-	-	-	-	-
3010	3/4	50-150 mm	5-50 mm	713	●	-	-	-	-	-	-
3280	2/3	120-250 mm	8-150 mm	714	●	-	-	-	-	-	-
3280	3/4	50-150 mm	5-50 mm	715	●	-	-	-	-	-	-
3320	3/4	50-150 mm	5-50 mm	716	●	-	-	-	-	-	-
3360	3/4	50-150 mm	5-50 mm	717	●	-	-	-	-	-	-
3370	3/4	50-150 mm	5-50 mm	718	○	-	-	-	-	-	-
3660	2/3	120-250 mm	8-150 mm	719	○	-	-	-	-	-	-
3660	3/4	50-150 mm	5-50 mm	720	●	-	-	-	-	-	-
3700	3/4	50-150 mm	5-50 mm	721	○	-	-	-	-	-	-
3770	2/3	120-250 mm	8-150 mm	722	●	-	-	-	-	-	-
3770	3/4	50-150 mm	5-50 mm	723	●	-	-	-	-	-	-
3830	2/3	120-250 mm	8-150 mm	724	●	-	-	-	-	-	-
3830	3/4	50-150 mm	5-50 mm	725	●	-	-	-	-	-	-
3930	3/4	50-150 mm	5-50 mm	726	○	-	-	-	-	-	-
4120	3/4	50-150 mm	5-50 mm	727	○	-	-	-	-	-	-
4150	3/4	50-150 mm	5-50 mm	728	○	734	○	-	-	-	-
3505	3/4	50-150 mm	5-50 mm	-	-	729	●	-	-	-	-
3800	3/4	50-150 mm	5-50 mm	-	-	730	●	-	-	-	-
4100	2/3	120-250 mm	8-150 mm	-	-	731	●	-	-	-	-
4100	3/4	50-150 mm	5-50 mm	-	-	732	●	-	-	-	-
4115	3/4	50-150 mm	5-50 mm	-	-	733	●	756	●	-	-
4200	2/3	120-250 mm	8-150 mm	-	-	735	●	-	-	-	-
4200	3/4	50-150 mm	5-50 mm	-	-	736	●	-	-	-	-
4240	2/3	120-250 mm	8-150 mm	-	-	737	●	-	-	-	-
4240	3/4	50-150 mm	5-50 mm	-	-	738	●	-	-	-	-
4310	3/4	50-150 mm	5-50 mm	-	-	739	○	-	-	-	-
4400	2/3	120-250 mm	8-150 mm	-	-	740	●	-	-	-	-
4400	3/4	50-150 mm	5-50 mm	-	-	741	●	-	-	-	-
4450	3/4	50-150 mm	5-50 mm	-	-	742	○	-	-	-	-
4530	3/4	50-150 mm	5-50 mm	-	-	743	●	-	-	-	-
4570	2/3	120-250 mm	8-150 mm	-	-	744	●	757	●	-	-
4570	3/4	50-150 mm	5-50 mm	-	-	745	●	-	-	-	-
4860	2/3	120-250 mm	8-150 mm	-	-	746	○	-	-	-	-
4860	3/4	50-150 mm	5-50 mm	-	-	747	●	-	-	-	-
4870	3/4	50-150 mm	5-50 mm	-	-	748	○	-	-	-	-
4930	2/3	120-250 mm	8-150 mm	-	-	749	○	-	-	-	-
4930	3/4	50-150 mm	5-50 mm	-	-	750	○	-	-	-	-
5000	2/3	120-250 mm	8-150 mm	-	-	751	●	-	-	-	-
5000	3/4	50-150 mm	5-50 mm	-	-	752	●	-	-	-	-
5090	2/3	120-250 mm	8-150 mm	-	-	753	○	-	-	-	-
5090	3/4	50-150 mm	5-50 mm	-	-	754	●	-	-	-	-
4115	2/3	120-250 mm	8-150 mm	-	-	-	-	755	●	-	-
4640	2/3	120-250 mm	8-150 mm	-	-	-	-	758	●	-	-
4640	3/4	50-150 mm	5-50 mm	-	-	-	-	759	●	-	-
5334	3/4	50-150 mm	5-50 mm	-	-	-	-	760	●	-	-
5400	2/3	120-250 mm	8-150 mm	-	-	-	-	761	●	-	-
5400	3/4	50-150 mm	5-50 mm	-	-	-	-	762	●	-	-
5800	2/3	120-250 mm	8-150 mm	-	-	-	-	763	●	-	-
5800	3/4	50-150 mm	5-50 mm	-	-	-	-	764	●	-	-
6175	3/4	50-150 mm	5-50 mm	-	-	-	-	765	●	-	-

Prod. Gr. 1QM

ORION® Bandsaw blade, bimetal, product sold by metre, ground, type UNI MAX 15°

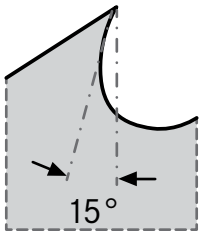
High-performance applications -1,300 N/mm², solid material, thick-walled pipes

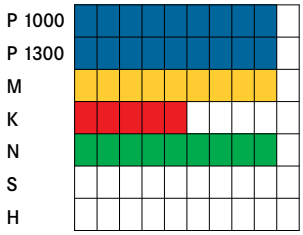
Application:
Cutting of solid material in solid material with large cross-sections in special alloys, stainless steel, steel, cast iron and non-ferrous metals.

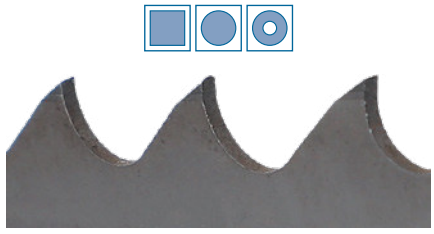
Advantage:
- High-performance belt with ground tooth geometry, optimised for long tool life on high-performance band saws.
- Extremely positive tooth geometry, ensures optimal cutting performance in very tough, hard or long-cutting materials.

- **Ident. No. 260–276:** High-quality M51 HSSE-PM cutting material, ensures an extremely long service life and is very heat-resistant.

Notes:
Please quote in the order:
- Order number of the bandsaw blade and welding seam (“bandsaw blade welding service”)
- The length of the blade in millimetres (mm)
- Minimum order quantity 5 pieces







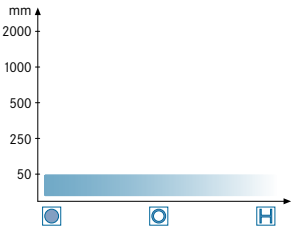
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	90	50	35	25	25	120	120	75	75	50	50			70					

				Bandsaw blade, bimetal, product sold by metre, ground, type UNI MAX 15°				ORION welding service	
			Cutting material	HSSE-PM M51		HSS M42			
Width x thickness	mm	Teeth per inch	mm	14049... Ident. No.		14049... Ident. No.		14050... Ident. No.	
27 x 0.9 mm	50-150 mm	3/4	5-50 mm	261	O	250	O	250	O
27 x 0.9 mm	120-250 mm	2/3	8-150 mm	260	O	-	-	260	O
34 x 1.1 mm	120-250 mm	2/3	8-150 mm	262	O	251	O	262	O
34 x 1.1 mm	50-150 mm	3/4	5-50 mm	263	O	252	O	263	O
41 x 1.3 mm	200-400 mm	1,4/2,0	100-250 mm	264	O	-	-	264	O
41 x 1.3 mm	120-250 mm	2/3	8-150 mm	265	O	253	O	265	O
41 x 1.3 mm	50-150 mm	3/4	5-50 mm	266	O	254	O	266	O
54 x 1.3 mm	120-250 mm	2/3	8-150 mm	-	-	255	O	255	O
54 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	268	O	-	-	268	O
54 x 1.6 mm	350-800 mm	1,0/1,3	100-350 mm	267	O	256	O	267	O
54 x 1.6 mm	120-250 mm	2/3	8-150 mm	269	O	257	O	269	O
67 x 1.6 mm	350-800 mm	1,0/1,3	100-350 mm	271	O	258	O	271	O
67 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	270	O	-	-	270	O
67 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	272	O	-	-	272	O
67 x 1.6 mm	120-250 mm	2/3	8-150 mm	273	O	-	-	273	O
80 x 1.6 mm	500-1400 mm	0.75/1.25	250-400 mm	274	O	-	-	274	O
80 x 1.6 mm	350-800 mm	1,0/1,3	100-350 mm	275	O	-	-	275	O
80 x 1.6 mm	200-400 mm	1,4/2,0	100-250 mm	276	O	-	-	276	O

Prod. Gr. 1QM

Bandsaw blades for small to medium-sized workshop saws

Cutting solid material and profiles with small dimensions. Bandsaw blades with a low chip angle and fine tooth pitch, optimised for cutting small dimensions.



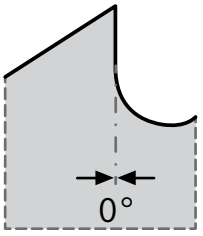
ATORN UNI MAX Basic 0° bimetal bandsaw blades, product sold by metre

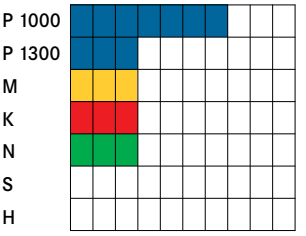
Universal use -1,300 N/mm² solid material profile

Application:
Cutting of short-chipping solid material and profiles with small cross-sections in steel, stainless steel, cast iron and non-ferrous metals.

Advantage:
- Stable 0° geometry optimised for small cross-sections and profiles on small bandsaws
- Basic quality with an excellent price/performance ratio

Notes:
Please quote in the order:
- Order number of the bandsaw blade and welding seam ("bandsaw blade welding service")
- The length of the blade in millimetres (mm)
- Minimum order quantity 5 pieces





Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20	100	100	65	65	40	40			60					

				UNI MAX Basic 0° bimetal bandsaw blades, product sold by metre		ATORN welding service	
			Cutting material	HSS M42			
			Type	UNI MAX Basic 0°			
Width x thickness	mm	Teeth per inch	mm	14053... Ident. No.		14054... Ident. No.	
13 x 0.65 mm	10-25 mm	6/10	3-15 mm	001	○	001	○
13 x 0.65 mm	5-20 mm	8/12	2-8 mm	002	○	002	○
13 x 0.65 mm	3-8 mm	10/14	1.5-4 mm	003	○	003	○
20 x 0.9 mm	15-40 mm	5/8	2-20 mm	005	○	005	○
20 x 0.9 mm	10-25 mm	6/10	3-15 mm	006	○	006	○
20 x 0.9 mm	5-20 mm	8/12	2-8 mm	007	○	007	○
20 x 0.9 mm	3-8 mm	10/14	1.5-4 mm	008	○	008	○
27 x 0.9 mm	15-40 mm	5/8	2-20 mm	011	○	011	○
27 x 0.9 mm	10-25 mm	6/10	3-15 mm	012	○	012	○
27 x 0.9 mm	5-20 mm	8/12	2-8 mm	013	○	013	○
27 x 0.9 mm	3-8 mm	10/14	1.5-4 mm	014	○	014	○
34 x 1.1 mm	15-40 mm	5/8	2-20 mm	018	○	018	○
34 x 1.1 mm	10-25 mm	6/10	3-15 mm	019	○	019	○
34 x 1.1 mm	5-20 mm	8/12	2-8 mm	020	○	020	○

Prod. Gr. 1DJ

ATORN UNI MAX Basic 0° bimetal welded bandsaw blades

Universal use -1,300 N/mm² solid material profile

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20	100	100	65	65	40	40			60					

		Width x thickness		13 x 0.65 mm		13 x 0.9 mm		20 x 0.9 mm		27 x 0.9 mm		13 x 0.6 mm		34 x 1.1 mm	
L (mm)	Number of teeth per inch	mm	mm	14055... Ident. No.		14055... Ident. No.		14055... Ident. No.		14055... Ident. No.		14055... Ident. No.		14055... Ident. No.	
1138	8/12	5-20 mm	2-8 mm	013	●	-	-	-	-	-	-	-	-	-	-
1138	6/10	10-25 mm	3-15 mm	015	●	-	-	-	-	-	-	-	-	-	-
1335	6/10	10-25 mm	3-15 mm	027	●	-	-	-	-	-	-	-	-	-	-
1335	8/12	5-20 mm	2-8 mm	029	●	-	-	-	-	-	-	-	-	-	-
1335	10/14	3-8 mm	1.5-4 mm	031	●	-	-	-	-	-	-	-	-	-	-
1440	6/10	10-25 mm	3-15 mm	033	●	-	-	-	-	-	-	-	-	-	-
1440	8/12	5-20 mm	2-8 mm	035	●	-	-	-	-	-	-	-	-	-	-
1440	10/14	3-8 mm	1.5-4 mm	037	●	-	-	-	-	-	-	-	-	-	-
1638	10/14	3-8 mm	1.5-4 mm	039	●	-	-	-	-	-	-	-	-	-	-
1735	6/10	10-25 mm	3-15 mm	-	-	041	●	-	-	-	-	-	-	-	-
1735	10/14	3-8 mm	1.5-4 mm	-	-	043	●	-	-	-	-	-	-	-	-
2035	6/10	10-25 mm	3-15 mm	-	-	-	-	045	●	-	-	-	-	-	-
2035	8/12	5-20 mm	2-8 mm	-	-	-	-	047	●	-	-	-	-	-	-
2085	6/10	10-25 mm	3-15 mm	-	-	-	-	049	●	-	-	-	-	-	-
2085	8/12	5-20 mm	2-8 mm	-	-	-	-	051	●	-	-	-	-	-	-
2140	10/14	3-8 mm	1.5-4 mm	-	-	-	-	055	●	-	-	-	-	-	-
2362	5/8	15-40 mm	2-20 mm	-	-	-	-	057	●	-	-	-	-	-	-
2362	6/10	10-25 mm	3-15 mm	-	-	-	-	059	●	-	-	-	-	-	-
2375	6/10	10-25 mm	3-15 mm	-	-	-	-	061	●	-	-	-	-	-	-
2375	10/14	3-8 mm	1.5-4 mm	-	-	-	-	063	●	-	-	-	-	-	-
2375	5/8	15-40 mm	2-20 mm	-	-	-	-	065	●	-	-	-	-	-	-
2375	8/12	5-20 mm	2-8 mm	-	-	-	-	067	●	-	-	-	-	-	-
2450	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	071	●	-	-	-	-
2450	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	075	●	-	-	-	-
2450	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	077	●	-	-	-	-
2455	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	079	●	-	-	-	-
2480	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	089	●	-	-	-	-
2480	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	091	●	-	-	-	-
2480	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	093	●	-	-	-	-
2710	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	103	●	-	-	-	-
2710	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	105	●	-	-	-	-
2720	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	109	●	-	-	-	-
2750	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	127	●	-	-	-	-
2750	8/12	5-20 mm	2-8 mm	-	-	-	-	-	-	129	●	-	-	-	-
2750	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	131	●	-	-	-	-
2750	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	133	●	-	-	-	-
2760	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	137	●	-	-	-	-
2760	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	139	●	-	-	-	-
2765	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	143	●	-	-	-	-
2835	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	155	●	-	-	-	-
2890	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	161	●	-	-	-	-
2890	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	163	●	-	-	-	-
2910	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	169	●	-	-	-	-
2910	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	171	●	-	-	-	-
2950	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	177	●	-	-	-	-
2950	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	179	●	-	-	-	-
3000	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	193	●	-	-	-	-
3000	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	195	●	-	-	-	-
3150	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	201	●	-	-	-	-
3150	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	203	●	-	-	-	-
3280	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	209	●	-	-	-	-
3280	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	211	●	-	-	-	-
3320	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	215	●	-	-	-	-
3320	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	217	●	-	-	-	-
3350	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	223	●	-	-	-	-
3370	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	233	●	-	-	-	-
3370	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	235	●	-	-	-	-
3600	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	-	-	243	●	-	-
3600	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	-	-	245	●	-	-
3660	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	255	●	-	-	-	-
3660	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	257	●	-	-	-	-
3660	8/12	5-20 mm	2-8 mm	-	-	-	-	-	-	261	●	-	-	-	-

		Width x thickness		13 x 0.65 mm		13 x 0.9 mm		20 x 0.9 mm		27 x 0.9 mm		13 x 0.6 mm		34 x 1.1 mm	
L (mm)	Number of teeth per inch	mm	mm	14055... Ident. No.		14055... Ident. No.		14055... Ident. No.		14055... Ident. No.		14055... Ident. No.		14055... Ident. No.	
3660	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	263	●	-	-	-	-
3770	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	283	●	-	-	-	-
3770	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	285	●	-	-	-	-
3800	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	291	●	-	-	-	-
3800	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	293	●	-	-	-	-
3830	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	299	●	-	-	-	-
3830	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	301	●	-	-	-	-
3830	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	303	●	-	-	-	-
4100	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	-	-	-	-	319	●
4150	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	327	●	-	-	-	-
4640	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	-	-	-	-	359	●
4640	4/6	25-70 mm	3-30 mm	-	-	-	-	-	-	-	-	-	-	361	●
5000	2/3	120-250 mm	8-150 mm	-	-	-	-	-	-	-	-	-	-	373	●
5000	3/4	50-150 mm	5-50 mm	-	-	-	-	-	-	-	-	-	-	375	●
5060	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	-	-	377	●	-	-

Prod. Gr. 1DJ

ATORN UNI MAX 0° bimetal bandsaw blades, product sold by metre

Universal use -1,300 N/mm² solid material profile

Application:

Cutting of solid material, beams and profiles with medium cross-sections in steel, stainless steel, cast iron and non-ferrous metals.

Advantage:

- Positive tooth geometry ensures a soft cut with a long service life on production bandsaws.

Notes:

Minimum quantity: 10 pieces up to 27 mm, 5 pieces with a blade width greater than 27 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20	100	100	65	65	40	40			60					

		Width x thickness		13 x 0.65 mm		13 x 0.9 mm		19 x 0.9 mm		27 x 0.9 mm		34 x 1.1 mm	
		Type		UNI MAX 10°		UNI MAX 10°		UNI MAX 10°		-		-	
L (mm)	Number of teeth per inch	mm	mm	14048... Ident. No.		14048... Ident. No.		14048... Ident. No.		14048... Ident. No.		14048... Ident. No.	
1138	8/12	5-20 mm	2-8 mm	004	●	-	-	-	-	-	-	-	-
1138	6/10	10-25 mm	3-15 mm	007	●	-	-	-	-	-	-	-	-
1335	6/10	10-25 mm	3-15 mm	010	●	-	-	-	-	-	-	-	-
1335	8/12	5-20 mm	2-8 mm	013	●	-	-	-	-	-	-	-	-
1335	10/14	3-8 mm	1.5-4 mm	016	●	-	-	-	-	-	-	-	-
1440	6/10	10-25 mm	3-15 mm	019	●	-	-	-	-	-	-	-	-
1440	8/12	5-20 mm	2-8 mm	022	●	-	-	-	-	-	-	-	-
1440	10/14	3-8 mm	1.5-4 mm	025	●	-	-	-	-	-	-	-	-
1638	10/14	3-8 mm	1.5-4 mm	028	●	-	-	-	-	-	-	-	-
1735	6/10	10-25 mm	3-15 mm	-	-	031	●	-	-	-	-	-	-
1735	10/14	3-8 mm	1.5-4 mm	-	-	034	●	-	-	-	-	-	-
2035	6/10	10-25 mm	3-15 mm	-	-	-	-	040	●	-	-	-	-
2035	8/12	5-20 mm	2-8 mm	-	-	-	-	043	●	-	-	-	-
2085	6/10	10-25 mm	3-15 mm	-	-	-	-	046	●	-	-	-	-
2362	5/8	15-40 mm	2-20 mm	-	-	-	-	058	●	-	-	-	-
2362	6/10	10-25 mm	3-15 mm	-	-	-	-	061	●	-	-	-	-
2375	5/8	15-40 mm	2-20 mm	-	-	-	-	067	●	-	-	-	-
2375	6/10	10-25 mm	3-15 mm	-	-	-	-	070	●	-	-	-	-
2375	8/12	5-20 mm	2-8 mm	-	-	-	-	073	●	-	-	-	-
2375	10/14	3-8 mm	1.5-4 mm	-	-	-	-	076	●	-	-	-	-
2450	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	088	●	-	-
2450	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	094	●	-	-
2450	8/12	5-20 mm	2-8 mm	-	-	-	-	-	-	097	●	-	-
2450	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	100	●	-	-
2465	5/8	15-40 mm	2-20 mm	-	-	-	-	079	●	-	-	-	-
2465	6/10	10-25 mm	3-15 mm	-	-	-	-	082	●	-	-	-	-
2480	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	103	●	-	-
2480	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	106	●	-	-
2480	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	109	●	-	-
2490	10/14	3-8 mm	1.5-4 mm	-	-	-	-	049	●	-	-	-	-
2530	5/8	15-40 mm	2-20 mm	-	-	-	-	052	●	-	-	-	-
2530	10/14	3-8 mm	1.5-4 mm	-	-	-	-	055	●	-	-	-	-
2710	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	112	●	-	-
2710	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	115	●	-	-
2710	8/12	5-20 mm	2-8 mm	-	-	-	-	-	-	118	●	-	-
2750	8/12	5-20 mm	2-8 mm	-	-	-	-	-	-	121	●	-	-
2750	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	124	●	-	-
2760	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	130	●	-	-
2760	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	133	●	-	-
2760	8/12	5-20 mm	2-8 mm	-	-	-	-	-	-	136	●	-	-

		Width x thickness		13 x 0.65 mm		13 x 0.9 mm		19 x 0.9 mm		27 x 0.9 mm		34 x 1.1 mm	
		Type		UNI MAX 10°		UNI MAX 10°		UNI MAX 10°		-		-	
L (mm)	Number of teeth per inch	mm	mm	**14048...** Ident. No.		**14048...** Ident. No.		**14048...** Ident. No.		**14048...** Ident. No.		**14048...** Ident. No.	
2765	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	**139**	●	-	-
2765	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**142**	●	-	-
2765	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	**145**	●	-	-
2830	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**151**	●	-	-
2835	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	**148**	●	-	-
2835	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**154**	●	-	-
2835	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	**157**	●	-	-
2890	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	**160**	●	-	-
2890	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**163**	●	-	-
2910	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	**166**	●	-	-
2910	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**169**	●	-	-
2910	8/12	5-20 mm	2-8 mm	-	-	-	-	-	-	**172**	●	-	-
2950	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	**175**	●	-	-
2950	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**178**	●	-	-
2950	8/12	5-20 mm	2-8 mm	-	-	-	-	-	-	**181**	●	-	-
2950	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	**184**	●	-	-
3000	6/8	10-50 mm	3-20 mm	-	-	-	-	**064**	●	-	-	-	-
3000	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	**187**	●	-	-
3150	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	**190**	●	-	-
3150	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**193**	●	-	-
3150	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	**196**	●	-	-
3280	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	**199**	●	-	-
3280	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**202**	●	-	-
3320	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	**205**	●	-	-
3320	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**208**	●	-	-
3350	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	**211**	●	-	-
3370	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	**214**	●	-	-
3370	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**217**	●	-	-
3660	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	**220**	●	-	-
3660	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**223**	●	-	-
3660	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	**226**	●	-	-
3770	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**229**	●	-	-
3800	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	**232**	●	-	-
3800	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**235**	●	-	-
3830	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**241**	●	-	-
3830	10/14	3-8 mm	1.5-4 mm	-	-	-	-	-	-	**247**	●	-	-
4100	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	-	-	**262**	●
4150	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	**256**	●	-	-
4240	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	-	-	**265**	●
4400	6/10	10-25 mm	3-15 mm	-	-	-	-	-	-	-	-	**271**	●
4400	8/12	5-20 mm	2-8 mm	-	-	-	-	-	-	-	-	**274**	●
4640	5/8	15-40 mm	2-20 mm	-	-	-	-	-	-	-	-	**268**	●

Prod. Gr. 1DJ

ORION ATORN Band saw blades, bimetal, product sold by metre, type UNI MAX 0° M42

Universal use - 1,000 N/mm² solid material profile

Application:

No. 14048 037–14048 086, 14049 670–14049 672: Cutting of solid material, beams and profiles with medium cross-sections in steel, stainless steel, cast iron and non-ferrous metals.

No. 14049 001–14049 090: Cutting of short-chipping solid material and profiles with small cross-sections in steel, stainless steel, cast iron and non-ferrous metals.

Advantage:

- **No. 14048 037–14048 086, 14049 670–14049 672:** Positive tooth geometry ensures a soft cut with a long service life on production bandsaws.
- **No. 14049 001–14049 022:** Basic quality with an excellent price/performance ratio
- **No. 14049 001–14049 090:** Stable 0° geometry optimised for small cross-sections and profiles on small bandsaws
- **No. 14049 670–14049 672:** Basic quality offering excellent value for money

Notes:

No. 14048: Minimum quantity: 10 pieces up to 27 mm, 5 pieces with a blade width greater than 27 mm

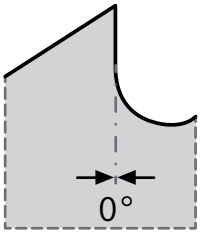
No. 14049 001–14049 022: Please quote in the order:

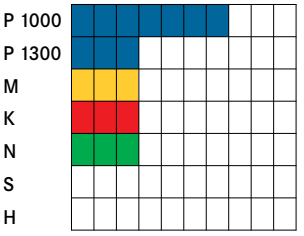
- Order number saw belt+welding seam (“Saw belt welding service”)
- The length of the belt in millimetres (mm)
- Minimum order quantity 5 pieces

No. 14049 060–14049 090: Please quote in the order:

- Order number of the bandsaw blade and welding seam (“bandsaw blade welding service”)
- The length of the blade in millimetres (mm)
- Minimum order quantity 5 pieces

No. 14049 670–14049 672: Min. order volume 5 pieces





Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20	100	100	65	65	40	40			60					

				Band saw blades, bimetal, product sold by metre, type UNI MAX 0° M42								ORION welding service	
			Cutting material	HSS M42		HSS M42		HSS M42		HSS M42			
			Type	UNI MAX 0°		UNI MAX 0° Basic		UNI MAX 10°		UNI MAX			
Width x thickness	mm	Teeth per inch	mm	14049... Ident. No.		14049... Ident. No.		14048... Ident. No.		14049... Ident. No.		14050... Ident. No.	
6 x 0.65 mm	3-8 mm	10/14	1.5-4 mm	060	○	-	-	-	-	-	-	060	○
6 x 0.9 mm	3-8 mm	10/14	1.5-4 mm	061	○	-	-	-	-	-	-	061	○
10 x 0.65 mm	3-8 mm	10/14	1.5-4 mm	062	○	-	-	-	-	-	-	062	○
10 x 0.9 mm	3-8 mm	10/14	1.5-4 mm	063	○	-	-	-	-	-	-	063	○
13 x 0.65 mm	15-40 mm	5/8	2-20 mm	064	○	001	○	-	-	-	-	001	○
13 x 0.65 mm	10-25 mm	6/10	3-15 mm	065	○	002	○	-	-	-	-	002	○
13 x 0.65 mm	5-20 mm	8/12	2-8 mm	066	○	003	○	-	-	-	-	003	○
13 x 0.65 mm	3-8 mm	10/14	1.5-4 mm	067	○	004	○	-	-	-	-	004	○
13 x 0.9 mm	15-40 mm	5/8	2-20 mm	-	-	005	○	-	-	-	-	005	○
13 x 0.9 mm	10-25 mm	6/10	3-15 mm	068	○	006	○	-	-	-	-	006	○
13 x 0.9 mm	5-20 mm	8/12	2-8 mm	069	○	007	○	-	-	-	-	007	○
13 x 0.9 mm	3-8 mm	10/14	1.5-4 mm	070	○	008	○	-	-	-	-	008	○
20 x 0.9 mm	25-70 mm	4/6	3-30 mm	071	○	009	○	-	-	-	-	009	○
20 x 0.9 mm	15-40 mm	5/8	2-20 mm	072	○	010	○	-	-	-	-	010	○
20 x 0.9 mm	10-25 mm	6/10	3-15 mm	073	○	011	○	-	-	-	-	011	○
20 x 0.9 mm	5-20 mm	8/12	2-8 mm	074	○	012	○	-	-	-	-	012	○
20 x 0.9 mm	3-8 mm	10/14	1.5-4 mm	075	○	013	○	-	-	-	-	013	○
27 x 0.9 mm	50-150 mm	3/4	5-50 mm	076	○	-	-	-	-	-	-	076	○
27 x 0.9 mm	25-70 mm	4/6	3-30 mm	077	○	014	○	086	●	-	-	014	○
27 x 0.9 mm	15-40 mm	5/8	2-20 mm	078	○	015	○	-	-	-	-	015	○
27 x 0.9 mm	10-25 mm	6/10	3-15 mm	079	○	016	○	-	-	-	-	016	○
27 x 0.9 mm	5-20 mm	8/12	2-8 mm	080	○	017	○	-	-	-	-	017	○
27 x 0.9 mm	3-8 mm	10/14	1.5-4 mm	081	○	018	○	-	-	-	-	018	○
34 x 1.1 mm	50-150 mm	3/4	5-50 mm	082	○	-	-	-	-	-	-	082	○
34 x 1.1 mm	25-70 mm	4/6	3-30 mm	083	○	-	-	-	-	-	-	083	○
34 x 1.1 mm	15-40 mm	5/8	2-20 mm	084	○	019	○	-	-	-	-	019	○
34 x 1.1 mm	10-25 mm	6/10	3-15 mm	085	○	020	○	-	-	-	-	020	○
34 x 1.1 mm	5-20 mm	8/12	2-8 mm	086	○	021	○	-	-	-	-	021	○
34 x 1.1 mm	3-8 mm	10/14	1.5-4 mm	-	-	022	○	-	-	-	-	022	○
41 x 1.3 mm	50-150 mm	3/4	5-50 mm	087	○	-	-	-	-	-	-	087	○
41 x 1.3 mm	25-70 mm	4/6	3-30 mm	088	○	-	-	-	-	-	-	088	○
41 x 1.3 mm	15-40 mm	5/8	2-20 mm	089	○	-	-	-	-	-	-	089	○
41 x 1.3 mm	10-25 mm	6/10	3-15 mm	090	○	-	-	-	-	-	-	090	○
13 x 0.6 mm	10-25 mm	6/10	3-15 mm	-	-	-	-	037	●	-	-	-	-
41 x 1.1 mm	120-250 mm	2/3	8-150 mm	-	-	-	-	-	-	670	●	-	-
41 x 1.1 mm	50-150 mm	3/4	5-50 mm	-	-	-	-	-	-	672	●	-	-

ATORN = Prod. Gr. 1DJ
ORION = Prod. Gr. 1QM

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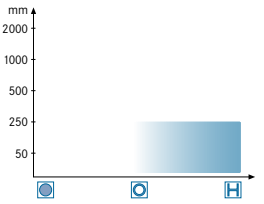
Specialised bandsaw blades for use in beams and profiles

For cutting beams, profiles and bundles across a wide range of dimensions. Bandsaw blades with specialised tooth geometry optimised for interrupted cutting operations.



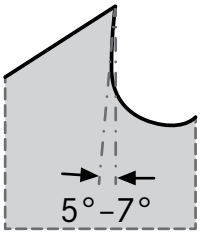
ATORN Profile MAX bimetal bandsaw blade, product sold by metre

Workshop and production saws in profiles, beams and bundles

Application:
Cutting of profiles, beams and bundles in the steel material group.

Advantage:
- Reinforced tooth geometry prevents tooth break-outs in interrupted cutting.

Notes:
Please quote in the order:
- Order number of the bandsaw blade and welding seam (“bandsaw blade welding service”)
- The length of the blade in millimetres (mm)
- Minimum order quantity 5 pieces



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25	20	20				●					60					

			Profile MAX bi-metal bandsaw blade, product sold by metre		ATORN welding service	
		Cutting material	HSS M42			
		Type	PROFILE MAX			
Width x thickness	Teeth per inch	mm	14053... Ident. No.		14054... Ident. No.	
20 x 0.9 mm	5/7	2-20 mm	090	○	090	○
20 x 0.9 mm	8/11	2-8 mm	091	○	091	○
20 x 0.9 mm	12/16	1-6 mm	092	○	092	○
27 x 0.9 mm	3/4	5-50 mm	093	○	093	○
27 x 0.9 mm	4/6	3-30 mm	094	○	094	○
27 x 0.9 mm	5/7	2-20 mm	095	○	095	○
27 x 0.9 mm	8/11	2-8 mm	096	○	096	○
27 x 0.9 mm	12/16	1-6 mm	097	○	097	○
34 x 1.1 mm	2/3	8-150 mm	098	○	098	○
34 x 1.1 mm	3/4	5-50 mm	099	○	099	○
34 x 1.1 mm	4/6	3-30 mm	100	○	100	○
34 x 1.1 mm	5/7	2-20 mm	101	○	101	○
34 x 1.1 mm	8/11	2-8 mm	102	○	102	○
41 x 1.3 mm	2/3	8-150 mm	103	○	103	○
41 x 1.3 mm	3/4	5-50 mm	104	○	104	○
41 x 1.3 mm	4/6	3-30 mm	105	○	105	○
41 x 1.3 mm	5/7	2-20 mm	106	○	106	○
41 x 1.3 mm	8/11	2-8 mm	107	○	107	○
54 x 1.3 mm	2/3	8-150 mm	108	○	108	○
54 x 1.3 mm	3/4	5-50 mm	109	○	109	○
54 x 1.3 mm	4/6	3-30 mm	110	○	110	○
54 x 1.6 mm	2/3	8-150 mm	111	○	111	○
54 x 1.6 mm	3/4	5-50 mm	112	○	112	○
54 x 1.6 mm	4/6	3-30 mm	113	○	113	○
67 x 1.6 mm	2/3	8-150 mm	114	○	114	○
67 x 1.6 mm	3/4	5-50 mm	115	○	115	○

Prod. Gr. 1DJ

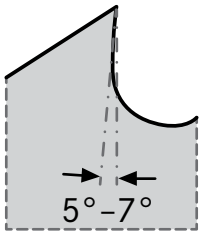
Profile MAX bimetal bandsaw blade, product sold by metre

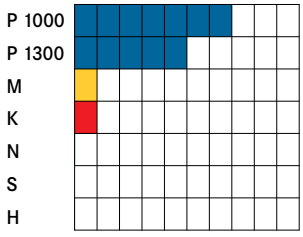
Workshop and production saws in profiles, beams and bundles

Application:
Cutting of profiles, beams and bundles in the steel material group.

Advantage:
- Very stable tooth geometry ensures high tooth stability and reliable clamping connection for large steel supports with high self-tension due to wider cutting channel.
- Pre-honed cutting edges minimise tooth breakage and reduce the run-in times of the band saw blade.

Notes:
Please quote in the order:
- Order number saw belt+welding seam (“Saw belt welding service”)
- The length of the belt in millimetres (mm)
- Minimum order quantity 5 pieces





Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	**40**	**25**	20	20				●					60					

			Profile MAX bi-metal bandsaw blade, product sold by metre		ORION welding service	
		Cutting material	HSS M42			
		Type	PROFILE MAX			
Width x thickness	Teeth per inch	mm	14049... Ident. No.		14050... Ident. No.	
34 x 1.1 mm	3/4	5-50 mm	160	○	160	○
41 x 1.3 mm	2/3	8-150 mm	161	○	161	○
54 x 1.6 mm	2/3	8-150 mm	163	○	163	○
54 x 1.6 mm	3/4	5-50 mm	164	○	164	○
67 x 1.6 mm	2/3	8-150 mm	165	○	165	○
67 x 1.6 mm	3/4	5-50 mm	166	○	166	○

Prod. Gr. 1QM

ORION® Bandsaw blade, bimetal, sold by the metre, type Uni Max 5-7°

Workshop and production saws in solid material and profiles with small to medium cross-sections

Application:

Cutting of profiles, beams and bundles in the steel material group.

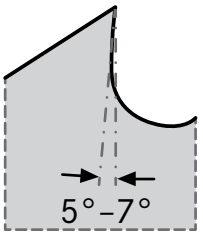
Advantage:

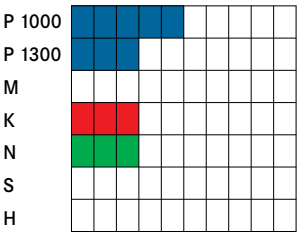
- Excellent balance between cutting flexibility and stability of the tooth geometry in the small and medium range of components, the all-rounder in mixed operation.

Notes:

Please quote in the order:

- Order number of the bandsaw blade and welding seam (“bandsaw blade welding service”)
- The length of the blade in millimetres (mm)
- Minimum order quantity 5 pieces



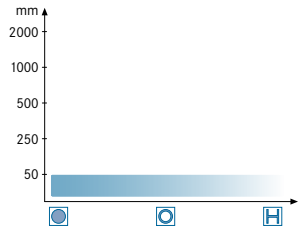


Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	40	25			100	100	65	65	40	40			60					

			Bandsaw blade, bimetal, sold by the metre, type Uni Max 5-7°		ORION welding service	
		Cutting material	HSS M42			
Width x thickness	Teeth per inch	mm	14049... Ident. No.		14050... Ident. No.	
20 x 0.9 mm	8/11	2-8 mm	130	○	130	○
27 x 0.9 mm	3/4	5-50 mm	131	○	131	○
27 x 0.9 mm	4/6	3-30 mm	132	○	132	○
27 x 0.9 mm	5/7	2-20 mm	133	○	133	○
27 x 0.9 mm	8/11	2-8 mm	134	○	134	○
34 x 1.1 mm	2/3	8-150 mm	135	○	135	○
34 x 1.1 mm	3/4	5-50 mm	136	○	136	○
34 x 1.1 mm	4/6	3-30 mm	137	○	137	○
34 x 1.1 mm	5/7	2-20 mm	138	○	138	○
41 x 1.3 mm	2/3	8-150 mm	139	○	139	○
41 x 1.3 mm	3/4	5-50 mm	140	○	140	○
41 x 1.3 mm	4/6	3-30 mm	141	○	141	○
54 x 1.3 mm	3/4	5-50 mm	142	○	142	○
54 x 1.3 mm	4/6	3-30 mm	143	○	143	○
54 x 1.6 mm	2/3	8-150 mm	144	○	144	○
54 x 1.6 mm	3/4	5-50 mm	145	○	145	○
54 x 1.6 mm	4/6	3-30 mm	146	○	146	○
67 x 1.6 mm	2/3	8-150 mm	147	○	147	○
67 x 1.6 mm	3/4	5-50 mm	148	○	148	○

Prod. Gr. 1QM

Bandsaw blades on rolls for small vertical sawing machines



ORION® Bandsaw blades on reels 30.5 m Flex Back

For universal use up to 1,000 N/mm²

Application:

Ident. No. 004–054: Separation cuts in small to medium cross-sectional range in steel, non-ferrous metals, wood

Ident. No. 120–148: Separation cuts in small to medium cross-sectional range in steel, non-ferrous metals, wood

Execution:

- Precision-engineered machine saw band 30.5 m, made from special alloy tool steel with chromium content

Advantage:

- universal use caters for a wide range of applications
- **Ident. No. 004–054:** Extremely flexible due to the soft belt back
- **Ident. No. 120–148:** High-strength belt back ensures a high level of stability

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	85	50		30	20	100	80	60	50	40	30	100		40	20	10	10		

		Type	FLEX BACK		HARD BACK	
Width (mm)	Thickness (mm)	Number of teeth per inch	14058... Ident. No.		14058... Ident. No.	
6	0.65	6	004	●	120	●
6	0.65	10	-	-	122	●
6	0.65	14	-	-	124	●
8	0.65	6	-	-	126	●
8	0.65	10	-	-	130	●
8	0.65	14	-	-	132	●
10	0.65	8	026	○	136	●
10	0.65	10	028	●	138	●
10	0.65	14	030	●	140	●
10	0.65	18	032	●	-	-
10	0.65	24	034	●	-	-
10	0.65	6	-	-	134	●
13	0.65	10	038	●	144	●
13	0.65	14	040	●	146	●
13	0.65	18	042	●	148	●
13	0.65	24	044	●	-	-
13	0.65	6	-	-	142	●
16	0.8	6	046	●	-	-
16	0.8	8	048	●	-	-
16	0.8	10	050	●	-	-
16	0.8	14	052	●	-	-
16	0.8	18	054	●	-	-

Prod. Gr. 1LA

ATORN Machine saw blades for hacksaw machines, HSS

For universal use up to 1,100 N/mm² on hacksaw machines

Application: For making separation cuts on hacksaw machines

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	35	25	15			42	40	38	38	30	30			28					

Length x width x thickness	Number of teeth per inch	Cutting material HSS 14060... Ident. No.	
300 x 25 x 1.5 mm	10	010	●
300 x 25 x 1.5 mm	14	012	●
350 x 30 x 1.5 mm	6	014	●
350 x 30 x 1.5 mm	8	016	●
350 x 30 x 1.5 mm	10	018	●
350 x 30 x 1.5 mm	14	020	●
350 x 30 x 2 mm	4	022	○
350 x 30 x 2 mm	6	024	●
350 x 30 x 2 mm	8	026	●
350 x 30 x 2 mm	10	028	●
400 x 25 x 1.25 mm	14	030	●
400 x 25 x 1.25 mm	22	032	●
400 x 25 x 1.5 mm	10	034	●
400 x 25 x 1.5 mm	14	036	●
400 x 30 x 1.5 mm	6	038	●
400 x 30 x 1.5 mm	8	040	●
400 x 30 x 1.5 mm	10	042	●
400 x 30 x 1.5 mm	14	044	●
400 x 30 x 1.5 mm	18	046	●
400 x 30 x 1.5 mm	22	048	●

Length x width x thickness	Number of teeth per inch	Cutting material HSS 14060... Ident. No.	
400 x 30 x 2 mm	4	050	●
400 x 30 x 2 mm	6	052	●
400 x 30 x 2 mm	8	054	●
400 x 30 x 2 mm	10	056	●
400 x 40 x 2 mm	4	058	●
400 x 40 x 2 mm	6	060	●
400 x 40 x 2 mm	8	062	●
450 x 30 x 2 mm	4	064	●
450 x 30 x 2 mm	6	066	●
450 x 30 x 2 mm	8	068	●
450 x 40 x 2 mm	4	500	●
450 x 40 x 2 mm	6	502	●
450 x 40 x 2 mm	8	504	●
450 x 40 x 2 mm	10	506	●
500 x 40 x 2 mm	4	070	●
500 x 40 x 2 mm	6	072	●
550 x 50 x 2.5 mm	6	074	●
600 x 50 x 2.5 mm	6	076	●
650 x 50 x 2.5 mm	4	078	●
650 x 50 x 2.5 mm	6	080	●

Prod. Gr. 1QG

ATORN Machine saw blades for hacksaw machines HSS, bimetal

For universal use up to 1,100 N/mm² on hacksaw machines

Application: For making separation cuts on hacksaw machines

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	35	25	15			42	40	38	38	30	30			28					

Length x width x thickness	Number of teeth per inch	Cutting material Bimetal 14060... Ident. No.	
300 x 32 x 1.6 mm	10	200	●
350 x 32 x 1.6 mm	6	202	●
350 x 32 x 1.6 mm	8	204	●
400 x 32 x 1.6 mm	4	206	●
400 x 32 x 1.6 mm	6	208	●

Length x width x thickness	Number of teeth per inch	Cutting material Bimetal 14060... Ident. No.	
400 x 32 x 1.6 mm	8	210	●
500 x 38 x 1.9 mm	6	212	●
500 x 50 x 2.5 mm	6	214	●
600 x 50 x 2.5 mm	4	216	●
600 x 50 x 2.5 mm	6	218	●

Prod. Gr. 1QG

ATORN Machine saw blades for hacksaw machines, HSSE

For universal use up to 1,100 N/mm² on hacksaw machines

Application: For making separation cuts on hacksaw machines

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	35	25	15	12	10	42	40	38	38	30	30			28	4	8	5		

Length x width x thickness	Number of teeth per inch	Cutting material HSSE 14060... Ident. No.	
400 x 32 x 2 mm	4	300	●
400 x 32 x 2 mm	6	302	●
400 x 32 x 2 mm	8	304	●

Length x width x thickness	Number of teeth per inch	Cutting material HSSE 14060... Ident. No.	
450 x 40 x 2 mm	4	306	●
450 x 40 x 2 mm	6	308	●
450 x 40 x 2 mm	8	310	●

Prod. Gr. 1QG

ATORN Machine saw blades for Kasto HSS hacksaw machines

For universal use up to 1,100 N/mm² on Kasto hacksaw machines

Application: For making separation cuts on hacksaw machines

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	35	25	15			42	40	38	38	30	30			28					

Length x width x thickness	Number of teeth per inch	Cutting material HSS 14060... Ident. No.	
300 x 30 x 1.5 mm	14	104	●
300 x 30 x 1.5 mm	10	102	●
300 x 30 x 1.5 mm	6	100	●
350 x 36 x 2 mm	6	108	●
400 x 32 x 2 mm	8	116	●
450 x 36 x 2 mm	8	124	●
350 x 36 x 2 mm	10	110	●
400 x 32 x 2 mm	4	112	●
350 x 36 x 2 mm	4	106	●
400 x 32 x 2 mm	6	114	●
400 x 32 x 2 mm	10	118	●
450 x 36 x 2 mm	4	120	○
450 x 36 x 2 mm	6	122	●

Length x width x thickness	Number of teeth per inch	Cutting material HSS 14060... Ident. No.	
450 x 40 x 2 mm	4	126	●
450 x 40 x 2 mm	6	128	●
450 x 40 x 2 mm	10	130	●
550 x 45 x 2 mm	4	132	●
550 x 45 x 2 mm	6	134	●
575 x 50 x 2.5 mm	4	136	●
575 x 50 x 2.5 mm	6	138	●
600 x 50 x 2.5 mm	4	140	●
600 x 50 x 2.5 mm	6	142	●
650 x 55 x 2.5 mm	4	144	●
650 x 55 x 2.5 mm	6	146	●
700 x 55 x 2.5 mm	4	148	●
700 x 55 x 2.5 mm	6	150	●

Prod. Gr. 1QG

ATORN Machine saw blades for Kasto HSS hacksaw machines, bimetal

For universal use up to 1,100 N/mm² on hacksaw machines

Application: For making separation cuts on hacksaw machines

Ident. No. 250–254, 256–268

Ident. No. 255

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	35	25	15			42	40	38	38	30	30			28					

Length x width x thickness	Number of teeth per inch	Cutting material Bimetal 14060... Ident. No.		HSS 14060... Ident. No.	
400 x 38 x 1.9 mm	4	250	●	-	-
400 x 38 x 1.9 mm	6	252	●	-	-
400 x 38 x 1.9 mm	10	254	●	-	-
450 x 40 x 2 mm	8	-	-	255	●
500 x 38 x 1.9 mm	6	256	●	-	-
575 x 50 x 2.5 mm	4	258	●	-	-

Length x width x thickness	Number of teeth per inch	Cutting material Bimetal 14060... Ident. No.		HSS 14060... Ident. No.	
575 x 50 x 2.5 mm	6	260	●	-	-
600 x 50 x 2.5 mm	4	262	●	-	-
600 x 50 x 2.5 mm	6	264	●	-	-
700 x 50 x 2.5 mm	4	266	●	-	-
700 x 50 x 2.5 mm	6	268	●	-	-

Prod. Gr. 1QG

ATORN Machine saw blades for Kasto HSS hacksaw machines

For universal use up to 1,100 N/mm² on Kasto hacksaw machines

Application: For making separation cuts on hacksaw machines

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	35	25	15	12	10	42	40	38	38	30	30			28	4	8	5		

Length x width x thickness	Number of teeth per inch	Cutting material HSSE 14060... Ident. No.	
400 x 36 x 2 mm	4	350	●
400 x 36 x 2 mm	6	352	●
450 x 40 x 2 mm	4	354	●
450 x 40 x 2 mm	6	356	●
450 x 40 x 2 mm	8	358	●
450 x 40 x 2 mm	10	360	●

Length x width x thickness	Number of teeth per inch	Cutting material HSSE 14060... Ident. No.	
500 x 40 x 2 mm	6	362	●
550 x 45 x 2 mm	6	364	●
600 x 50 x 2.5 mm	4	366	●
600 x 50 x 2.5 mm	6	368	○
700 x 55 x 2.5 mm	4	370	●
700 x 55 x 2.5 mm	6	372	●

Prod. Gr. 1QG

Solid carbide profiling and special cutter

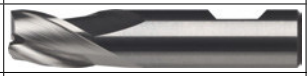
		Ø	Cutting material	Z	Type	Surface	P	M	N	K	S	H		page
16521	Cemented carbide keyway cutter	10.5-32.5 mm	Carbide	8 PCS	N	Uncoated	●	○	○	●	○			395
16525	Cemented carbide T-groove cutter	16-40 mm	Carbide	6 PCS	N	Uncoated	●	○	○	●	○			395
16530216-240	Cemented carbide angular milling cutter	16-40 mm	Carbide	6 PCS		Uncoated	●	○	○	●	○			396
16711625-850	Solid carbide quarter circle milling cutter Concave	0.25-2.5 mm	SC	2 PCS	N	Uncoated	●	●	●	●	○			396
16711905-960	Solid carbide quarter circle milling cutter Concave	0.5-6 mm	SC	4 PCS	N	TiAlN	●	●	●	●	○			397
11532010-160	SC chamfer mill 30° ULTRA coated	1-16 mm	SC	5 PCS	N	ULTRA	●	●	●	●	○			398
11542230-360	Solid carbide chamfer mill 90° TiAlN-coated	3-16 mm	SC	5 PCS	N	TiAlN	●	●	●	●	○	○		401-402
11542010-160	SC chamfer mill 90° ULTRA coated	1-16 mm	SC	5 PCS	N	ULTRA	●	●	●	●	○			402-403
11545060-160	SC chamfer cutter 90° ULTRA H coated	6-16 mm	SC	8 PCS	H	ULTRA H	●	●	●	●	○	●		403
11533060-160	SC chamfer cutter 90° Without tip, ULTRA coated	6-16 mm	SC	5 PCS	N	ULTRA	●	●	●	●	○			404
11570060-160	SC HIGH FEED de-burring tool 90° ULTRA H coated	6-16 mm	SC	14 PCS	H	ULTRA H	●	●	●	●	○	●		404
11534060-160	SC chamfer mill 90° Spiral ULTRA coated	1-16 mm	SC	5 PCS	N	ULTRA	●	●	●	●	○			405
11535060-160	SC chamfer mill 90° ULTRA N coated	6-16 mm	SC	3 PCS	W	ULTRA N			●					405
11531010-160	SC chamfer mill 120° ULTRA coated	1-16 mm	SC	5 PCS	N	ULTRA	●	●	●	●	○			406
11539010-160	Forward and reverse SC-TiAlN deburring tool, 90° For universal use up to 1300 N/mm²	6-15.8 mm	SC	4 PCS	N	TiAlN	●	●	●	●	○			406
11550015-060	SC forward and reverse deburrer 90° SC TiAlN, short For universal use up to 1300 N/mm²	3.6-5.9 mm	SC	3 PCS	N	TiAlN	●	●	●	●	○			407
11540002-025	Forward and reverse SC-TiAlN quarter circle cutter For universal use up to 1300 N/mm²	7.0-12 mm	SC	4 PCS	N	TiAlN	●	●	●	●	○			408
16704	Solid carbide chamfer cutter 2 cutting edges, uncoated	3-20 mm	SC	2 PCS	N	Uncoated	●	●	●	●	○			397-398
16705	Solid carbide chamfer cutter 2 cutting edges, uncoated	1-20 mm	SC	2 PCS	N	Uncoated	●	●	●	●	○			397-398
16706	Solid carbide chamfer cutter 2 cutting edges, uncoated	3-20 mm	SC	2 PCS	N	Uncoated	●	●	●	●	○			397-398

universal machining – 2 cutters

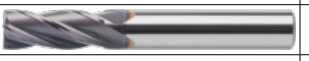
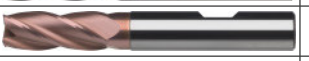
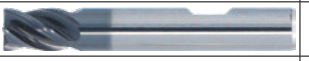
	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16733	3-20 mm	2 PCS	W	TiAlN	HB parallel shank		●	●					410
16727001-025	0.25-1.8 mm	2 PCS	N	Uncoated	HB parallel shank	●	●	●	●	○			410-411
16728001-025	0.25-1.8 mm	2 PCS	N	ULTRA	HB parallel shank	●	●	●	●	○			410-411
16717030-200	3-20 mm	2 PCS	N	TiAlN	HB parallel shank	●	●	●	●	○			411-412

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16725	1-16 mm	2 PCS	N	Uncoated	HA parallel shank	●	●	●	●	○			412
16750	3-20 mm	2 PCS	N	Uncoated	HA parallel shank	●	●	●	●	○			413

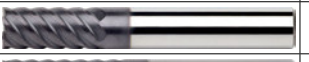
universal machining – 3 cutters

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16760	2-12 mm	3 PCS	N	Uncoated	HB parallel shank	●	●	●	●	○			413-414
16763	2-12 mm	3 PCS	N	ULTRA	HB parallel shank	●	●	●	●	○			413-414
16787	2.8-20 mm	3 PCS	N	Uncoated	HB parallel shank	●	●	○	●	○			414
16788	2.8-20 mm	3 PCS	N	ULTRA	HB parallel shank	●	●	○	●	○			414
16778	3-20 mm	3 PCS	N	TiAlN	HB parallel shank	●	●	○	●	●			415
16781030-200	3-20 mm	3 PCS	N	TiAlN	HB parallel shank	●	●	●	●	○			415-416
16784031-201	3-20 mm	3 PCS	N	TiAlN	HA parallel shank	●	●	●	●	○			415-416
16780	1-12 mm	3 PCS	N	Uncoated	HA parallel shank	●	●	●	●	○			416
16790	2-20 mm	3 PCS	N	Uncoated	HB parallel shank	●	●	●	●	○			417
16792	2-20 mm	3 PCS	N	ULTRA	HB parallel shank	●	●	●	●	○			417
16793	3.5-20 mm	3 PCS	N	Uncoated	HB parallel shank	●	●	●	●	○			417-418
16794	3.5-20 mm	3 PCS	N	ULTRA	HB parallel shank	●	●	●	●	○			417-418
16799530-700	3-20 mm	3 PCS	N	TiAlN	HB parallel shank	●	●	●	●	○			418
16785	1-20 mm	3 PCS	N	Uncoated	HA parallel shank	●	●	●	●	○			419

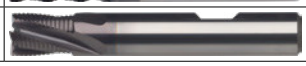
universal machining – 4 cutters

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16828	2-20 mm	4 PCS	W	TiAlN	HB parallel shank		●	●		○			419
16830	2-20 mm	4 PCS	N	Uncoated	HA parallel shank	●	●	●	●	○			420
16822020-200	3-20 mm	4 PCS	N	TiAlN	HA parallel shank	●	●	●	●	○			420-421
16823031-201	3-20 mm	4 PCS	N	TiAlN	HB parallel shank	●	●	●	●	○			420-421
16837306-325	6-25 mm	4 PCS	H	TiAlN	HB parallel shank	●			●		●		421
16838302-305	2-5 mm	4 PCS	H	TiAlN	HB parallel shank	●			●		●		421
16857	2-20 mm	4 PCS	N	ULTRA	HB parallel shank	●	●	●	●	○			422
16862040-201	4-20 mm	4 PCS	N	ULTRA	HA parallel shank	●	○			○	●		422-423
16861305-320	5.7-20 mm	4 PCS	N	AlTiN	HA parallel shank	●	●		●	○			424
16851200-252	3-25 mm	4 PCS	N	ULTRA	HB parallel shank	●	●	●	●	●			427
16851553-570	3-20 mm	4 PCS	VA	AlCrN	HB parallel shank	○	●			○			429-430
16853201-217	3-20 mm	4 PCS	N	TiAlN	HB parallel shank	●	○	●	●	○			425

universal machining – 6-8 cutters

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16886	6-20 mm	8 PCS	VA	ULTRA	HB parallel shank	●	●	●	●	●			435-436
16876040-200	4-20 mm	6 PCS	N	TiAlN	HB parallel shank	●	●	●	○	○			436-437
16881040-200	4-20 mm	6 PCS	N	TiAlN	HB parallel shank	●	●	●	○	○			436-437
16883040-200	4-20 mm	6 PCS	H	TiAlN	HA parallel shank	●			○		●		437
16883051-251	5-25 mm	8 PCS	H	TiAlN	HA parallel shank	●			○		●		437

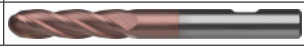
universal machining – roughing cutter

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16848040-200	4-20 mm	3 PCS	NR	ULTRA	HB parallel shank	●	●	●	●	●			433-434
16848041-201	4-20 mm	4 PCS	NR	ULTRA	HB parallel shank	●	●	●	●	●			433-434
16849460-900	6-20 mm	4 PCS	VA	ULTRA	HA parallel shank	●	●	●	○	○			434
16849461-901	6-20 mm	6 PCS	VA	ULTRA	HB parallel shank	●	○	●	●	○			434
16849306-320	6-20 mm	4 PCS	HR	TiAlN	HB parallel shank	●	○	●	●	○			434-435
16852040-200	4-20 mm	3 PCS	NR	TiAlN	HB parallel shank	●		●	●				435

universal machining – torus milling cutter

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16856	3-20 mm	4 PCS	N	ULTRA	HB parallel shank	●	●	●	●	●			439-440
16862500-509	2-16 mm	3 PCS	H	TiAlN	HA parallel shank	●	○			○	●		440-441

universal machining – radius cutter

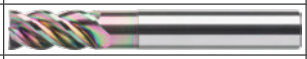
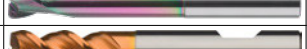
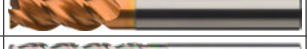
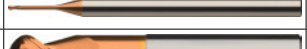
	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16738	0.25-2.5 mm	2 PCS	N	Uncoated	HA parallel shank	●	●	●	●	○			441
16741020-200	2-20 mm	2 PCS	N	TiAlN	HB parallel shank	●	○	●	●	○			441-442
16743	6-20 mm	2 PCS	N	TiAlN	HB parallel shank	●	○	●	●	○			442
16749	1-10 mm	2 PCS	N	TiAlN	HA parallel shank	●	○	●	●	○			442-443
16868060	6-6 mm	4 PCS	N	ULTRA	HB parallel shank	●	●	●	●	●			443
16868061	6-6 mm	4 PCS	N	ULTRA	HB parallel shank	●	●	●	●	●			443

solid carbide TVC cutter – trochoidal milling

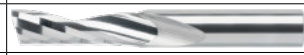
	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16859002-012	6-20 mm	5 PCS	N	ULTRA	HB parallel shank	●			●				444
16859020-028	6-16 mm	4 PCS	N	ULTRA	HB parallel shank	●			●				444
16859100-110	6-20 mm	5 PCS	VA	ULTRA M	HB parallel shank		●			●			444-445
16859120-128	6-16 mm	4 PCS	VA	ULTRA M	HB parallel shank		●			●			444-445
16859140-154	4-20 mm	4 PCS	W	Uncoated	HB parallel shank			●					445
16859160-172	4-16 mm	4 PCS	W	Uncoated	HB parallel shank			●					445
16665700-725	6-20 mm	3 PCS	W	ULTRA N PRO	HA parallel shank			●					446

Solid carbide mills for machining aluminium

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16652105-114	1.5-16 mm	1 PCS	W	Uncoated	HA parallel shank			●					409, 447
16700	1-10 mm	1 PCS	W	Uncoated	HA parallel shank			●					409, 410, 447, 448
16665005-095	1-12 mm	1 PCS	W	ULTRA N PRO	HA parallel shank			●					448
16652010-095	0.5-2.5 mm	2 PCS	W	ULTRA N	HA parallel shank			●					448-449
16652120-128	3-20 mm	2 PCS	W	Uncoated	HB parallel shank			●					449
16652140-147	3-16 mm	2 PCS	W	ULTRA N	HB parallel shank			●					449-450
16665100-140	3-20 mm	2 PCS	W	ULTRA N PRO	HA parallel shank			●					450
16665200-240	3-20 mm	2 PCS	W	ULTRA N PRO	HA parallel shank			●					451
16815	4-25 mm	2 PCS	W	Uncoated	HA parallel shank			●					451
16652220-228	3-20 mm	3 PCS	W	Uncoated	HB parallel shank			●					452
16655010-070	4-16 mm	3 PCS	W	Uncoated	HA parallel shank			●					452-453
16652270-278	3-20 mm	3 PCS	W	ULTRA N	HA parallel shank			●					453
16665300-340	3-20 mm	3 PCS	W	ULTRA N PRO	HA parallel shank			●					454
16665400-435	4-20 mm	3 PCS	W	ULTRA N PRO	HA parallel shank			●					454
16665500-525	6-20 mm	3 PCS	W	ULTRA N PRO	HA parallel shank			●					455
16652300-308	3-20 mm	3 PCS	W	Uncoated	HA parallel shank			●					455
16652320-328	3-20 mm	3 PCS	W	ULTRA N	HA parallel shank			●					456
16655100-150	6-20 mm	3 PCS	WF	Uncoated	HA parallel shank			●					456-457
16652410-415	6-20 mm	3 PCS	WF	ULTRA N	HB parallel shank			●					457
16652420-425	6-20 mm	3 PCS	WF	ULTRA N	HA parallel shank			●					457-458
16665800-825	6-20 mm	3 PCS	WF	ULTRA N PRO	HA parallel shank			●					458
16665900-925	6-20 mm	3 PCS	WF	ULTRA N PRO	HA parallel shank			●					458-459
16652510-518	3-20 mm	4 PCS	W	ULTRA N	HB parallel shank			●					459
16652521-527	4-16 mm	4 PCS	W	ULTRA N	HA parallel shank			●					459-460
16652533-537	6-16 mm	4 PCS	W	ULTRA N	HA parallel shank			●					460

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16655200-250	6-20 mm	4 PCS	W	Uncoated	HA parallel shank			●					460-461
16655300-350	6-20 mm	4 PCS	W	Uncoated	HA parallel shank			●					461
16652600-608	3-20 mm	4 PCS	W	ULTRA N	HA parallel shank			●					461-462
16665600-640	3-20 mm	4 PCS	W	ULTRA N PRO	HA parallel shank			●					462
16652611-618	4-16 mm	4 PCS	W	ULTRA N	HA parallel shank			●					462-463
16653010-095	0.5-2.5 mm	2 PCS	W	ULTRA N	HA parallel shank			●					463
16653105-180	3-16 mm	2 PCS	W	ULTRA N	HA parallel shank			●					463-464
16653205-280	3-16 mm	2 PCS	W	ULTRA N	HA parallel shank			●					464
16653320-365	6-16 mm	2 PCS	W	ULTRA N	HA parallel shank			●					465
16666005-080	3-16 mm	2 PCS	W	ULTRA N PRO	HA parallel shank			●					465-466
16666100-175	3-16 mm	2 PCS	W	ULTRA N PRO	HA parallel shank			●					466
16653620-680	5-20 mm	3 PCS	W	ULTRA N	HB parallel shank			●					466-467
16666200-270	6-20 mm	3 PCS	W	ULTRA N PRO	HA parallel shank			●					467
16651	6-25 mm	3 PCS	WF	CALIDA Z	HA parallel shank			●					468
16655400-490	10-20 mm	4 PCS	W	Uncoated	HA parallel shank			●					468-469
16655500-590	10-20 mm	4 PCS	W	Uncoated	HA parallel shank			●					469
16654010-095	0.5-2.5 mm	2 PCS	W	ULTRA N	HA parallel shank			●					469-470
16654105-140	3-16 mm	2 PCS	W	ULTRA N	HA parallel shank			●					470
16654205-240	3-16 mm	2 PCS	W	ULTRA N	HA parallel shank			●					470-471
16654305-330	3-12 mm	2 PCS	W	ULTRA N	HA parallel shank			●					471
16667005-040	3-16 mm	2 PCS	W	ULTRA N PRO	HA parallel shank			●					471-472
16667100-135	3-16 mm	2 PCS	W	ULTRA N PRO	HA parallel shank			●					472

Solid carbide milling cutter, plastic processing

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16656010-120	2-12 mm	1 PCS	Left-hand twist	Uncoated	HA parallel shank			●					473
16656200-310	2-12 mm	1 PCS	Right-hand twist	Uncoated	HA parallel shank			●					473
16656400-510	2-12 mm	1 PCS	Left-hand twist	Uncoated	HA parallel shank			●					473-474
16656600-710	2-12 mm	1 PCS	Right-hand twist	Uncoated	HA parallel shank			●					473-474
16656800-910	3-12 mm	1 PCS	W	Uncoated	HA parallel shank			●					474
16657010-100	2-20 mm	2 PCS	Right-hand twist	Uncoated	HA parallel shank			●					475
16657200-300	2-20 mm	2 PCS	Left-hand twist	Uncoated	HA parallel shank			●					475
16657400-450	4-12 mm	2 PCS	Standard	Uncoated	HA parallel shank			●					475
16657500-550	4-12 mm	2 PCS	High-per-formance	Uncoated	HA parallel shank			●					475
16657700-760	10-30 mm	3 PCS	W	Uncoated	HA parallel shank			●					476

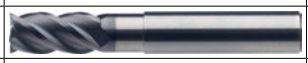
Solid carbide mills for machining stainless steel

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16670150-166	3-20 mm	3 PCS	VA	ULTRA MS	HB parallel shank	●	●			●			477
16670190-206	3-20 mm	4 PCS	VA	ULTRA MS	HB parallel shank	●	●			●			477-478
16670260-274	4-20 mm	4 PCS	VA	ULTRA MS	HB parallel shank	●	●			●			478
16670320-327	4-20 mm	4 PCS	VA	ULTRA MS	HB parallel shank	●	●			●			478-479
16670340-347	4-20 mm	5 PCS	VA	ULTRA MS	HB parallel shank	●	●			●			479
16670240-250	6-20 mm	4 PCS	VA	ULTRA MS	HB parallel shank	●	●			●			480
16672150-204	4-20 mm	4 PCS	VA	ULTRA MS	HB parallel shank	●	●			●			480-481
16674170-186	3-20 mm	2 PCS	VA	ULTRA MS	HA parallel shank	●	●			●			481
16674200-216	3-20 mm	2 PCS	VA	ULTRA MS	HB parallel shank	●	●			●			481-482

Solid carbide barrel milling cutter

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16968100-120	2-6 mm	4 PCS	N	ULTRA	HA parallel shank	●	●	●	●		●		483
16968200-220	2-6 mm	4 PCS	N	Uncoated	HA parallel shank	●	●	●	●		●		483
16968500-550	2-8 mm	4 PCS	N	ULTRA	HA parallel shank	●	●	●	●		●		483
16968600-650	2-8 mm	4 PCS	N	Uncoated	HA parallel shank	●	●	●	●		●		483

Solid carbide mills for machining steel up to 52 HRC

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16972200-208	3-20 mm	4 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		484
16972220-228	3-20 mm	4 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		484-485
16972230-238	3-20 mm	4 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		485
16972240-248	3-20 mm	8 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		485-486
16972250-258	3-20 mm	6 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		486
16973300-352	1-4 mm	4 PCS	N	RockTec 52	HA parallel shank	●	○		●		●		486-487
16973100-127	3-20 mm	4 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		487-488
16973130-145	3-16 mm	4 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		488
16973150-165	3-16 mm	4 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		489
16973170-185	3-16 mm	4 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		489-490
16976190-201	4-12 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		392, 490, 502, 503
16974200-210	2-20 mm	2 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		491
16974220-230	2-20 mm	2 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		491-492
16974240-250	2-20 mm	2 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		492
16974260-268	3-20 mm	4 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		492-493
16974270-278	3-20 mm	4 PCS	N	RockTec 52	HA parallel shank	●	○		●		○		493

Solid carbide mills for machining steel up to 65 HRC

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16975200-208	3-20 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		494
16975220-228	3-20 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		494-495
16975230-238	3-20 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		495
16975240-248	3-20 mm	8 PCS	H	RockTec 65	HA parallel shank	●	○				●		495-496
16975250-258	3-20 mm	6 PCS	H	RockTec 65	HA parallel shank	●	○				●		496
16931103-130	2-20 mm	4 PCS	H	TiSiN	HA parallel shank	○					●		496-497
16931180-187	6-20 mm	6 PCS	H	TiSiN	HA parallel shank	○					●		497
16976300-352	1-4 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		497-498
16976100-128	3-20 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		498-499
16976130-145	3-16 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		499
16976150-165	3-16 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		500
16976170-185	3-16 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		500-501
16976400-440	2-12 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		501
16976500-540	2-12 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		502
16976190-201	4-12 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		392, 490, 502, 503
16932003-051	3-16 mm	4 PCS	H	TiSiN	HA parallel shank	○					●		503
16932100-127	6-16 mm	6 PCS	H	TiSiN	HA parallel shank	○					●		504
16932160-175	6-16 mm	6 PCS	H	TiSiN	HA parallel shank	○					●		504
16942	3-16 mm	4 PCS	H	TiAlN	HA parallel shank	●					●		505-506
16977200-210	2-20 mm	2 PCS	H	RockTec 65	HA parallel shank	●					●		506
16977220-230	2-20 mm	2 PCS	H	RockTec 65	HA parallel shank	●					●		506-507
16977240-250	2-20 mm	2 PCS	H	RockTec 65	HA parallel shank	●					●		507
16977260-268	3-20 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		507-508
16977270-278	3-20 mm	4 PCS	H	RockTec 65	HA parallel shank	●					●		508
16933003-027	1-16 mm	2 PCS	H	TiSiN	HA parallel shank	○					●		508-509
16933050-074	1-16 mm	2 PCS	H	TiSiN	HA parallel shank	○					●		509
16933103-130	2-16 mm	4 PCS	H	TiSiN	HA parallel shank	○					●		509-510
16933150-171	2-16 mm	4 PCS	H	TiSiN	HA parallel shank	○					●		510
16950500-516	3-20 mm	6 PCS	H	RockTec PRO	HA parallel shank	○					●		510-511
16950550-566	3-20 mm	6 PCS	H	RockTec PRO	HA parallel shank	○					●		511

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
16950600-616	3-20 mm	6 PCS	H	RockTec PRO	HA parallel shank	○					●		511-512
16952200-282	1-16 mm	4 PCS	H	RockTec PRO	HA parallel shank	○					●		512-513
16952300-382	1-16 mm	4 PCS	H	RockTec PRO	HA parallel shank	○					●		513-514
16952500-568	3-20 mm	6 PCS	H	RockTec PRO	HA parallel shank	○					●		514-515
16952600-648	3-20 mm	6 PCS	H	RockTec PRO	HA parallel shank	○					●		515
16952700-746	3-20 mm	6 PCS	H	RockTec PRO	HA parallel shank	○					●		516
16954200-224	1-20 mm	2 PCS	H	RockTec PRO	HA parallel shank	○					●		516-517
16954250-274	1-20 mm	2 PCS	H	RockTec PRO	HA parallel shank	○					●		517
16954300-324	1-20 mm	2 PCS	H	RockTec PRO	HA parallel shank	○					●		518

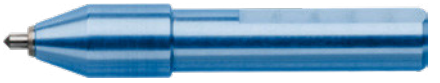
ATORN “Marker PRO” marking tool

For fast and efficient labelling

Application:
the tool produces high-quality marking with a combination of material compaction and material displacement.

Execution:
- Workpiece unevenness is compensated for up to 5 mm
- Possible to mark round surfaces
- Labelling possible both in dry and in wet state
- Marking speed up to 200 m/min
- Compact design for cramped conditions

Advantage:
- universal use in a wide range of materials
- no need for external labelling
- reduced processing times of workpieces
- production efficiency is increased



Type		Marker-PRO12	Marker-PRO20
Housing outer Ø (mm)		14	22
Ø of needle (mm)		3	3
Shank Ø		12	20
Length 2 (mm)		80	107
Composition of set		1 x Marker-PRO12 with clamping surface, 1 x needle with radius 0.3 mm, 1 x needle with radius 0.5 mm, 1 x installation key	1 x Marker-PRO20 with clamping surface, 1 x needle with radius 0.5 mm, 1 x needle with radius 1 mm, 1 x installation key
16531...	Ident. No.	050 ●	060 ●

Prod. Gr. 186

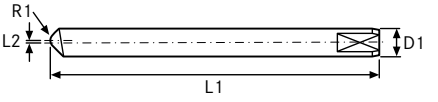
ATORN Marker pin

Suitable for “Marker PRO” labelling tool

Execution:
- Centric marking needle
- **Ident. No. 080–082:** Suitable for marker PRO12
- **Ident. No. 090–092:** Suitable for marker PRO20

Type	R1 (mm)	D1 (mm)	L1 (mm)	16531... Ident. No.	
Marker PRO12	0.3	3	37	080	●
Marker PRO12	0.5	3	37	082	●
Marker PRO20	0.5	3	50	090	●
Marker PRO20	1	3	50	092	●

Prod. Gr. 186



Solid carbide profiling and special cutter

ORION® Carbide keyway cutter (Milling cutter design standard DIN 850)

HM | Typ N | HA

Application:
For producing slots.

Execution:
- solid carbide

- with smooth straight shank
- hollow-ground on side
- in accordance with DIN 850
- from 13.5 mm in diameter, carbide-tipped

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	70	**60**	50	40	30	100	225	80	85	55	60	75		**45**	23				

Cutting edge Ø (mm)	Width of cutting edge (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 1000 ● (mm)	16521... Ident. No.	
10.5	2	50	8	6	0.035	**010**	●
10.5	4	50	8	6	0.035	**015**	●
12.5	2	50	10	6	0.035	**020**	●
12.5	4	50	10	6	0.035	**025**	●
13.5	4	50	10	6	0.035	**030**	●
16.5	5	55	10	6	0.04	**035**	●
19.5	6	55	10	6	0.04	**040**	●
22.5	8	60	10	6	0.045	**045**	●
25.5	6	60	10	6	0.045	**050**	●
28.5	10	60	10	6	0.045	**055**	●
32.5	10	65	10	8	0.045	**060**	●

Prod. Gr. 165

ORION® Carbide T-slot cutter (Milling cutter design standard DIN 851)

HM | Typ N | HA

Application:
For making T-slots conforming to DIN 650

Execution:
- Straight shank according to DIN 1835 A

- Stable cemented carbide cutters
- Cross-toothing
- Corners 0.3 mm x 45°, chamfered
- In accordance with DIN 650

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	80	**65**	55	40	35	100	225	80	85	55	60	75		**45**	23				

							Type	N	
Cutting edge Ø (mm)	Width of cutting edge (mm)	Suitable for T-groove (mm)	Length (mm)	Neck Ø (mm)	Shank Ø (mm)	Z (PCS)	fz steel 1000 ● (mm)	16525... Ident. No.	
16	8	8	63	7	10	6	0.03	**080**	●
19	9	10	71	8	12	6	0.035	**100**	●
22	10	12	71	10	12	6	0.035	**120**	●
25	11	14	80	12	16	6	0.035	**140**	●
28	12	16	90	14	16	6	0.035	**160**	●
32	14	18	110	16	25	8	0.045	**180**	●
36	16	20	115	17	25	6	0.05	**200**	●
40	18	22	120	19	25	6	0.05	**220**	●

Prod. Gr. 165

ORION® Carbide angle cutter, 50° and 60°

HM | HA

Application:
For milling ducts and other angular geometries in tool and mechanical engineering.

Execution:
- Straight shank according to DIN 1835 A
- Cutter angles chamfered 0.5 mm x 60° to planing side

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	70	60	50	40	30	100	225	80	85	55	60	75		45	23				

							Form	C
Chamfer angle (Degree)	Cutting edge Ø (mm)	Width of cutting edge (mm)	Immersion depth (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 1000 ● (mm)	16530... Ident. No.	
50	16	4	15	50	10	4	0.04	016	●
60	16	6	15	50	10	4	0.04	216	●
50	20	5	21	56	12	6	0.04	020	●
60	20	7	21	56	12	6	0.04	220	●
50	25	6	23	63	12	6	0.045	025	●
60	25	8	23	63	12	6	0.045	225	●
50	32	8	25	70	16	6	0.045	032	●
60	32	10	25	70	16	6	0.045	232	●
50	40	10	30	80	20	6	0.05	040	●
60	40	12	30	80	20	6	0.05	240	●

Prod. Gr. 165

ORION® Solid carbide quarter circle cutter

Concave

VHM | Typ N | HA

Application:
Quarter circle milling cutter for machining complex forms, e.g. for very small radii on bores. With reduced diameter on the radius runoff so it can be used even in confined working conditions.

Execution:
- Straight shank pursuant to DIN 1636 HA
- Straight grooved
- K15 micro-fine grain

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	170	150	100	90	75	185	230	75	75	65	65	160		120	20	20	20		

Radius (mm)	Min. cutting edge Ø (mm)	Max. cutting edge Ø (mm)	Clearance length (mm)	Length (mm)	Clearance Ø (mm)	Shank Ø (mm)	Z (PCS)	fz steel 1000 ● (mm)	16711... Ident. No.	
0.25	0.5	1	2.5	50	1	3	2	0.005	625	●
0.3	0.5	1.2	2.5	50	1.2	3	2	0.006	630	●
0.4	0.5	1.4	2.5	50	1.4	3	2	0.006	640	●
0.5	0.5	1.6	2.5	50	1.6	3	2	0.007	650	●
0.6	0.5	1.8	3	50	1.8	3	2	0.008	660	●
0.7	0.5	2.1	3	50	2.1	3	2	0.008	670	●
0.8	0.8	2.5	4	50	2.5	3	2	0.009	680	●
0.9	0.8	2.9	4	50	2.9	3	2	0.01	690	●
1	0.8	2.9	4	50	2.9	3	2	0.012	700	●
1.25	0.8	3.4	4	50	3.4	5	2	0.015	725	●
1.5	1.5	4.6	6	50	4.6	5	2	0.017	750	●
1.75	1.5	5.6	6	50	5.6	6	2	0.019	775	●
2	1.5	5.6	8	50	5.6	6	2	0.022	800	●
2.25	1.5	6.6	10	50	6.6	8	2	0.025	825	●
2.5	1.5	6.6	10	50	6.6	8	2	0.028	850	●

Prod. Gr. 150

ORION® Solid carbide quarter circle cutter

Concave

VHM | TiAlN | Typ N | HA

Application:
Quarter circle milling cutter for machining complex forms, e.g. bore radii in materials up to 1300 N/mm².

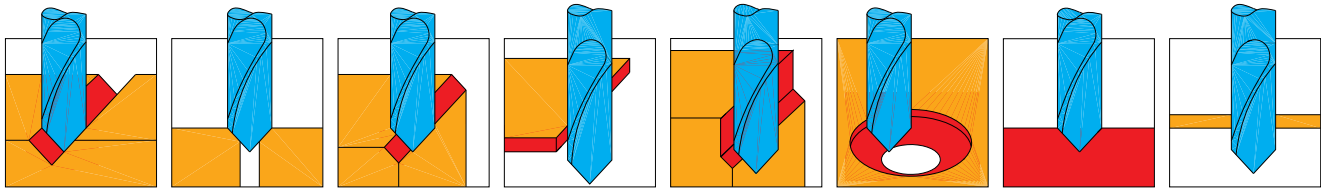
Execution:
- Straight shank pursuant to DIN 1636 HA
- Tolerance R = +/- 0.01 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	170	150	100	90	75	185	230	75	75	65	65	160		120	20	20	20		

Radius (mm)	Min. cutting edge Ø (mm)	Max. cutting edge Ø (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 1000 ● (mm)	16711... Ident. No.	
0.5	7	8	70	8	4	0.007	905	●
1	6	8	70	8	4	0.012	910	●
1.5	7	10	75	10	4	0.017	915	●
2	6	10	75	10	4	0.023	920	●
2.5	7	12	75	12	4	0.028	925	●
3	6	12	75	12	4	0.032	930	●
3.5	9	16	80	16	4	0.036	935	●
4	8	16	80	16	4	0.04	940	●
4.5	7	16	80	16	4	0.043	945	●
5	10	20	80	20	4	0.05	950	●
6	8	20	80	20	4	0.06	960	●

Prod. Gr. 150

Possible applications: solid carbide chamfer cutter



V slot milling | Countersinking | Angle milling | Face milling | Comb. face and bevel milling | Spot drilling* | Drilling*

* Drilling and spot drilling only in cast and non-ferrous metals.

ORION® Solid carbide chamfer mill

VHM | HA | Typ N

No. 16704

No. 16705

No. 16706

Application:
For cutting chamfers and countersinking on machining centres and CNC machines.

Execution:
- solid carbide ultra-fine grain
- straight shank in accordance with DIN 1636 HA
- uncoated

- **No. 16704:** 60°
- **No. 16705:** 90°
- **No. 16706:** 120°

Notes:
chamfer point flattened 10% of diameter, e.g. dia. 10 = 1 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	70	60	35	35	30	280	350	60	70	40	45	135		45	23	18	18		

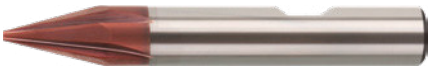
						Chamfer angle (Degree)	90		60		120	
						Tolerance of shank Ø	h6		h6		h6	
						Surface	Uncoated		Uncoated		Uncoated	
						Type	N		N		N	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 1000 ● (mm)		16705... Ident. No.		16704... Ident. No.		16706... Ident. No.	
1	2	39	3	2	0.01		210	●	-	-	-	-
1.2	2.4	39	3	2	0.01		212	●	-	-	-	-
1.5	3	39	3	2	0.01		215	●	-	-	-	-
2	4	39	3	2	0.01		220	●	-	-	-	-
2.5	5	39	3	2	0.01		225	●	-	-	-	-
3	6	50	4	2	0.01		230	●	230	●	230	●
4	8	50	5	2	0.02		240	●	240	●	240	●

					Chamfer angle (Degree)	90		60		120	
					Tolerance of shank Ø	h6		h6		h6	
					Surface	Uncoated		Uncoated		Uncoated	
					Type	N		N		N	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 1000 ● (mm)	16705... Ident. No.		16704... Ident. No.		16706... Ident. No.	
5	10	50	6	2	0.02	250	●	250	●	250	●
6	12	60	8	2	0.03	260	●	260	●	260	●
8	16	70	10	2	0.04	280	●	280	●	280	●
10	18	70	12	2	0.05	300	●	300	●	300	●
12	20	70	12	2	0.06	320	●	320	●	320	●
16	26	80	16	2	0.08	360	●	360	●	360	●
20	32	100	20	2	0.1	400	●	400	●	400	●

Prod. Gr. 150

ATORN SC chamfer mill 30°

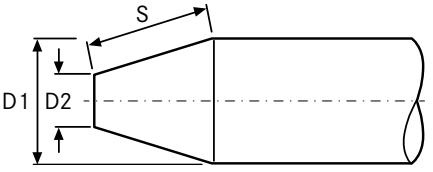
For universal use up to 1,300 N/mm²



Application:
For producing 15° chamfers and for deburring up to 1300 N/mm²

Execution:
- defined cutting edge rounding
- 3–5 teeth
- High-performance ULTRA coating for universal application

Notes:
Cutting range from diameter 0.4 mm to diameter 4 mm shank, variant HA



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	70	60	80	60	280	300	170	150	150	130			90	30	30	30		

					Chamfer angle (Degree)	30	
					Tolerance of shank Ø	h6	
					Surface	ULTRA	
					Type	N	
Cutting edge Ø (mm)	D2 (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 1000 ●	11532... Ident. No.	
1	0.3	1.3	39	3	3	0.006	010	●
2	0.3	3.2	39	3	3	0.011	020	●
3	0.3	5.2	39	3	3	0.012	030	●
4	0.5	6.7	54	4	4	0.022	040	●
6	0.55	10.5	57	6	5	0.03	060	●
8	0.6	14.2	63	8	5	0.04	080	●
10	0.9	17.5	72	10	5	0.05	100	●
12	0.9	21.4	83	12	5	0.06	120	●
16	1.3	28.3	92	16	5	0.08	160	●

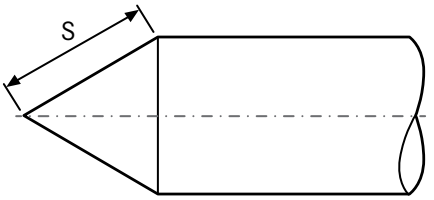
Prod. Gr. 114

ORION® SC chamfer mill 60°

For universal use up to 1,300 N/mm²

Ident. No. 140, 160, 180, 200, 220

Ident. No. 141, 161, 181, 201, 221



Application:
For producing 30° chamfers and for deburring up to 1300 N/mm²

Notes:
Cutting from diameter 0.4 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11537140-220	60	40		40	30	140	180	110	100	120	100			55					
11537141-221	110	70	60	80	60	280	300	170	150	150	130			90	30	30	30		

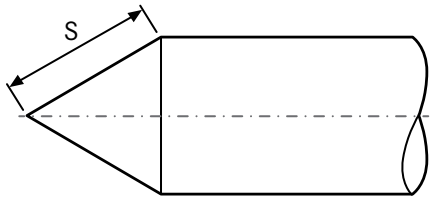
					Chamfer angle (Degree)	60		60	
					Tolerance of shank Ø	h6		h6	
					Surface	Uncoated		TiAlN	
					Type	N		N	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 1000 ●	11537... Ident. No.		11537... Ident. No.	
4	4	54	4	4	0.022	140	●	141	●
6	6	57	6	4	0.03	160	●	161	●
8	8	63	8	4	0.04	180	●	181	●
10	10	72	10	4	0.05	200	●	201	●
12	12	83	12	4	0.06	220	●	221	●

Prod. Gr. 103

ORION® SC chamfer mill 60°

For universal use up to 1,300 N/mm²

VHM | HA | HB | TiAlN | Typ N | 30°



Application:
For producing 30° chamfers and for deburring up to 1300 N/mm²

Execution:
- 3–5 teeth

Notes:
Shank variant HA up to dia. 4 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	70	60	80	60	280	300	170	150	150	130			90	30	30	30		

						Chamfer angle (Degree)	60	
						Tolerance of shank Ø	h6	
						Surface	TiAlN	
						Type	N	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	Insert Ø min. (mm)	fz steel 1000 ●	11529... Ident. No.	
3	2.7	39	3	3	0.3	0.012	230	●
4	3.6	54	4	4	0.4	0.022	240	●
6	5.5	54	6	5	0.5	0.03	260	●
8	7.1	59	8	5	0.9	0.04	280	●
10	9	60	10	5	1.0	0.05	300	●
12	10.9	73	12	5	1.1	0.06	320	●
16	14.9	83	16	5	1.1	0.08	360	●

Prod. Gr. 103

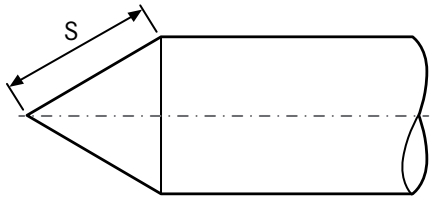
ATORN SC chamfer mill 60°

For universal use up to 1300 N/mm²

60° | VHM | Z 3 | Z 4 | Z 5 | HA | HB | ULTRA | Typ N | 30°

Ident. No. 010–040, 060, 080, 100, 120, 160

Ident. No. 045, 065, 085, 105, 125



Application:
Ident. No. 010–040, 060, 080, 100, 120, 160: For producing 30° chamfers and for deburring up to 1300 N/mm²
Ident. No. 045, 065, 085, 105, 125: For producing 30° chamfers and for deburring up to 1,300 N/mm²

Execution:
- defined cutting edge rounding
- High-performance ULTRA coating for universal application
- **Ident. No. 010–040, 060, 080, 100, 120, 160:** 3–5 teeth
- **Ident. No. 045, 065, 085, 105, 125:**
  - 3-5 teeth
  - Extra-long version for hard-to-reach areas

Notes:
Shank variant HA up to dia. 4 mm

						Chamfer angle (Degree)	60	
						Tolerance of shank Ø	h6	
						Surface	ULTRA	
						Type	N	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	Insert Ø min. (mm)	fz steel 1000 ●	11529... Ident. No.	
1	0.7	39	3	3	0.3	0.006	010	●
2	1.7	39	3	3	0.3	0.011	020	●
3	2.7	39	3	3	0.3	0.012	030	●
4	3.6	54	4	4	0.4	0.022	040	●
4	3.6	85	4	4	0.4	0.022	045	●
6	5.5	57	6	5	0.5	0.03	060	●

						Chamfer angle (Degree)	60	
						Tolerance of shank Ø	h6	
						Surface	ULTRA	
						Type	N	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	Insert Ø min. (mm)	fz steel 1000 ●	11529... Ident. No.	
6	5.5	100	6	5	0.5	0.03	065	●
8	7.1	63	8	5	0.9	0.04	080	●
8	7.1	100	8	5	0.9	0.04	085	●
10	9	72	10	5	1	0.05	100	●
10	9	100	10	5	1	0.05	105	●
12	10.9	83	12	5	1.1	0.06	120	●
12	10.9	120	12	5	1.1	0.06	125	●
16	14.9	92	16	5	1.1	0.08	160	●

Prod. Gr. 114

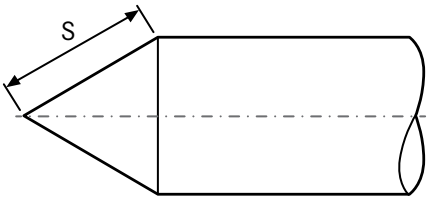
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	70	60	80	60	280	300	170	150	150	130			90	30	30	30		

ATORN SC chamfer mill 60°

For universal use up to 1,300 N/mm²

Application:
For producing 30° chamfers and for deburring up to 55 HRC

Execution:
- defined cutting edge rounding
- 6–8 teeth
- High-performance ULTRA H coating for universal application up to 55 HRC



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	70	60	80	60	280	300	170	150	150	130			90	30	30	30	40	

					Chamfer angle (Degree)	60	
					Tolerance of shank Ø	h6	
					Surface	ULTRA H	
					Type	H	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	Insert Ø min. (mm)	fz hard 52 HRC ●	11541... Ident. No.	
6	5	57	6	6	1.0	0.03	060	●
8	7	63	8	6	1.0	0.04	080	●
10	9	72	10	6	1.0	0.05	100	●
12	10.8	83	12	8	1.2	0.06	120	●
16	14.8	92	16	8	1.2	0.08	160	●

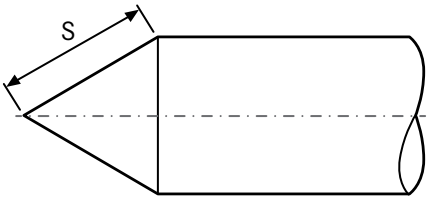
Prod. Gr. 114

ATORN SC chamfer mill 60°

For machining non-ferrous metals

Application:
For producing 30° chamfers and for deburring in non-ferrous metals

Execution:
- Large chip spaces
- defined cutting edge rounding
- 3 teeth
- High-performance ULTRA N coating for use in non-ferrous metals



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						320	350	200	190	190	180	290							

						Chamfer angle (Degree)	60	
						Tolerance of shank Ø	h6	
						Surface	ULTRA N	
						Type	W	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	Insert Ø min. (mm)	fz alu ●	11536... Ident. No.	
6	4.8	57	6	3	1.2	0.072	060	●
8	6.7	63	8	3	1.3	0.084	080	●
10	8.6	72	10	3	1.4	0.096	100	●
12	10.5	83	12	3	1.5	0.11	120	●
16	14.3	92	16	3	1.7	0.12	160	●

Prod. Gr. 114

ORION® SC chamfer mill 90°

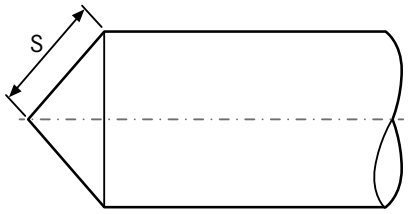
For universal use up to 1,300 N/mm²

Application:
For producing 45° chamfers and for deburring up to 1300 N/mm²

Notes:
Cutting from diameter 0.4 mm

Ident. No. 140, 160, 180, 200, 220

Ident. No. 141, 161, 181, 201, 221



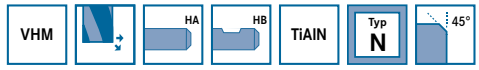
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11538140-220	60	40		40	30	140	180	110	100	120	100			55					
11538141-221	110	70	60	80	60	280	300	170	150	150	130			90	30	30	30		

					Chamfer angle (Degree)	90		90	
					Tolerance of shank Ø	h6		h6	
					Surface	Uncoated		TiAlN	
					Type	N		N	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 1000 ●	11538... Ident. No.		11538... Ident. No.	
4	2.8	54	4	4	0.022	140	●	141	●
6	4.2	57	6	4	0.03	160	●	161	●
8	5.6	63	8	4	0.04	180	●	181	●
10	7.00	72	10	4	0.05	200	●	201	●
12	8.4	83	12	4	0.06	220	●	221	●

Prod. Gr. 103

ORION® SC chamfer mill 90°

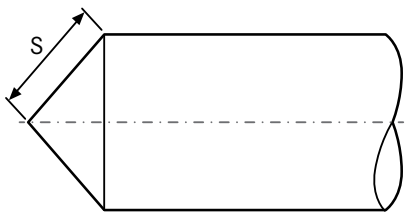
For universal use up to 1,300 N/mm²



Application:
For producing 45° chamfers and for deburring up to 1300 N/mm²

Execution:
- 3–5 teeth

Notes:
Shank variant HA up to dia. 4 mm



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	70	60	80	60	280	300	170	150	150	130			90	30	30	30		

						Chamfer angle (Degree)	90	
						Tolerance of shank Ø	h6	
						Surface	TiAlN	
						Type	N	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	Insert Ø min. (mm)	fz steel 1000 ●	11542... Ident. No.	
3	1.9	39	3	3	0.3	0.012	230	●
4	2.5	54	4	4	0.4	0.022	240	●
6	3.8	54	6	5	0.5	0.03	260	●
8	5.0	59	8	5	0.9	0.04	280	●
10	6.3	60	10	5	1.0	0.05	300	●
12	7.6	73	12	5	1.2	0.06	320	●
16	10.4	83	16	5	1.2	0.08	360	●

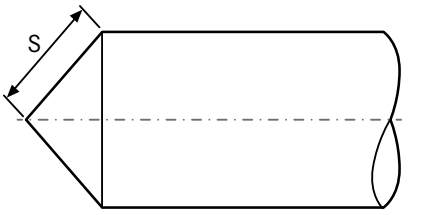
Prod. Gr. 103

ORION® SC 90° chamfer mill

for universal use up to 1300 N/mm²

Application:
For producing 45° chamfers and for deburring up to 1,300 N/mm²

Execution:
- 5 teeth
- Double-ended design for twofold benefits
- HB shank DIN 6535/2x180° offset



						Chamfer angle (Degree)	90	
						Tolerance of shank Ø	h6	
						Surface	TiAlN	
						Type	N	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	Insert Ø min. (mm)	fz steel 1000 ●	11560... Ident. No.	
6	3.8	80	6	5	0.5	0.03	060	●
8	5	80	8	5	0.9	0.03	080	●
10	6.3	90	10	5	1	0.03	100	●
12	7.6	90	12	5	1.2	0.03	120	●
16	10.4	100	16	5	1.2	0.03	160	●

Prod. Gr. 103

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	70	60	80	60	280	300	170	150	150	130			90	30	30	30		

ATORN SC 90° chamfer mill

for universal use up to 1300 N/mm²

Application:
Ident. No. 010–040, 060, 080, 100, 120, 160:
For producing 45° chamfers and for deburring up to 1300 N/mm²
Ident. No. 045, 065, 085, 105, 125: For producing 45° chamfers and for deburring up to 1,300 N/mm²

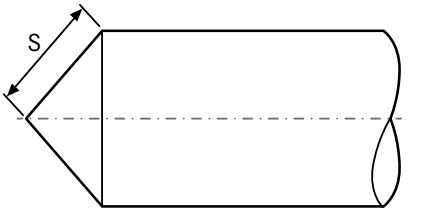
Execution:
- High-performance ULTRA coating for universal application

- **Ident. No. 010–040, 060, 080, 100, 120, 160:**
  - defined cutting edge rounding
  - 3–5 teeth
- **Ident. No. 045, 065, 085, 105, 125:**
  - Defined cutting edge rounding
  - 3-5 teeth
  - Extra-long version for hard-to-reach areas

Notes:
Shank variant HA up to dia. 4 mm

Ident. No. 010–040, 060, 080, 100, 120, 160

Ident. No. 045, 065, 085, 105, 125



						Chamfer angle (Degree)	90	
						Tolerance of shank Ø	h6	
						Surface	ULTRA	
						Type	N	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	Insert Ø min. (mm)	fz steel 1000 ●	11542... Ident. No.	
1	0.5	39	3	3	0.3	0.006	010	●
2	1.2	39	3	3	0.3	0.011	020	●
3	1.9	39	3	3	0.3	0.012	030	●
4	2.5	54	4	4	0.4	0.022	040	●
4	2.5	85	4	4	0.4	0.022	045	●
6	3.8	57	6	5	0.5	0.03	060	●
6	3.8	100	6	5	0.5	0.03	065	●
8	5	63	8	5	0.9	0.04	080	●
8	5	100	8	5	0.9	0.04	085	●
10	6.3	72	10	5	1	0.05	100	●
10	6.3	100	10	5	1	0.05	105	●
12	7.6	83	12	5	1.2	0.06	120	●

						Chamfer angle (Degree)	90	
						Tolerance of shank Ø	h6	
						Surface	ULTRA	
						Type	N	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	Insert Ø min. (mm)	fz steel 1000 ●	11542... Ident. No.	
12	7.6	120	12	5	1.2	0.06	125	●
16	10.4	92	16	5	1.2	0.08	160	●

Prod. Gr. 114

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	70	60	80	60	280	300	170	150	150	130			90	30	30	30		

ATORN SC 90° chamfer mill

for universal use up to 1300 N/mm²

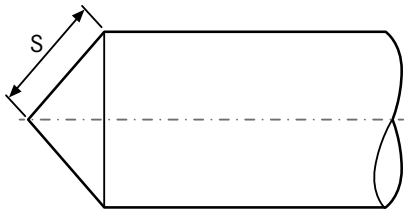
Ident. No. 060, 080, 100, 120, 160

Ident. No. 065, 085, 105, 125

Application:
For producing 45° chamfers and for deburring up to 55 HRC

Execution:
- High-performance ULTRA H coating for universal application up to 55 HRC

- **Ident. No. 060, 080, 100, 120, 160:**
  - defined cutting edge rounding
  - 6–8 teeth
- **Ident. No. 065, 085, 105, 125:**
  - Defined cutting edge rounding
  - 6-8 teeth
  - Extra-long version for hard-to-reach areas



						Chamfer angle (Degree)	90	
						Tolerance of shank Ø	h6	
						Surface	ULTRA H	
						Type	H	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	Insert Ø min. (mm)	fz hard 52 HRC ●	11545... Ident. No.	
6	3.6	57	6	6	0.8	0.03	060	●
6	3.6	100	6	6	0.8	0.03	065	●
8	5	63	8	6	0.9	0.04	080	●
8	5	100	8	6	0.9	0.04	085	●
10	6.3	72	10	6	1	0.05	100	●
10	6.3	100	10	6	1	0.05	105	●
12	7.3	83	12	8	1.6	0.06	120	●
12	7.3	120	12	8	1.6	0.06	125	●
16	10	92	16	8	1.8	0.08	160	●

Prod. Gr. 114

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	70	60	80	60	280	300	170	150	150	130			90	30	30	30	40	

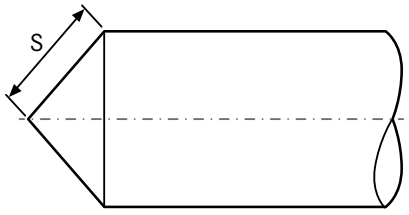
ATORN SC 90° chamfer mill

for use in materials up to 65 HRC

Application:
For producing 45° chamfers and for deburring up to 65 HRC

Execution:
- Ultra Micro fine grain cutting material

- Cutting edge finish
- HA shank in line with DIN 6535
- Type H
- With RockTec PRO coating



					Chamfer angle	90	
					Tolerance of shank Ø	h5	
					Surface	RockTec PRO	
					Type	H	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz hard 65 HRC ● (mm)	16950... Ident. No.	
6	2.5	57	6	5	0.03	400	●
8	3.5	63	8	5	0.05	402	●
10	4.5	72	10	5	0.05	404	●
12	5.5	83	12	5	0.05	406	●
16	7.5	93	16	5	0.075	408	●

Prod. Gr. 152

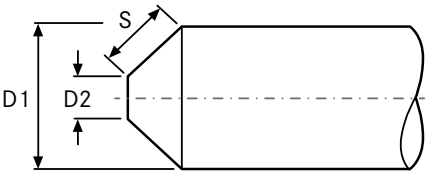
ATORN SC chamfer mill 90° without tip

For universal use up to 1,300 N/mm²

Application:
For producing 45° chamfers and for deburring up to 1300 N/mm²

Execution:
- Without tip

- Defined cutting edge rounding
- 5 teeth
- High-performance ULTRA coating for universal application



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	70	60	80	60	280	300	170	150	150	130			90	30	30	30		

Chamfer angle (Degree)	90
Tolerance of shank Ø	h6
Surface	ULTRA
Type	N

Cutting edge Ø (mm)	D2 (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 1000 ●	11533... Ident. No.	
6	3	2.1	57	6	5	0.03	060	●
8	4	2.8	63	8	5	0.04	080	●
10	5	3.5	72	10	5	0.05	100	●
12	6	4.2	83	12	5	0.06	120	●
16	8	5.6	92	16	5	0.08	160	●

Prod. Gr. 114

ATORN HIGH FEED SC 90° chamfer mill without tip

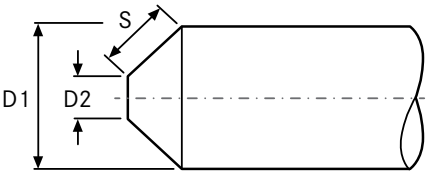
for universal use up to 55 HRC

Application:
For producing 45° chamfers and for deburring up to 55 HRC

Execution:
- defined cutting edge rounding
- 10-14 teeth

- High-performance ULTRA H coating for universal application up to 55 HRC

Advantage:
- Up to 100 % higher productivity
- Extremely high feed rates thanks to the special cutting edge geometry



Chamfer angle (Degree)	90
Tolerance of shank Ø	h6
Surface	ULTRA H
Type	H

Cutting edge Ø (mm)	D2 (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz hard 52 HRC ●	11570... Ident. No.	
6	3.9	1.4	57	6	10	0.02	060	●
8	5.2	1.9	63	8	10	0.03	080	●
10	7.2	1.9	72	10	12	0.04	100	●
12	7.2	3.3	83	12	12	0.05	120	●
16	10.4	3.9	92	16	14	0.06	160	●

Prod. Gr. 114

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	180	160	150	120	100	450		320		300				160	50	50	50	60	

ATORN SC chamfer mill 90° spiral

for universal use up to 1300 N/mm²

Application:

Ident. No. 010–040, 060, 080, 100, 120, 160: For producing 45° chamfers and for deburring up to 1300 N/mm²

Ident. No. 045, 065, 085, 105, 125: For producing 45° chamfers and for deburring up to 1,300 N/mm²

Execution:

- Spiral variant

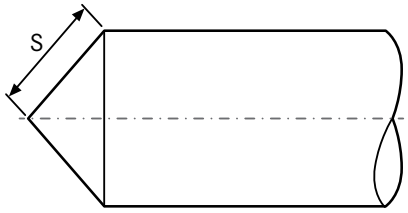
- High-performance ULTRA coating for universal application
- **Ident. No. 010–040, 060, 080, 100, 120, 160:**
  - defined cutting edge rounding
  - 3–5 teeth
  - Forward-cutting
- **Ident. No. 045, 065, 085, 105, 125:**
  - Defined cutting edge rounding
  - 3-5 teeth
  - Face-cutting

Notes:

Shank variant HA up to dia. 4 mm

Ident. No. 010–040, 060, 080, 100, 120, 160

Ident. No. 045, 065, 085, 105, 125



					Chamfer angle (Degree)	90	
					Tolerance of shank Ø	h6	
					Surface	ULTRA	
					Type	N	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 1000 ●	11534... Ident. No.	
1	0.4	39	3	3	0.006	010	●
2	1.2	39	3	3	0.011	020	●
3	2.1	39	3	3	0.012	030	●
4	2.8	54	4	4	0.022	040	●
4	2.8	85	4	4	0.022	045	●
6	4.2	57	6	5	0.03	060	●
6	4.2	100	6	5	0.03	065	●
8	5.6	63	8	5	0.04	080	●
8	5.6	100	8	6	0.03	085	●
10	7	72	10	5	0.05	100	●
10	7	100	10	7	0.05	105	●
12	8.4	83	12	5	0.06	120	●
12	8.4	120	12	8	0.06	125	●
16	11.3	92	16	5	0.08	160	●

Prod. Gr. 114

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	70	60	80	60	280	300	170	150	150	130			90	30	30	30		

ATORN SC chamfer mill 90°

For machining non-ferrous metals

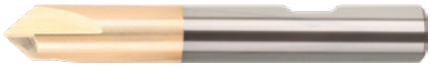
Application:

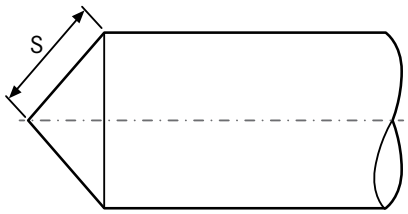
For producing 45° chamfers and for deburring in non-ferrous metals

Execution:

- Large chip spaces

- defined cutting edge rounding
- 3 teeth
- High-performance ULTRA N coating for use in non-ferrous metals





Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						320	350	200	190	190	180	290							

					Chamfer angle (Degree)	90	
					Tolerance of shank Ø	h6	
					Surface	ULTRA N	
					Type	W	
Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	Insert Ø min. (mm)	fz alu ●	11535... Ident. No.	
6	3.6	57	6	3	0.8	0.072	060	●
8	5	63	8	3	0.9	0.084	080	●
10	6.3	72	10	3	1.0	0.096	100	●
12	7.6	83	12	3	1.2	0.11	120	●
16	10.1	92	16	3	1.7	0.12	160	●

Prod. Gr. 114

ATORN SC chamfer mill 120°

For universal use up to 1,300 N/mm²

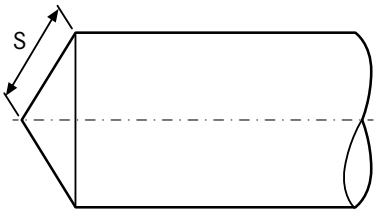
120° | VHM | Z 3 | Z 4 | Z 5 | HA | HB | ULTRA | Typ N | 60°

Application:
For producing 60° chamfers and for deburring up to 1300 N/mm²

Execution:
- defined cutting edge rounding

- 3–5 teeth
- High-performance ULTRA coating for universal application

Notes:
Shank variant HA up to dia. 4 mm



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	70	60	80	60	280	300	170	150	150	130			90	30	30	30		

Chamfer angle (Degree)	120
Tolerance of shank Ø	h6
Surface	ULTRA
Type	N

Cutting edge Ø (mm)	S (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	Insert Ø min. (mm)	fz steel 1000 ●	11531... Ident. No.	
1	0.4	39	3	3	0.3	0.006	010	●
2	0.9	39	3	3	0.3	0.011	020	●
3	1.5	39	3	3	0.3	0.012	030	●
4	2.0	54	4	4	0.4	0.022	040	●
6	3.1	57	6	5	0.5	0.03	060	●
8	4.0	63	8	5	0.9	0.04	080	●
10	5.1	72	10	5	1.0	0.05	100	●
12	6.2	83	12	5	1.2	0.06	120	●
16	8.5	92	16	5	1.2	0.08	160	●

Prod. Gr. 114

ATORN Forward and reverse deburring tool 90° SC-TiAlN

For universal use up to 1,300 N/mm²

90° | VHM | TiAlN | Z 2 | Z 4 | 45° 45°

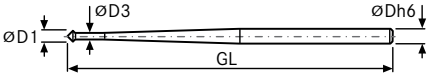
Application:
For linear and circular forwards and backwards

deburring and chamfering 90°

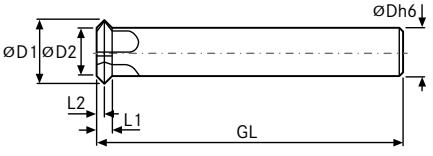
Execution:
- long version

Ident. No. 060

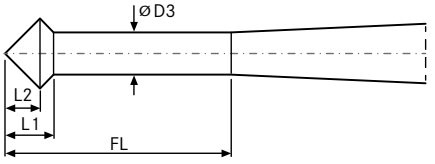
Ident. No. 080



Ident. No. 060



Ident. No. 080



Ident. No. 060

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	65	45	35	40	30	115	160	100	80	70	60			45	20	15	15		

D1 (mm)	D2 (mm)	D3 (mm)	Dh6 (mm)	GL (mm)	L1 (mm)	L2 (mm)	FL (mm)	Form	Z (PCS)	fz steel 1000 ●	11539... Ident. No.	
0.9	-	0.65	3	75	0.58	0.45	3	Pointed	2	0.01	010	●
1.4	-	1.0	3	75	0.9	0.7	4	Pointed	2	0.01	015	●
1.9	-	1.2	3	75	1.3	0.95	5	Pointed	2	0.01	020	●
2.9	-	1.8	3	75	2.0	1.45	6	Pointed	2	0.01	030	●
3.9	-	1.9	4	75	2.95	1.95	10	Pointed	4	0.01	040	●
5.8	-	4.0	6	100	3.8	1.9	18.8	Pointed	4	0.01	060	●
7.8	6	-	6	100	1.8	0.9	-	Flat	4	0.01	080	●
9.8	6	-	6	100	3.8	1.9	-	Flat	4	0.012	100	●
11.8	6	-	6	100	5.8	2.9	-	Flat	4	0.015	120	●
13.8	6	-	6	100	7.8	3.9	-	Flat	4	0.016	140	●
15.8	6	-	6	100	9.8	4.9	-	Flat	4	0.017	160	●

Prod. Gr. 114

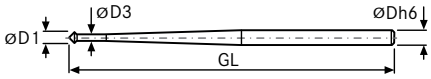
ORION® Forward and reverse deburring tool 90° SC-TiAlN

For universal use up to 1,300 N/mm²

VHM | TiAlN | 45° / 45°

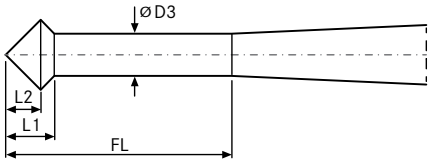
Application:
For linear and circular forward and reverse deburring and chamfering 90°

Ident. No. 020



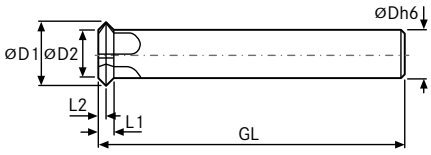
Ident. No. 020

Execution:
- long version



Ident. No. 020

Ident. No. 080



Ident. No. 080

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	65	45	35	40	30	115	160	100	80	70	60			45	20	15	15		

D1 (mm)	D2 (mm)	D3 (mm)	Dh6 (mm)	GL (mm)	L1 (mm)	L2 (mm)	FL (mm)	Form	Z (PCS)	fz steel 1000 ●	11552... Ident. No.	
2.0	-	1.2	6	100	1.4	1.00	10	Pointed	3	0.01	020	●
3.0	-	2.0	6	100	2.0	1.50	10	Pointed	4	0.01	030	●
4.0	-	2.0	6	100	3.0	2.00	13	Pointed	4	0.01	040	●
6.0	-	4.0	6	100	4.0	3.00	19	Pointed	4	0.01	060	●
8.0	3.6	-	6	100	3.2	2.20	-	Flat	4	0.01	080	●
10.0	5.4	-	6	100	4.3	2.30	-	Flat	4	0.012	100	●
12.0	7.0	-	6	100	5.0	2.50	-	Flat	4	0.015	120	●
16.0	6.0	-	10	100	8.0	5.00	-	Flat	4	0.017	160	●

Prod. Gr. 103

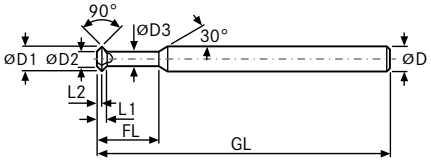
ATORN SC forward and reverse deburring tool 90° SC TiAlN, short

For universal use up to 1,300 N/mm²

90° | VHM | TiAlN | Z 3 | 45° / 45°

Application:
For linear and circular forwards and backwards deburring and chamfering 90°

Execution:
- short version



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	65	45	35	40	30	115	160	100	80	70	60			45	20	15	15		

D1 (mm)	D2 (mm)	D3 (mm)	Dh6 (mm)	GL (mm)	L1 (mm)	L2 (mm)	FL (mm)	Form	Z (PCS)	fz steel 1000 ●	11550... Ident. No.	
1.4	0.9	0.9	3	39	0.5	0.25	3.8	Flat	3	0.01	015	●
1.9	1.2	1.2	3	39	0.7	0.35	5.0	Flat	3	0.01	020	●
2.4	1.5	1.5	3	39	0.9	0.45	6.2	Flat	3	0.01	025	●
2.9	1.8	1.8	3	39	1.1	0.55	7.4	Flat	3	0.01	030	●
3.4	2.1	2.1	4	54	1.3	0.65	8.6	Flat	3	0.01	035	●
3.9	2.4	2.4	4	54	1.5	0.75	9.8	Flat	3	0.015	040	●
4.4	2.7	2.7	5	55	1.7	0.85	11.0	Flat	3	0.015	045	●
4.9	3.0	3.0	5	55	1.9	0.95	12.2	Flat	3	0.015	050	●
5.4	3.3	3.3	6	57	2.1	1.05	13.4	Flat	3	0.015	055	●
5.9	3.6	3.6	6	57	2.3	1.15	14.6	Flat	3	0.015	060	●

Prod. Gr. 114

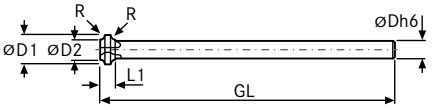
ATORN SC forward and reverse quarter circle cutter 90° SC TiAlN

For universal use up to 1,300 N/mm²

VHM | TiAlN | Z 4 | R R

Application:
For linear and circular forwards and backwards deburring with radii.

Execution:
- Version with radii



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	65	45	35	40	30	115	160	100	80	70	60			45	20	15	15		

D1 (mm)	Radius (mm)	D2 (mm)	D3 (mm)	Dh6 (mm)	GL (mm)	L1 (mm)	FL (mm)	Z (PCS)	fz steel 1000 ●	11540... Ident. No.	
8	0.2	7.6	6	6	100	2	63	4	0.01	002	●
8	0.3	7.4	6	6	100	2	63	4	0.01	003	●
8	0.4	7.2	6	6	100	2	63	4	0.01	004	●
8	0.5	7.0	6	6	100	2	63	4	0.01	005	●
10	0.8	8.4	6	6	100	4	63	4	0.01	008	●
10	1.0	8.0	6	6	100	4	63	4	0.01	010	●
10	1.2	7.6	6	6	100	5	63	4	0.01	012	●
10	1.5	7.0	6	6	100	5	63	4	0.01	015	●
12	1.8	8.4	6	6	100	6	63	4	0.01	018	●
12	2.0	8.0	6	6	100	7	63	4	0.01	020	●
12	2.5	7.0	6	6	100	8	63	4	0.01	025	●

Prod. Gr. 114

Solid carbide mills for universal machining

ATORN Solid carbide 1-flute end mill

1 cutting edge, uncoated

Application:
For milling, plunging and contour milling NF metals and plastics.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HA
- Uncoated
- Clearance
- right-hand cutting
- Mirror finish

Advantage:
- Defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

							Type	W	
							Surface	Uncoated	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	h9	
							Tolerance of shank Ø	h5	
							Coolant supply	External	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.	
1.5	6	22	50	1.45	3	1	0.01	105	●
2	8	22	50	1.8	3	1	0.014	106	●
3	12	22	50	2.8	3	1	0.02	107	●
4	15	29	57	3.8	4	1	0.03	108	●
5	17	32	60	4.8	5	1	0.04	109	●
6	20	28	64	5.8	6	1	0.055	110	●
8	24	28	64	7.8	8	1	0.07	111	●
10	25	33	73	9.7	10	1	0.085	112	●
12	32	39	84	11.7	12	1	0.1	113	●
16	38	45	93	15.7	16	1	0.12	114	●

Prod. Gr. 1HJ

ORION® Solid carbide 1-flute end mill

1 cutting edge, uncoated

Application:
For milling, recessing and contour milling of non-ferrous metals and plastics.

Execution:
- solid carbide ultra-fine grain
- straight shank in accordance with DIN 6535 HA
- sharp-edged
- uncoated
- right-hand cutting

Delivery:
Up to 3 mm diameter = 10 pieces

Notes:
Minimum order: up to 3.0 mm diameter = 10 pieces

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						180	350	150	200	145	180	260							

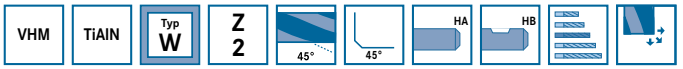
					Type	W	
					Surface	Uncoated	
					Tool holding device	HA parallel shank	
					Tolerance of cutting edge Ø	h10	
					Tolerance of shank Ø	h6	
mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16700... Ident. No.	
1	4	38	3	1	0.008	110	●
1.5	6	38	3	1	0.01	115	●
2	8	38	3	1	0.012	120	●

					Type	W	
					Surface	Uncoated	
					Tool holding device	HA parallel shank	
					Tolerance of cutting edge Ø	h10	
					Tolerance of shank Ø	h6	
mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16700... Ident. No.	
3	12	38	3	1	0.016	130	●
4	12	50	6	1	0.03	140	●
5	14	50	6	1	0.04	150	●
6	16	50	6	1	0.055	160	●
8	20	60	8	1	0.065	180	●
10	22	70	10	1	0.075	200	●

Prod. Gr. 150

ORION® Solid carbide end mill

2 cutting edges, TiAlN-coated



No. 16732

No. 16733

Application:
Suitable for plunge milling, groove milling and fitting milling in non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain
- TiAlN coated
- Centre cutting
- With edge protection chamfer
- **No. 16732:** Straight shank in accordance with DIN 6535 HA
- **No. 16733:** Straight shank in accordance with DIN 6535 HB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
					70	140	180	120	160	110	150	130							

						Type	W		W	
						Surface	TiAlN		TiAlN	
						Tool holding device	HA parallel shank		HB parallel shank	
						Tolerance of cutting edge Ø	e8		e8	
						Tolerance of shank Ø	h6		h6	
mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16732... Ident. No.		16733... Ident. No.	
1	3	50	3	0.05	2	0.008	010	●	-	-
2	5	50	3	0.05	2	0.01	020	●	-	-
3	8	57	6	0.05	2	0.013	030	●	030	●
4	11	57	6	0.1	2	0.016	040	●	040	●
5	13	57	6	0.1	2	0.022	050	●	050	●
6	13	57	6	0.1	2	0.026	060	●	060	●
8	19	63	8	0.2	2	0.04	080	●	080	●
10	22	72	10	0.2	2	0.05	100	●	100	●
12	26	83	12	0.2	2	0.07	120	●	120	●
14	26	83	14	0.2	2	0.08	140	●	-	-
16	32	92	16	0.2	2	0.09	160	●	160	●
20	38	104	20	0.2	2	0.12	200	●	200	●

Prod. Gr. 154

ATORN Solid carbide end mill

2 cutting edges, uncoated/ULTRA coated

No. 16727

No. 16728

Application:
Suitable for universal plunge milling, groove milling and fitting milling.

Execution:
- Solid carbide ultra-fine grain
- Straight shank, 3 mm diameter, to DIN 6535 HA
- Straight shank, from 6 mm diameter, to DIN 6535 HB
- Centre cutting
- With clearance
- **No. 16727:**
  - Radial grinding relief
  - Uncoated
- **No. 16727 001–16727 200, 16728 020–16728 200:** With edge protection chamfer
- **No. 16728:**
  - Radial relief
  - ULTRA coated
- **No. 16728 001–16728 018:** Without edge protection chamfer

Notes:
The undersize values are particularly suitable for cutting keyways, slightly conical ground for more accurately fitting grooves.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
16727001-025; 16727028-200	105	80	65	60	55	225	270	145	160	100	115	115		90	50	45	40		
16728001-025; 16728020-025; 16728028-200	115	90	75	65	60	250	300	160	180	110	130	130		100	55	50	45		

Type									N		N	
Surface									Uncoated		ULTRA	
Tool holding device									HB parallel shank		HB parallel shank	
Tolerance of cutting edge Ø									e8		e8	
Tolerance of shank Ø									h5		h5	
Coolant supply									External		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16727... Ident. No.		16728... Ident. No.	
0.25	0.5	-	38	-	3	-	2	0.0015	001	●	001	●
0.3	1	-	38	-	3	-	2	0.0015	002	●	002	●
0.35	1	-	38	-	3	-	2	0.0015	003	○	003	○
0.4	1	-	38	-	3	-	2	0.0015	004	●	004	●
0.5	1.5	-	38	-	3	-	2	0.0015	005	●	005	●
0.6	1.5	-	38	-	3	-	2	0.0025	006	●	006	●
0.7	2	-	38	-	3	-	2	0.0025	007	●	007	●
0.8	2	-	38	-	3	-	2	0.0025	008	●	008	●
0.9	2.5	-	38	-	3	-	2	0.0025	009	●	009	●
1	3	-	50	-	3	-	2	0.004	010	●	010	●
1.1	3	-	50	-	3	-	2	0.004	011	●	011	●
1.2	4	-	50	-	3	-	2	0.004	012	●	012	●
1.4	4	-	50	-	3	-	2	0.005	014	●	014	●
1.5	4	-	50	-	3	-	2	0.005	015	●	015	●
1.6	4	-	50	-	3	-	2	0.0065	016	●	016	●
1.8	5	-	50	-	3	-	2	0.009	018	●	018	●
2	5	-	50	-	3	0.05	2	0.013	020	●	020	●
2.5	6	-	50	-	3	0.05	2	0.019	025	●	025	●
2.8	8	15	57	2.6	6	0.05	2	0.019	028	●	028	●
3	8	15	57	2.8	6	0.1	2	0.019	030	●	030	●
3.8	11	15	57	3.6	6	0.1	2	0.019	038	●	038	●
4	11	15	57	3.8	6	0.1	2	0.025	040	●	040	●
4.8	13	21	57	4.6	6	0.1	2	0.025	048	●	048	●
5	13	21	57	4.8	6	0.1	2	0.025	050	●	050	●
5.8	13	21	57	5.6	6	0.1	2	0.025	058	●	058	●
6	13	21	57	5.8	6	0.1	2	0.035	060	●	060	●
6.8	16	27	63	6.6	8	0.1	2	0.035	068	●	068	●
7	16	27	63	6.8	8	0.1	2	0.035	070	●	070	●
7.8	19	27	63	7.5	8	0.1	2	0.035	078	●	078	●
8	19	27	63	7.7	8	0.1	2	0.045	080	●	080	●
8.7	19	32	72	8.5	10	0.1	2	0.045	087	○	087	○
9	19	32	72	8.8	10	0.1	2	0.045	090	●	090	●
9.7	22	32	72	9.5	10	0.1	2	0.045	097	●	097	●
10	22	32	72	9.8	10	0.1	2	0.055	100	●	100	●
10.7	26	38	83	10.5	12	0.1	2	0.055	107	○	107	●
11	26	38	83	10.8	12	0.1	2	0.06	110	●	110	●
11.7	26	38	83	11.5	12	0.1	2	0.06	117	●	117	●
12	26	38	83	11.8	12	0.1	2	0.07	120	●	120	●
13.7	26	38	83	13.5	14	0.1	2	0.07	137	●	137	●
14	26	38	83	13.8	14	0.1	2	0.08	140	●	140	●
15.7	32	44	92	15.4	16	0.1	2	0.08	157	●	157	○
16	32	44	92	15.7	16	0.1	2	0.09	160	●	160	●
18	32	44	92	17.7	18	0.1	2	0.1	180	●	180	●
20	38	54	104	19.7	20	0.1	2	0.12	200	●	200	●

Prod. Gr. 108

ORION® Solid carbide end mill

2 cutting edges, TiAlN-coated

VHM | TiAlN | Typ N | Z 2 | 30° | 45° | HA | HB

Application:
Suitable for universal plunge, groove and clearance milling.

Execution:
- **No. 16716:**
  - Solid carbide ultra-fine grain
  - TiAlN-coated
  - Centre cutting
  - With edge protection chamfer
  - Straight shank pursuant to DIN 6535 HA
- **No. 16717:**
  - solid carbide ultra-fine grain
  - TiAlN-coated
  - centre cutting
  - with edge protection chamfer
  - straight shank in line with DIN 6535 HB

No. 16716

No. 16717

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	115	90	75	65	60	250	300	160	180	110	130	130		100	55	50	45		

Type															N			N	
Surface															TiAlN			TiAlN	
Tool holding device															HA parallel shank			HB parallel shank	
Tolerance of cutting edge Ø															h8			e8	
Tolerance of shank Ø															h6			h6	
mm		mm		mm		mm		F mm		Z (PCS)		fz steel 1000 ● (mm)			16716... Ident. No.			16717... Ident. No.	
1		2		38		3		0.03		2		0.005			010	●		-	-
1.5		3		38		3		0.03		2		0.008			015	●		-	-
2		6		57		6		0.03		2		0.01			020	●		-	-
2.5		7		57		6		0.05		2		0.02			025	●		-	-
3		7		57		6		0.05		2		0.036			030	●		030	●
4		8		57		6		0.05		2		0.056			040	●		040	●
5		10		57		6		0.05		2		0.06			050	●		050	●
6		10		57		6		0.05		2		0.063			060	●		060	●
8		16		63		8		0.1		2		0.07			080	●		080	●
10		19		72		10		0.1		2		0.074			100	●		100	●
12		22		83		12		0.1		2		0.077			120	●		120	●
16		26		92		16		0.15		2		0.084			160	●		160	●
20		32		104		20		0.15		2		0.1			200	●		200	●

Prod. Gr. 154

ORION® Solid carbide end mill

2 cutting edges, uncoated

Application:

Suitable for universal plunge milling, groove milling and fitting milling.

Execution:

- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HA
- Centre cutting
- Uncoated

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	105	80	65	60	55	225	270	145	160	100	115	115		90	50	45	40		

Type							N	
Surface							Uncoated	
Tool holding device							HA parallel shank	
Tolerance of cutting edge Ø							h10	
Tolerance of shank Ø							h6	
mm	mm		mm		mm	Z (PCS)	fz steel 1000 ● (mm)	16725... Ident. No.	
1	5		38		3	2	0.004	010	●
1.5	5		38		3	2	0.0055	015	●
2	9		38		3	2	0.0135	020	●
2.5	10		38		3	2	0.022	025	●
3	12		38		3	2	0.029	030	●
3.5	12		40		3.5	2	0.037	035	●
4	12		40		4	2	0.045	040	●
5	14		50		5	2	0.048	050	●
6	16		50		6	2	0.05	060	●
8	22		60		8	2	0.056	080	●
10	22		70		10	2	0.059	100	●
12	22		70		12	2	0.062	120	●
16	25		75		16	2	0.067	160	●

Prod. Gr. 150

ATORN Solid carbide end mill

2 cutting edges, uncoated

VHM | Typ N | Z 2 | 30° | 45° | HA

Application:
Suitable for universal plunge, groove and clearance milling.

Execution:
- Solid carbide ultra-fine grain
- Straight shank pursuant to DIN 6535 HA
- Centre cutting

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	95	70	60	55	50	200	245	130	145	90	105	105		80	45	40	35		

Type								N	
Surface								Uncoated	
Tool holding device								HA parallel shank	
Tolerance of cutting edge Ø								e8	
Tolerance of shank Ø								h5	
Coolant supply								External	
mm	mm	mm	mm	F mm		Z (PCS)	fz steel 1000 ● (mm)	16750... Ident. No.	
3	20	60	3	0.1		2	0.021	030	●
4	30	75	4	0.1		2	0.032	040	●
5	30	75	5	0.1		2	0.034	050	●
6	40	100	6	0.1		2	0.036	060	●
8	40	100	8	0.2		2	0.04	080	●
10	40	100	10	0.2		2	0.042	100	●
12	45	100	12	0.2		2	0.044	120	●
16	75	150	16	0.2		2	0.048	160	●
20	75	150	20	0.2		2	0.056	200	●

Prod. Gr. 108

ATORN Disposable solid carbide milling cutter

3 cutting edges, uncoated/ULTRA coated

VHM | ULTRA | Typ N | Z 3 | 30° | HB

No. 16760

No. 16763

Application:
For universal machining in all material groups. Regrinding this cutting mill is not economical. It is cheaper to use the tool down to the wear line and replace it with a new one.

Execution:
- Solid carbide ultra-fine grain
- Straight shank pursuant to DIN 6535 HB
- Centre cutting
- **No. 16760:** Uncoated
- **No. 16763:** ULTRA-coating for extremely high service life requirements

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
16760	100	90	67	55	45	270	315	130	155	110	120	125		90	40	30	30		
16763	110	100	75	60	50	300	350	145	170	120	135	140		100	45	35	35		

Type							N		N	
Surface							Uncoated		ULTRA	
Tool holding device							HB parallel shank		HB parallel shank	
Tolerance of cutting edge Ø							h10		h10	
Tolerance of shank Ø							h6		h6	
Coolant supply							External		External	
mm	mm	mm	mm		Z (PCS)	fz steel 1000 ● (mm)	16760... Ident. No.		16763... Ident. No.	
2	4	35	6		3	0.014	020	●	020	●
2.5	4	35	6		3	0.023	025	●	025	●
3	5	36	6		3	0.031	030	●	030	●
3.5	5	36	6		3	0.04	035	●	035	●
4	7	38	6		3	0.048	040	●	040	●
4.5	7	38	6		3	0.05	045	●	045	●
5	8	39	6		3	0.051	050	●	050	●
5.5	8	39	6		3	0.053	055	●	055	●
5.75	8	39	6		3	0.053	057	●	057	●
6	8	39	6		3	0.054	060	●	060	●
6.75	11	43	8		3	0.056	067	●	067	○
7	11	43	8		3	0.057	070	●	070	●
7.75	11	43	8		3	0.059	077	●	077	●
8	11	43	8		3	0.06	080	●	080	●
8.7	13	50	10		3	0.061	087	○	-	-
9	13	50	10		3	0.062	090	●	090	●

					Type	N		N	
					Surface	Uncoated		ULTRA	
					Tool holding device	HB parallel shank		HB parallel shank	
					Tolerance of cutting edge Ø	h10		h10	
					Tolerance of shank Ø	h6		h6	
					Coolant supply	External		External	
mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16760... Ident. No.		16763... Ident. No.	
9.7	13	50	10	3	0.063	097	●	-	-
10	13	50	10	3	0.063	100	●	100	●
12	15	55	12	3	0.066	120	●	120	●

Prod. Gr. 108

ATORN Solid carbide end mill

3 cutting edges, uncoated/ULTRA coated

VHM | ULTRA | Typ N | Z 3 | 30° | 45° | HB

No. 16787

No. 16788

Application:
End mill for universal use when plunge milling, groove milling and keyway cutting as well as face milling and peripheral milling.

Execution:
- solid carbide ultra-fine grain
- straight shank in accordance with DIN 6535 HB
- centre cutting
- radial relief
- with clearance
- **No. 16787:** uncoated
- **No. 16788:** ULTRA-coated

Notes:
The undersized dimensions are particularly suited for cutting keyways

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
16787	105	80	65	60	55	225	270	145	160	100	115	115		90	50	45	40		
16788	115	90	75	65	60	250	300	160	180	110	130	130		100	55	50	45		

						Type	N		N	
						Surface	Uncoated		ULTRA	
						Tool holding device	HB parallel shank		HB parallel shank	
						Tolerance of cutting edge Ø	e8		e8	
						Tolerance of shank Ø	h5		h5	
						Coolant supply	External		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16787... Ident. No.		16788... Ident. No.	
2.8	8	15	57	2.6	6	0.05	3	0.01	028	●	028	●
3	8	15	57	2.8	6	0.1	3	0.01	030	●	030	●
3.8	11	15	57	3.6	6	0.1	3	0.01	038	●	038	●
4	11	15	57	3.8	6	0.1	3	0.02	040	●	040	●
4.8	13	19	57	4.6	6	0.1	3	0.02	048	●	048	●
5	13	19	57	4.8	6	0.1	3	0.02	050	●	050	●
5.8	13	19	57	5.6	6	0.1	3	0.03	058	●	058	●
6	13	19	57	5.8	6	0.1	3	0.03	060	●	060	●
6.8	16	25	63	6.6	8	0.1	3	0.03	068	●	068	●
7	16	25	63	6.8	8	0.1	3	0.03	070	●	070	●
7.8	19	25	63	7.6	8	0.1	3	0.03	078	●	078	●
8	19	25	63	7.8	8	0.1	3	0.04	080	●	080	●
8.7	19	30	72	8.5	10	0.1	3	0.04	087	○	087	●
9	19	30	72	8.8	10	0.1	3	0.04	090	●	090	●
9.7	22	30	72	9.5	10	0.1	3	0.05	097	●	097	●
10	22	30	72	9.8	10	0.1	3	0.05	100	●	100	●
10.7	26	36	83	10.5	12	0.1	3	0.05	107	●	107	●
11	26	36	83	10.8	12	0.1	3	0.07	110	●	110	●
11.7	26	36	83	11.5	12	0.1	3	0.07	117	●	117	●
12	26	36	83	11.8	12	0.1	3	0.07	120	●	120	●
13.7	26	36	83	13.5	14	0.1	3	0.07	137	●	137	●
14	26	36	83	13.8	14	0.1	3	0.07	140	●	140	●
15.7	32	42	92	15.4	16	0.1	3	0.09	157	●	157	●
16	32	42	92	15.7	16	0.1	3	0.09	160	●	160	●
17.7	32	42	92	17.4	18	0.1	3	0.09	177	●	177	○
18	32	42	92	17.7	18	0.1	3	0.1	180	●	180	●
19.7	38	52	104	19.4	20	0.1	3	0.1	197	●	197	○
20	38	52	104	19.7	20	0.1	3	0.12	200	●	200	●

Prod. Gr. 108

ATORN Solid carbide HPC end mill

3 cutting edges, TiAlN-coated

VHM | TiAlN | Typ N | Z 3 | 41°/43°/45° | 45° | HA | HB | HPC

No. 16777

No. 16778

Application:
HPC end mill with unequal twist for roughing and finishing materials with a strength of up to 1400 N/mm²

Execution:
- Solid carbide ultra-fine grain
- TiAlN-coated
- Centre cutting
- With edge protection chamfer
- Unequal twist angle (41°, 43°, 45°)
- With clearance

- **No. 16777:** Straight shank pursuant to DIN 6535 HA
- **No. 16778:** Straight shank pursuant to DIN 6535 HB

Advantage:
- Extremely smooth running
- Reduces vibrations
- Enables higher feed rates and greater cutting depths
- Ideal for static and dynamic trochoidal milling
- Defined edge rounding for extremely long service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	220	190	170	115	105	250		180		160				160	70	60	60		

Type								N		N			
Surface								TiAlN		TiAlN			
Tool holding device								HA parallel shank		HB parallel shank			
Tolerance of cutting edge Ø								e8		e8			
Tolerance of shank Ø								h6		h6			
Coolant supply								External		External			
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16777... Ident. No.		16778... Ident. No.		
3	8	15	57	2.7	6	0.05	3	0.04	201	●	201	●	
4	11	18	57	3.7	6	0.1	3	0.05	202	●	202	●	
5	13	18	57	4.7	6	0.1	3	0.06	203	●	203	●	
6	13	21	57	5.5	6	0.1	3	0.07	204	●	204	●	
8	19	27	63	7.5	8	0.2	3	0.08	205	●	205	●	
10	22	32	72	9.2	10	0.2	3	0.09	206	●	206	●	
12	26	38	83	11.2	12	0.2	3	0.11	207	●	207	●	
16	32	44	92	15	16	0.2	3	0.13	208	●	208	●	
20	38	54	104	19	20	0.2	3	0.15	209	●	209	●	

Prod. Gr. 108

ORION® Solid carbide end mill

3 cutting edges, TiAlN-coated

VHM | TiAlN | Typ N | Z 3 | 30° | 45° | HA | HB

No. 16781 031, 16781 041, 16781 051, 16781 061, 16781 081, 16781 101, 16781 121, 16781 141, 16781 161, 16781 201

No. 16784 030, 16784 040, 16784 050, 16784 060, 16784 080, 16784 100, 16784 120, 16784 140, 16784 160, 16784 200

Application:
Universal end mill for plunge, groove and slot milling as well as for face and circumferential milling.

Execution:
- solid carbide ultra-fine grain
- TiAlN-coated

- centre cutting with new point geometry
- with edge protection chamfer
- **No. 16781:** straight shank in line with DIN 6535 HB
- **No. 16784:** straight shank in line with DIN 6535 HA

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	115	90	75	65	60	250	300	160	180	110	130	130		100	55	50	45		

						Type	N		N	
						Surface	TiAlN		TiAlN	
						Tool holding device	HB parallel shank		HA parallel shank	
						Tolerance of cutting edge Ø	e8		e8	
						Tolerance of shank Ø	h6		h6	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16781... Ident. No.		16784... Ident. No.	
3	8	57	6	0.05	3	0.01	030	●	030	●
3	12	57	6	0.05	3	0.01	031	●	031	●
4	11	57	6	0.06	3	0.02	040	●	040	●
4	19	63	6	0.06	3	0.02	041	●	041	●
5	13	57	6	0.08	3	0.02	050	●	050	●
5	24	68	6	0.08	3	0.02	051	●	051	●
6	13	57	6	0.09	3	0.03	060	●	060	●
6	24	72	6	0.09	3	0.03	061	●	061	●
8	19	63	8	0.12	3	0.04	080	●	080	●
8	38	88	8	0.12	3	0.04	081	●	081	●
10	22	72	10	0.15	3	0.05	100	●	100	●
10	45	95	10	0.15	3	0.05	101	●	101	●
12	26	83	12	0.18	3	0.07	120	●	120	●
12	53	110	12	0.18	3	0.07	121	●	121	●
14	26	83	14	0.2	3	0.07	140	●	140	●
14	53	110	14	0.2	3	0.07	141	●	141	●
16	32	92	16	0.2	3	0.09	160	●	160	●
16	63	123	16	0.2	3	0.09	161	●	161	●
20	38	104	20	0.25	3	0.12	200	●	200	●
20	75	141	20	0.25	3	0.12	201	●	201	●

Prod. Gr. 154

ORION® Solid carbide end mill

3 cutting edges, uncoated

Application:

Universal end mill for plunge, groove and slot milling as well as for face and circumferential milling.

Execution:

- Solid carbide ultra-fine grain
- Straight shank pursuant to DIN 6535 HA
- Up to Ø 3 mm - 3-cutter, cutting to the centre
- From Ø 3.5 mm - centre cutting

Notes:

Minimum order quantity: up to diameter 3.0 mm = 10 pieces

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	105	80	67	60	55	225	270	145	160	100	115	115		90	50	45	40		

						Type	N	
						Surface	Uncoated	
						Tool holding device	HA parallel shank	
						Tolerance of cutting edge Ø	h10	
						Tolerance of shank Ø	h6	
mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16780... Ident. No.		
1	3	38	3	3	0.01	010	●	
1.5	5	38	3	3	0.01	015	●	
2	6	38	3	3	0.01	020	●	
2.5	7	38	3	3	0.01	025	●	
3	9	38	3	3	0.01	030	●	
3.5	12	40	3.5	3	0.01	035	●	
4	12	40	4	3	0.02	040	●	
4.5	14	50	4.5	3	0.02	045	●	
5	14	50	5	3	0.03	050	●	
6	16	50	6	3	0.03	060	●	
7	20	60	7	3	0.04	070	●	
8	20	60	8	3	0.05	080	●	
9	22	70	9	3	0.05	090	●	
10	22	70	10	3	0.06	100	●	
11	22	70	11	3	0.07	110	●	
12	22	70	12	3	0.07	120	●	

Prod. Gr. 148

ATORN Solid carbide end mill

3 cutting edges, uncoated/ULTRA coated

VHM | ULTRA | Typ N | Z 3 | 45° | 45° | HB

No. 16790

No. 16792

Application:
End mill for universal use when plunge milling, groove milling and keyway cutting as well as face milling and peripheral milling.

Execution:
- solid carbide ultra-fine grain
- straight shank in accordance with DIN 6535 HB
- centre cutting
- with clearance
- **No. 16790:**
  - without edge protection chamfer
  - uncoated
- **No. 16792:**
  - with edge protection chamfer
  - ULTRA-coated

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
16790	95	75	65	55	50	215	255	135	155	95	110	110		85	45	40	40		
16792	115	90	75	65	60	250	300	160	180	110	130	130		100	55	50	45		

Type								N		N	
Surface								Uncoated		ULTRA	
Tool holding device								HB parallel shank		HB parallel shank	
Tolerance of cutting edge Ø								e8		e8	
Tolerance of shank Ø								h5		h5	
Coolant supply								External		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16790... Ident. No.		16792... Ident. No.	
2	8	-	57	-	6	0.05	3	0.01	020	●	020	●
3	8	15	57	2.8	6	0.05	3	0.01	030	●	030	●
3.5	11	15	57	3.3	6	0.05	3	0.01	035	●	035	●
4	11	15	57	3.8	6	0.1	3	0.02	040	●	040	●
4.5	13	21	57	4.3	6	0.1	3	0.02	045	●	045	●
5	13	21	57	4.8	6	0.1	3	0.02	050	●	050	●
5.5	13	21	57	5.3	6	0.1	3	0.02	055	●	055	●
6	13	21	57	5.8	6	0.1	3	0.03	060	●	060	●
6.5	16	27	63	6.3	8	0.1	3	0.03	065	●	065	●
7	16	27	63	6.8	8	0.1	3	0.03	070	●	070	●
7.5	19	27	63	7.3	8	0.1	3	0.03	075	●	075	●
8	19	27	63	7.7	8	0.2	3	0.04	080	●	080	●
8.5	19	32	72	8.3	10	0.2	3	0.04	085	●	085	●
9	19	32	72	8.8	10	0.2	3	0.05	090	●	090	●
9.5	22	32	72	9.3	10	0.2	3	0.05	095	●	095	●
10	22	32	72	9.8	10	0.2	3	0.06	100	●	100	●
11	26	32	83	10.8	12	0.2	3	0.06	110	●	110	●
12	26	38	83	11.8	12	0.2	3	0.07	120	●	120	●
14	26	38	83	13.8	14	0.2	3	0.07	140	●	140	●
16	32	44	92	15.7	16	0.2	3	0.07	160	●	160	●
18	32	44	92	17.7	18	0.2	3	0.09	180	●	180	●
20	38	54	104	19.7	20	0.2	3	0.12	200	●	200	●

Prod. Gr. 108

ATORN Solid carbide end mill

3 cutting edges, uncoated/ULTRA coated

VHM | ULTRA | Typ N | Z 3 | 45° | 45° | HB

No. 16793

No. 16794

Application:
End mill for universal use when plunge milling, groove milling and keyway cutting as well as face milling and peripheral milling.

Execution:
- solid carbide ultra-fine grain
- straight shank in accordance with DIN 6535 HB
- centre cutting
- **No. 16793:**
  - without edge protection chamfer
  - uncoated
- **No. 16794:**
  - with edge protection chamfer
  - ULTRA-coated

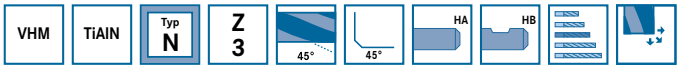
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
16793	85	67	60	50	45	195	230	120	140	85	100	100		75	40	35	35		
16794	105	80	67	60	55	225	270	145	160	100	120	120		90	50	45	40		

						Type	N		N	
						Surface	Uncoated		ULTRA	
						Tool holding device	HB parallel shank		HB parallel shank	
						Tolerance of cutting edge Ø	e8		e8	
						Tolerance of shank Ø	h5		h5	
						Coolant supply	External		External	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16793... Ident. No.		16794... Ident. No.	
3.5	15	59	6	0.05	3	0.036	035	●	035	●
4	19	63	6	0.1	3	0.043	040	●	040	●
4.5	19	63	6	0.1	3	0.045	045	●	045	●
5	24	68	6	0.1	3	0.046	050	●	050	●
5.5	24	68	6	0.1	3	0.048	055	●	055	●
6	24	68	6	0.1	3	0.049	060	●	060	●
6.5	30	80	8	0.1	3	0.05	065	●	065	●
7	30	80	8	0.1	3	0.051	070	●	070	●
7.5	30	80	8	0.1	3	0.053	075	●	075	●
8	38	88	8	0.2	3	0.054	080	●	080	●
8.5	38	88	10	0.2	3	0.055	085	●	085	●
9	38	88	10	0.2	3	0.056	090	●	090	●
9.5	38	88	10	0.2	3	0.056	095	●	095	●
10	45	95	10	0.2	3	0.057	100	●	100	●
11	45	102	12	0.2	3	0.058	110	●	110	●
12	53	110	12	0.2	3	0.059	120	●	120	●
14	53	110	14	0.2	3	0.062	140	●	140	●
16	63	123	16	0.2	3	0.065	160	●	160	●
18	63	123	18	0.2	3	0.07	180	●	180	●
20	75	141	20	0.2	3	0.076	200	●	200	●

Prod. Gr. 108

ORION® Solid carbide end mill

3 cutting edges, TiAlN-coated



No. 16797

No. 16799

Application:
Universal end mill for plunge, groove and slot milling as well as for face and circumferential milling.

Execution:
- solid carbide ultra-fine grain
- centre cutting with new point geometry
- with edge protection chamfer
- TiAlN-coated
- **No. 16797:** straight shank in line with DIN 6535 HA
- **No. 16799:** straight shank in line with DIN 6535 HB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	105	80	70	60	55	225	270	145	160	100	120	120		90	50	45	40		

						Type	N		N	
						Surface	TiAlN		TiAlN	
						Tool holding device	HA parallel shank		HB parallel shank	
						Tolerance of cutting edge Ø	e8		e8	
						Tolerance of shank Ø	h6		h6	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16797... Ident. No.		16799... Ident. No.	
3	8	57	6	0.05	3	0.031	530	●	530	●
4	11	57	6	0.06	3	0.048	540	●	540	●
5	13	57	6	0.08	3	0.051	550	●	550	●
6	13	57	6	0.09	3	0.054	560	●	560	●
8	19	63	8	0.12	3	0.06	580	●	580	●
10	22	72	10	0.15	3	0.063	600	●	600	●
12	26	83	12	0.18	3	0.066	620	●	620	●
14	26	83	14	0.2	3	0.069	640	●	640	●
16	32	92	16	0.2	3	0.072	660	●	660	●
20	38	104	20	0.25	3	0.084	700	●	700	●

Prod. Gr. 154

ORION® Solid carbide end mill

3 cutting edges, uncoated

VHM | Typ N | Z 3 | 45° | HA

Application:
End mill for universal use when plunge milling, groove milling and keyway cutting as well as face milling and peripheral milling.

Execution:
- solid carbide ultra-fine grain
- straight shank in accordance with DIN 6535 HA
- up to 3-mm diameter – 3 blades for centre cutting
- from 4-mm diameter – centre cutting

Notes:
Minimum order quantity: up to 3.0 mm diameter = 5 pieces

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	95	70	65	55	50	205	245	130	145	90	110	110		80	45	40	35		

						Type	N	
						Surface	Uncoated	
						Tool holding device	HA parallel shank	
						Tolerance of cutting edge Ø	h10	
						Tolerance of shank Ø	h6	
mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16785... Ident. No.		
1	3	38	3	3	0.0035	010	●	
1.5	5	38	3	3	0.0055	015	●	
2	6	38	3	3	0.0125	020	●	
2.5	7	38	3	3	0.021	025	●	
3	7	38	3	3	0.028	030	●	
4	12	40	4	3	0.043	040	●	
5	14	50	5	3	0.046	050	●	
6	10	57	6	3	0.049	060	●	
8	15	63	8	3	0.054	080	●	
10	19	72	10	3	0.057	100	●	
12	22	83	12	3	0.059	120	●	
16	26	92	16	3	0.065	160	●	
20	32	104	20	3	0.076	200	●	

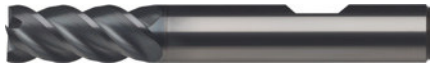
Prod. Gr. 148

ORION® Solid carbide end mill

4 cutting edges, TiAlN-coated

VHM | TiAlN | Typ W | Z 4 | 45° | 45° | HA | HB

No. 16827



No. 16828

Application:
End mill for universal machining of non-ferrous metals.

Execution:
- solid carbide ultra-fine grain
- TiAlN-coated
- centre cutting
- with edge protection chamfer
- **No. 16827:** straight shank in accordance with DIN 6535 HA
- **No. 16828:** straight shank in accordance with DIN 6535 HB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
					40	280	350	125	140	115	125	115			40	35	35		

						Type	W		W	
						Surface	TiAlN		TiAlN	
						Tool holding device	HA parallel shank		HB parallel shank	
						Tolerance of cutting edge Ø	e8		e8	
						Tolerance of shank Ø	h6		h6	
mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16827... Ident. No.		16828... Ident. No.	
2	8	57	6	0.05	4	0.01	020	●	020	●
3	8	57	6	0.05	4	0.01	030	●	030	●
4	11	57	6	0.1	4	0.02	040	●	040	●
5	13	57	6	0.1	4	0.02	050	●	050	●
6	13	57	6	0.1	4	0.03	060	●	060	●
8	19	63	8	0.2	4	0.04	080	●	080	●
10	22	72	10	0.2	4	0.05	100	●	100	●
12	26	83	12	0.2	4	0.06	120	●	120	●
14	26	83	14	0.2	4	0.08	140	●	140	●
16	32	92	16	0.2	4	0.08	160	●	160	●
20	38	104	20	0.2	4	0.1	200	●	200	●

Prod. Gr. 154

ATORN Solid carbide end mill

4 cutting edges, uncoated

Application:
End mill for universal machining.

Execution:
- solid carbide ultra-fine grain
- straight shank in accordance with DIN 6535 HA
- centre cutting
- 2-4 mm diameter without clearance
- without edge protection chamfer

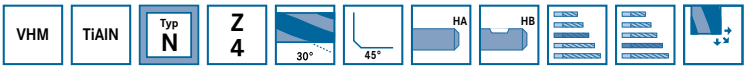
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	115	90	75	65	60	250	300	160	180	110	130	130		100	55	50	45		

Type								N		
Surface								Uncoated		
Tool holding device								HA parallel shank		
Tolerance of cutting edge Ø								e8		
Tolerance of shank Ø								h5		
Coolant supply								External		
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16830... Ident. No.		
2	8	-	32	-	2	4	0.02	020	●	
3	12	-	38	-	3	4	0.02	030	●	
4	12	-	40	-	4	4	0.03	040	●	
5	15	20	50	4.8	5	4	0.04	050	●	
6	16	20	58	5.8	6	4	0.04	060	●	
8	22	32	70	7.7	8	4	0.05	080	●	
10	25	31	73	9.6	10	4	0.06	100	●	
12	28	37	84	11.6	12	4	0.07	120	●	
14	31	41	88	13.5	14	4	0.08	140	●	
16	35	43	93	15.5	16	4	0.1	160	●	
20	40	52	104	19.5	20	4	0.12	200	●	

Prod. Gr. 108

ORION® Solid carbide end mill

4 cutting edges, TiAlN-coated



No. 16822 020–16822 030, 16822 040, 16822 050, 16822 060, 16822 080, 16822 100, 16822 120, 16822 160, 16822 200

No. 16823 031–16823 051, 16823 061, 16823 081, 16823 101, 16823 121, 16823 161, 16823 201

Application:
End mill for universal machining.

Execution:
- solid carbide ultra-fine grain
- centre cutting
- with edge protection chamfer
- linear relief
- TiAlN-coated
- **No. 16822:** straight shank in line with DIN 6535 HA
- **No. 16823:** straight shank in line with DIN 6535 HB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	115	90	75	65	60	250	300	160	180	110	130	130		100	55	50	45		

Type							N		N	
Surface							TiAlN		TiAlN	
Tool holding device							HA parallel shank		HB parallel shank	
Tolerance of cutting edge Ø							e8		e8	
Tolerance of shank Ø							h6		h6	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16822... Ident. No.		16823... Ident. No.	
2	8	32	2	0.03	4	0.02	020	●	-	-
3	12	38	3	0.05	4	0.02	030	●	-	-
3	15	57	6	0.05	4	0.02	031	●	031	●
4	12	40	4	0.05	4	0.03	040	●	-	-
4	19	63	6	0.05	4	0.03	041	●	041	●
5	15	50	5	0.05	4	0.04	050	●	-	-
5	24	68	6	0.05	4	0.04	051	●	051	●
6	16	57	6	0.05	4	0.04	060	●	060	●
6	24	68	6	0.05	4	0.04	061	●	061	●
8	22	68	8	0.1	4	0.05	080	●	080	●
8	38	88	8	0.1	4	0.05	081	●	081	●
10	25	72	10	0.1	4	0.06	100	●	100	●
10	45	95	10	0.1	4	0.06	101	●	101	●
12	28	83	12	0.1	4	0.07	120	●	120	●
12	53	110	12	0.1	4	0.07	121	●	121	●

						Type	N		N	
						Surface	TiAlN		TiAlN	
						Tool holding device	HA parallel shank		HB parallel shank	
						Tolerance of cutting edge Ø	e8		e8	
						Tolerance of shank Ø	h6		h6	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16822... Ident. No.		16823... Ident. No.	
16	35	92	16	0.15	4	0.1	160	●	160	●
16	63	125	16	0.15	4	0.1	161	●	161	●
20	40	104	20	0.15	4	0.12	200	●	200	●
20	75	141	20	0.15	4	0.12	201	●	201	●

Prod. Gr. 154

ORION® Solid carbide end mill

4 cutting edges, TiAlN-coated

VHM | TiAlN | Typ H | Z 4 | 30° | HB

No. 16837

No. 16838

Application:
End mill for universal processing.

Execution:
- Solid carbide ultra-fine grain
- Up to Ø 5 mm straight shank in line with DIN 6535 HA
- From Ø 6 mm straight shank in line with DIN 6535 HB
- TiAlN-coated
- Centre cutting
- **No. 16837:**
  - Short version
  - Very high feed rates possible
- **No. 16838:** Long version

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	250	170	130											140				85	

						Type	H		H	
						Surface	TiAlN		TiAlN	
						Tool holding device	HB parallel shank		HB parallel shank	
						Tolerance of cutting edge Ø	e8		e8	
						Tolerance of shank Ø	h6		h6	
mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)		16837... Ident. No.		16838... Ident. No.	
2	3	32	2	4	0.02		302	●	-	-
2	8	32	2	4	0.02		-	-	302	●
3	5	32	3	4	0.02		303	●	-	-
3	12	38	3	4	0.02		-	-	303	●
4	8	36	4	4	0.04		304	●	-	-
4	13	40	4	4	0.035		-	-	304	●
5	9	45	5	4	0.05		305	●	-	-
5	15	50	5	4	0.04		-	-	305	●
6	10	46	6	4	0.05		306	●	-	-
6	16	58	6	4	0.04		-	-	306	●
7	20	60	8	4	0.045		-	-	307	●
8	12	55	8	4	0.06		308	●	-	-
8	22	70	8	4	0.05		-	-	308	●
9	22	70	10	4	0.06		-	-	309	●
10	14	65	10	4	0.08		310	●	-	-
10	25	73	10	4	0.07		-	-	310	●
12	16	66	12	4	0.12		312	●	-	-
12	28	84	12	4	0.1		-	-	312	●
14	18	70	14	4	0.13		314	●	-	-
14	30	84	14	4	0.12		-	-	314	●
16	20	75	16	4	0.15		316	●	-	-
16	35	93	16	4	0.13		-	-	316	●
20	25	82	20	4	0.17		320	●	-	-
20	40	104	20	4	0.14		-	-	320	●
25	30	92	25	4	0.18		325	●	-	-
25	50	120	25	4	0.15		-	-	325	●

Prod. Gr. 150

ATORN Solid carbide end mill

4 cutting edges, ULTRA-coated

Application:
End/torus milling cutter for universal machining.

Execution:
- Solid carbide ultra-fine grain
- Up to Ø 6 mm straight shank pursuant to DIN 6535 HA
- From Ø 8 mm straight shank pursuant to DIN 6535 HB
- ULTRA-coated
- Centre cutting
- Ø 2-4 mm without clearance

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	115	90	75	65	60	250	300	160	180	110	130	130		100	55	50	45		

Type								N		N	
Surface								ULTRA		ULTRA	
Tool holding device								HA parallel shank		HB parallel shank	
Tolerance of cutting edge Ø								e8		e8	
Tolerance of shank Ø								h5		h5	
Coolant supply								External		External	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16857... Ident. No.		16857... Ident. No.	
2	8	-	32	-	2	4	0.023	020	●	-	-
3	12	-	38	-	3	4	0.05	030	●	-	-
4	12	-	40	-	4	4	0.077	040	●	-	-
5	15	20	50	4.8	5	4	0.081	050	●	-	-
6	16	20	58	5.8	6	4	0.086	060	●	-	-
8	22	32	70	7.7	8	4	0.096	-	-	080	●
10	25	31	73	9.6	10	4	0.101	-	-	100	●
12	28	37	84	11.6	12	4	0.106	-	-	120	●
16	35	43	93	15.5	16	4	0.115	-	-	160	●
20	40	52	104	19.5	20	4	0.135	-	-	200	●

Prod. Gr. 108

ATORN Solid carbide HPC end mill/torus milling cutter

4 cutting edges, ULTRA-coated

Application:
Ident. No. 040–041, 050–051, 060–061, 080–081, 100–101, 120–121, 160–201: End/torus milling cutter for universal machining.
Ident. No. 042–043, 052–053, 062–063, 082–083, 103, 123, 203: Shank or torus milling cutter for universal machining.

Execution:
- Solid carbide ultra-fine grain
- Centre cutting
- ULTRA-coated
- Edge protection chamfer/edge radius
- **Ident. No. 040–041, 050–051, 060–061, 080–081, 100–101, 120–121, 160–201:**
  - Straight shank pursuant to DIN 6535 HA
  - Extra-long design without clearance
- **Ident. No. 042–043, 052–053, 062–063, 082–083, 103, 123, 203:**
  - Straight shank in accordance with DIN 6535 HA
  - Extra-long design with no clearance

Type									N		
Surface									ULTRA		
Tool holding device									HA parallel shank		
Tolerance of cutting edge Ø									f8		
Tolerance of shank Ø									h5		
Coolant supply									External		
mm	mm	mm	mm	mm	mm	F mm	R mm	Z (PCS)	fz steel 1300 ● (mm)	16862... Ident. No.	
4	11	18	57	3.9	6	0.1	-	4	0.03	040	●
4	16	-	62	-	6	0.1	-	4	0.03	041	●
4	11	18	57	3.9	6	-	0.5	4	0.03	042	●
4	16	-	62	-	6	-	0.5	4	0.03	043	●
5	13	19	57	4.9	6	0.1	-	4	0.03	050	●
5	17	-	62	-	6	0.1	-	4	0.03	051	●
5	13	19	57	4.9	6	-	0.5	4	0.03	052	●
5	17	-	62	-	6	-	0.5	4	0.03	053	●
6	13	19	57	5.9	6	0.1	-	4	0.04	060	●
6	18	-	62	-	6	0.1	-	4	0.04	061	●
6	13	19	57	5.9	6	-	0.5	4	0.04	062	●
6	18	-	62	-	6	-	0.5	4	0.04	063	●
8	19	25	63	7.7	8	0.1	-	4	0.05	080	●
8	24	-	68	-	8	0.1	-	4	0.05	081	●
8	19	25	63	7.7	8	-	1	4	0.05	082	○

								Type		N	
								Surface		ULTRA	
								Tool holding device		HA parallel shank	
								Tolerance of cutting edge Ø		f8	
								Tolerance of shank Ø		h5	
								Coolant supply		External	
mm	mm	mm	mm	mm	mm	F mm	R mm	Z (PCS)	fz steel 1300 ● (mm)	16862... Ident. No.	
8	24	-	68	-	8	-	1	4	0.05	083	○
10	22	30	72	9.7	10	0.1	-	4	0.06	100	●
10	30	-	80	-	10	0.1	-	4	0.06	101	●
10	30	-	80	-	10	-	1	4	0.06	103	●
12	26	36	83	11.7	12	0.1	-	4	0.07	120	●
12	36	-	93	-	12	0.1	-	4	0.07	121	●
12	36	-	93	-	12	-	1.5	4	0.07	123	●
16	32	42	92	15.5	16	0.1	-	4	0.09	160	●
16	48	-	108	-	16	0.1	-	4	0.09	161	●
20	38	52	104	19.5	20	0.1	-	4	0.11	200	●
20	60	-	126	-	20	0.1	-	4	0.11	201	●
20	60	-	126	-	20	-	2	4	0.11	203	○

Prod. Gr. 108

HPC drilling and plunge end mills
drilling and ramping with maximum performance

grooves
- very quiet operation and high process stability
- highest feeds during insertion and grooving
- undersize tools for precise fitting grooves

drilling
- very good drilling properties up to 2xD
- no separate pilot tool necessary

ramping
- insertion angle up to 45° possible
- optimum chip removal through special face geometry

rough machining
- high material removal rate due to HPC geometry
- can also be used on less powerful machines due to low power consumption

finishing
- contours with high surface quality
- HPC geometry ensures low-vibration milling

ORION®

P M K S

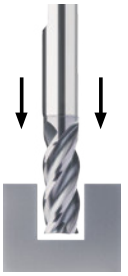
circumferential milling

P M K S

groove milling

P M K S

ramp milling



P K

drilling

uneven pitch

optimised front chip spaces

ORION® SC HPC drilling and plunge end mills
4 cutting edges, AlTiN-coated

VHM | AlTiN | Typ N | Z 4 | 35°/38° | 45° | HA | HB | HPC

Application:
Ramping, grooving, drilling, roughing and finishing with high performance. The special face geometry enables e.g. ramp angles of up to 45°.

Execution:
- point geometry for ramping and drilling
- Solid carbide ultra-fine grain
- AlTiN-coated
- Centre cutting and clearance
- With 45° edge protection chamfer
- uneven twist angle

Ident. No. 305–320

Ident. No. 405–420

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	210	175	120	120	110									150	60	30	25		

Type							N		N				
Surface							AlTiN		AlTiN				
Tool holding device							HA parallel shank		HB parallel shank				
Tolerance of cutting edge Ø							h10		h10				
Tolerance of shank Ø							h6		h6				
mm	mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16861... Ident. No.		16861... Ident. No.		
5.7	13	19	57	5.4	6	0.05	4	0.05	305	●	405	●	
6	13	19	57	5.7	6	0.05	4	0.05	306	●	406	●	
7.7	19	25	63	7.3	8	0.1	4	0.06	307	●	407	●	
8	19	25	63	7.6	8	0.1	4	0.06	308	●	408	●	
9.7	22	30	72	9.2	10	0.1	4	0.07	309	●	409	●	
10	22	30	72	9.5	10	0.1	4	0.07	310	●	410	●	
11.7	26	36	83	11.2	12	0.15	4	0.09	311	●	411	●	
12	26	36	83	11.5	12	0.15	4	0.09	312	●	412	●	
13.7	26	36	83	13.2	14	0.15	4	0.11	313	●	413	●	
14	26	36	83	13.5	14	0.15	4	0.11	314	●	414	●	
15.6	32	42	92	15.1	16	0.2	4	0.12	315	●	415	●	
16	32	42	92	15.5	16	0.2	4	0.12	316	●	416	●	
19.5	38	52	104	19	20	0.2	4	0.14	319	●	419	●	
20	38	52	104	19.5	20	0.2	4	0.14	320	●	420	●	

Prod. Gr. 150

ORION® Solid carbide HPC end mill

4 cutting edges, TiAlN-coated

VHM | TiAlN | Typ N | Z 4 | 35°/38° | 45° | HB | HPC

Application:
HPC end mill with unequal twist and uneven distribution for universal roughing and finishing.

Execution:
- Solid carbide ultra-fine grain
- Straight shank pursuant to DIN 6535 HB
- TiAlN-coated
- With clearance
- Unequal twist angle 35°/38°
- With edge protection chamfer
- Rounded cutting edge
- Centre cutting
- Unequal cutter pitch

Advantage:
- Roughing and finishing with just one tool
- Ideally suitable for trochoidal milling
- Enables higher feed rates and greater cutting depths

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	200	160	130	105	85			300	255	205	240			135	85	60	60		

Type									N	
Surface									TiAlN	
Tool holding device									HB parallel shank	
Tolerance of cutting edge Ø									e8	
Tolerance of shank Ø									h6	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16853... Ident. No.	
3	5	12	50	2.8	6	0.1	4	0.027	201	●
3	8	15	57	2.8	6	0.1	4	0.027	202	●
4	8	15	54	3.8	6	0.1	4	0.036	203	●
4	11	18	57	3.8	6	0.1	4	0.036	204	●
5	9	15	54	4.8	6	0.1	4	0.03	205	●
5	13	18	57	4.8	6	0.1	4	0.03	206	●
6	10	18	54	5.7	6	0.15	4	0.045	207	●
6	13	21	57	5.7	6	0.15	4	0.045	208	●
8	12	22	58	7.7	8	0.15	4	0.055	209	●
8	19	27	63	7.7	8	0.15	4	0.055	210	●
10	14	26	66	9.5	10	0.2	4	0.06	211	●
10	22	32	72	9.5	10	0.2	4	0.06	212	●
12	16	28	73	11.5	12	0.2	4	0.07	213	●
12	26	38	83	11.5	12	0.2	4	0.07	214	●
16	22	34	82	15.5	16	0.35	4	0.1	215	●
16	32	44	92	15.5	16	0.35	4	0.1	216	●
20	26	42	92	19.5	20	0.45	4	0.13	217	●
20	38	54	104	19.5	20	0.45	4	0.13	218	●

Prod. Gr. 150

ORION® SC HPC end mill set

4 cutting edges, TiAlN-coated

Application:
HPC end mill with unequal twist and unequal pitch for universal rough machining and smoothing

Execution:
- Solid carbide ultra-fine grain, TiAlN-coated
- Straight shank in line with DIN 6535 HB
- Unequal twist angle of 35°/38°
- With edge protection chamfer
- Comprising individual tools 16853 208-216

Composition of set		6/8/10/12 mm	6/8/10/12/16 mm
Number of pieces in assortment/ set (PCS)		4	5
Type		N	N
16853...	Ident. No.	298 ●	299 ●

Prod. Gr. 150

Ident. No. 298

Ident. No. 299

ORION® Solid carbide HPC end mill UNI

4 cutting edges, AlCrN-coated

Application:
HPC end mill with uneven twist and uneven pitch for universal roughing and smoothing.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HB
- AlCrN coating
- Clearance
- unequal twist angle of 35°/38°
- With edge protection chamfer
- Rounded cutting edges
- Centre cutting
- unequal cutting edge pitch

Advantage:
- extremely quiet running
- Reduced vibration
- Higher feeds and cutting depths possible
- ideal for static and dynamic trochoidal milling
- Defined edge rounding for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	230	190	150											200					

								Type	N	
								Surface	AlCrN	
								Tool holding device	HB parallel shank	
								Tolerance of cutting edge Ø	e8	
								Tolerance of shank Ø	h6	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16852... Ident. No.	
3	8	15	57	2.8	6	0.15	4	0.03	503	●
4	11	17	57	3.8	6	0.15	4	0.035	504	●
5	13	19	57	4.8	6	0.15	4	0.04	505	●
6	13	21	57	5.8	6	0.15	4	0.05	506	●
8	19	27	63	7.6	8	0.15	4	0.06	508	●
10	22	32	72	9.5	10	0.2	4	0.07	510	●
12	26	38	83	11.5	12	0.2	4	0.08	512	●
16	32	44	92	15.5	16	0.35	4	0.12	516	●
20	38	54	104	19.5	20	0.6	4	0.14	520	●

Prod. Gr. 150

ORION® Solid carbide HPC end mill STAINLESS STEEL

4 cutting edges, AlCrN-coated

Application:
HPC end mill with uneven twist and uneven pitch for rough and finish machining of stainless steel.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HB
- AlCrN coating
- Clearance
- unequal twist angle of 40°/41°
- With edge protection chamfer
- Rounded cutting edges
- Centre cutting
- unequal cutting edge pitch

Advantage:
- extremely quiet running
- Reduced vibration
- Higher feeds and cutting depths possible
- ideal for static and dynamic trochoidal milling
- Defined edge rounding for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	210	170		120	100										100		70		

								Type	VA	
								Surface	AlCrN	
								Tool holding device	HB parallel shank	
								Tolerance of cutting edge Ø	e8	
								Tolerance of shank Ø	h6	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steinl. st. ● (mm)	16852... Ident. No.	
3	8	15	57	2.8	6	0.15	4	0.015	703	●
4	11	17	57	3.8	6	0.15	4	0.025	704	●
5	13	19	57	4.8	6	0.15	4	0.03	705	●
6	13	21	57	5.8	6	0.15	4	0.036	706	●
8	19	27	63	7.6	8	0.15	4	0.05	708	●
10	22	32	72	9.5	10	0.2	4	0.06	710	●
12	26	38	83	11.5	12	0.2	4	0.07	712	●

							Type		VA	
							Surface		AlCrN	
							Tool holding device		HB parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steinl. st. ● (mm)	16852... Ident. No.	
16	32	44	92	15.5	16	0.35	4	0.10	716	●
20	38	54	104	19.5	20	0.6	4	0.12	720	●

Prod. Gr. 150

ORION® Solid carbide HPC end mills

4 cutting edges, ULTRA-coated

VHM | ULTRA | Typ N | Z 4 | 35°/38° | 45° | HA | HB | HPC

Ident. No. 200–208, 212–220, 252

Application:
HPC end mill with uneven twist and uneven pitch for universal rough machining and smoothing.

Execution:
- Solid carbide ultra-fine grain
- Straight shank as per DIN 6535 HA and HB
- ULTRA-coated
- With clearance
- Uneven twist angle 35°/38°
- With edge protection chamfer
- Edge-rounded flutes
- Centre cutting
- Uneven flute pitch

Advantage:
- Extremely smooth running
- Reduced oscillation
- Higher feed rates and cutting depths possible
- Ideal for static and dynamic trochoidal milling
- Defined edge rounding for outstanding service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	230	190	150	120	100			350	300	240	280			160	100	70	70		

							Type	N		N	
							Surface	ULTRA		ULTRA	
							Tool holding device	HB parallel shank		HA parallel shank	
							Tolerance of cutting edge Ø	e8		e8	
							Tolerance of shank Ø	h6		h6	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16851... Ident. No.		16851... Ident. No.	
3	5	13	54	2.8	6	0.05	4	0.03	200	●	250	●
4	8	14	54	3.8	6	0.1	4	0.035	204	●	224	●
5	9	17	54	4.7	6	0.1	4	0.04	202	●	222	●
6	10	17	54	5.8	6	0.1	4	0.05	206	●	226	●
8	12	22	58	7.7	8	0.2	4	0.06	208	●	228	●
10	14	26	66	9.7	10	0.2	4	0.07	210	●	230	●
12	16	28	73	11.6	12	0.2	4	0.08	212	●	232	●
14	16	28	73	13.6	14	0.2	4	0.1	214	●	234	●
16	22	34	82	15.5	16	0.2	4	0.12	216	●	236	●
18	22	34	82	17.5	18	0.2	4	0.13	218	●	238	●
20	26	42	92	19.5	20	0.2	4	0.14	220	●	240	●
25	30	50	110	24.5	25	0.2	4	0.16	252	●	254	●

Prod. Gr. 150

ORION® Solid carbide HPC end mills

4 cutting edges, ULTRA PRO-coated

VHM | ULTRA PRO | Typ N | Z 4 | 35°/38° | 45° | HA | HB | HPC

Ident. No. 150–160

Ident. No. 161–179

Ident. No. 800–820

Ident. No. 830–850

Application:
Ident. No. 150–160: HPC end mill in long version with unequal twist and unequal pitch for universal roughing and finishing.
Ident. No. 161–179: HPC end mill in extra-long version with unequal twist and unequal pitch for universal roughing and finishing.
Ident. No. 800–850: HPC end mill in standard version with unequal twist and unequal pitch for universal roughing and finishing.

Execution:
- Solid carbide ultra-fine grain
- ULTRA PRO-coated
- with clearance
- unequal helix angle 35°/38°
- with edge protection chamfer
- Cutting edge rounding
- Centre cutting
- unequal cutting edge pitch
- **Ident. No. 150–179:** Straight shank in accordance with DIN 6535 HB
- **Ident. No. 800–850:** Straight shank as per DIN 6535 HA and HB

Advantage:
- extremely smooth running
- reduced vibration
- higher feed rates and cutting depths possible
- ideal for static and dynamic trochoidal milling
- defined edge rounding for maximum service life

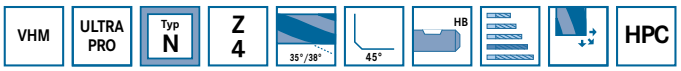
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	230	190	150	120	100			350	300	240	280			160	100	70	70		

								Type	N		N	
								Surface	ULTRA PRO		ULTRA PRO	
								Tool holding device	HB parallel shank		HA parallel shank	
								Tolerance of cutting edge Ø	e8		e8	
								Tolerance of shank Ø	h6		h6	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16851... Ident. No.		16851... Ident. No.	
3	8	13	57	2.8	6	0.05	4	0.03	800	●	830	●
3	6	9	55	2.8	6	0.1	4	0.11	150	●	-	-
3	6	15	58	2.8	6	0.1	4	0.11	161	●	-	-
4	11	17	57	3.8	6	0.1	4	0.035	802	●	832	●
4	8	12	55	3.8	6	0.1	4	0.11	151	●	-	-
4	8	20	62	3.8	6	0.1	4	0.11	170	●	-	-
5	13	19	57	4.7	6	0.1	4	0.04	804	●	834	●
5	10	15	58	4.8	6	0.1	4	0.11	152	●	-	-
5	10	25	70	4.8	6	0.1	4	0.11	171	●	-	-
6	13	19	57	5.8	6	0.1	4	0.05	806	●	836	●
6	13	18	58	5.8	6	0.1	4	0.11	153	●	-	-
6	13	30	70	5.8	6	0.1	4	0.11	172	●	-	-
8	21	25	63	7.7	8	0.2	4	0.06	808	●	838	●
8	17	24	64	7.7	8	0.2	4	0.11	154	●	-	-
8	17	40	80	7.7	8	0.2	4	0.11	173	●	-	-
10	22	30	72	9.7	10	0.2	4	0.07	810	●	840	●
10	21	30	74	9.7	10	0.2	4	0.11	155	●	-	-
10	21	50	94	9.7	10	0.2	4	0.11	174	●	-	-
12	26	36	83	11.6	12	0.2	4	0.08	812	●	842	●
12	25	36	85	11.6	12	0.3	4	0.11	156	●	-	-
12	25	60	109	11.6	12	0.3	4	0.11	175	●	-	-
14	26	36	83	13.6	14	0.2	4	0.1	814	●	844	●
14	29	42	91	13.6	14	0.3	4	0.11	157	●	-	-
14	29	70	119	13.6	14	0.3	4	0.11	176	●	-	-
16	36	42	92	15.5	16	0.2	4	0.12	816	●	846	●
16	33	48	100	15.5	16	0.3	4	0.11	158	●	-	-
16	33	80	132	15.5	16	0.3	4	0.11	177	●	-	-
18	36	42	92	17.5	18	0.2	4	0.13	818	●	848	●
18	38	54	106	17.5	18	0.3	4	0.11	159	●	-	-
18	38	90	142	17.5	18	0.3	4	0.11	178	●	-	-
20	41	52	104	19.5	20	0.2	4	0.14	820	●	850	●
20	42	60	114	19.5	20	0.3	4	0.11	160	●	-	-
20	42	100	154	19.5	20	0.3	4	0.11	179	●	-	-

16851 800 = Prod. Gr. 1DF, 16851 802 = Prod. Gr. 1DF, 16851 804 = Prod. Gr. 1DF, 16851 806 = Prod. Gr. 1DF, 16851 808 = Prod. Gr. 1DF, 16851 810 = Prod. Gr. 1DF, 16851 812 = Prod. Gr. 1DF, 16851 814 = Prod. Gr. 1DF, 16851 816 = Prod. Gr. 1DF, 16851 818 = Prod. Gr. 1DF, 16851 820 = Prod. Gr. 1DF, 16851 830 = Prod. Gr. 1DF, 16851 832 = Prod. Gr. 1DF, 16851 834 = Prod. Gr. 1DF, 16851 836 = Prod. Gr. 1DF, 16851 838 = Prod. Gr. 1DF, 16851 840 = Prod. Gr. 1DF, 16851 842 = Prod. Gr. 1DF, 16851 844 = Prod. Gr. 1DF, 16851 846 = Prod. Gr. 1DF, 16851 848 = Prod. Gr. 1DF, 16851 850 = Prod. Gr. 1DF, 16851 150 = Prod. Gr. 150, 16851 151 = Prod. Gr. 150, 16851 152 = Prod. Gr. 150, 16851 153 = Prod. Gr. 150, 16851 154 = Prod. Gr. 150, 16851 155 = Prod. Gr. 150, 16851 156 = Prod. Gr. 150, 16851 157 = Prod. Gr. 150, 16851 158 = Prod. Gr. 150, 16851 159 = Prod. Gr. 150, 16851 160 = Prod. Gr. 150, 16851 161 = Prod. Gr. 150, 16851 170 = Prod. Gr. 150, 16851 171 = Prod. Gr. 150, 16851 172 = Prod. Gr. 150, 16851 173 = Prod. Gr. 150, 16851 174 = Prod. Gr. 150, 16851 175 = Prod. Gr. 150, 16851 176 = Prod. Gr. 150, 16851 177 = Prod. Gr. 150, 16851 178 = Prod. Gr. 150, 16851 179 = Prod. Gr. 150

ORION® Solid carbide HPC end mills

4 cutting edges, ULTRA PRO-coated



Application:
HPC end mill with unequal twist and unequal pitch for universal roughing and finishing.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HB
- ULTRA PRO-coated
- with clearance
- unequal helix angle 35°/38°
- with edge protection chamfer
- Cutting edge rounding
- Centre cutting
- unequal cutting edge pitch
- Chip breaker on every cutting edge

Advantage:
- optimal suitability for trochoidal milling
- with chip breaker geometry for short chips
- HPC geometry for maximum feed rates and smooth running
- suitable for large cutting depths

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	230	190	150	120	100			350	300	240	280			160	100	70	70		

							Type	N		
							Surface	ULTRA PRO		
							Tool holding device	HB parallel shank		
							Tolerance of cutting edge Ø	f8		
							Tolerance of shank Ø	h6		
mm	mm	mm	mm	mm	mm	F→ mm	Z (PCS)	fz steel 1000 ● (mm)	16851... Ident. No.	
3	9	12	54	2.8	6	0.1	4	0.03	860	●
4	12	16	57	3.8	6	0.1	4	0.035	862	●
5	15	20	57	4.8	6	0.1	4	0.04	864	●
6	18	24	62	5.8	6	0.1	4	0.05	866	●
8	24	30	68	7.7	8	0.2	4	0.06	868	●
10	31	38	80	9.7	10	0.2	4	0.07	870	●
12	41	46	93	11.6	12	0.2	4	0.08	872	●
14	43	53	100	13.6	14	0.3	4	0.1	874	●
16	51	58	108	15.5	16	0.2	4	0.11	876	●
18	55	73	123	17.5	18	0.3	4	0.13	878	●
20	61	74	126	19.5	20	0.2	4	0.13	880	●

Prod. Gr. 1DF

ORION® Solid carbide HPC end mills with internal cooling

4 cutting edges, ULTRA-coated

VHM | ULTRA PRO | Typ N | Z 4 | 35°/38° | 45° | HB | HPC | IK

Application:
HPC end mill with unequal twist and unequal pitch for universal roughing and finishing.

Execution:
- Solid carbide ultra-fine grain
- Straight shank as per DIN 6535 HA and HB
- ULTRA PRO-coated
- with clearance
- unequal helix angle 35°/38°
- with edge protection chamfer

- Cutting edge rounding
- Centre cutting
- unequal cutting edge pitch
- with internal cooling, 4-way, radial

Advantage:
- extremely smooth running
- reduced vibration
- higher feed rates and cutting depths possible
- ideal for static and dynamic trochoidal milling
- defined edge rounding for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	230	190	150	120	100			350	300	240	280			160	100	70	70		

							Type	N		
							Surface	ULTRA PRO		
							Tool holding device	HB parallel shank		
							Tolerance of cutting edge Ø	f8		
							Tolerance of shank Ø	h6		
mm	mm	mm	mm	mm	mm	F→ mm	Z (PCS)	fz steel 1000 ● (mm)	16851... Ident. No.	
6	13	19	57	5.8	6	0.1	4	0.05	380	●
8	21	25	63	7.7	8	0.2	4	0.06	382	●
10	22	30	72	9.7	10	0.2	4	0.07	384	●
12	26	36	83	11.6	12	0.3	4	0.08	386	●
16	36	42	92	15.5	16	0.3	4	0.11	388	●
20	41	52	104	19.5	20	0.3	4	0.13	390	●

Prod. Gr. 1DF

ORION® Solid carbide HPC end mills

4 cutting edges, AlCrN-coated

VHM | AlCrN | Typ VA | Z 4 | 35°/38° | 45° | HB | HPC

Ident. No. 503–520

Ident. No. 553–570

Application:
HPC end mill with uneven twist and uneven pitch for rough and finish machining of stainless steel.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HB
- AlCrN coating
- Clearance
- Unequal twist angle of 35°/38°
- With edge protection chamfer

- Rounded cutting edges
- Centre cutting
- Unequal cutting edge pitch

Advantage:
- extremely quiet running
- Reduced vibration
- Higher feeds and cutting depths possible
- Ideal for static and dynamic trochoidal milling
- Defined edge rounding for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	230	190	150	**120**	100										100	70	70		

									Type	VA	
									Surface	AlCrN	
									Tool holding device	HB parallel shank	
									Tolerance of cutting edge Ø	f8	
									Tolerance of shank Ø	h6	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steinl. st. ● (mm)	16851... Ident. No.		
3	8	13	57	2.8	6	0.1	4	0.012	**503**	●	
3	5	-	50	-	6	0.1	4	0.012	**553**	●	
4	11	17	57	3.8	6	0.1	4	0.015	**504**	●	
4	8	-	54	-	6	0.1	4	0.015	**554**	●	
5	13	19	57	4.8	6	0.1	4	0.019	**505**	●	
5	9	-	54	-	6	0.1	4	0.019	**555**	●	
6	13	19	57	5.8	6	0.1	4	0.025	**506**	●	
6	10	-	54	-	6	0.1	4	0.025	**556**	●	
8	21	25	63	7.7	8	0.2	4	0.032	**508**	●	
8	12	-	58	-	8	0.2	4	0.032	**558**	●	
10	22	30	72	9.7	10	0.2	4	0.04	**510**	●	
10	14	-	66	-	10	0.2	4	0.04	**560**	●	
12	26	36	83	11.6	12	0.3	4	0.045	**512**	●	
12	16	-	73	-	12	0.3	4	0.045	**562**	●	
14	26	36	83	13.6	14	0.3	4	0.05	**514**	●	
16	36	42	92	15.5	16	0.3	4	0.06	**516**	●	
16	22	-	82	-	16	0.3	4	0.06	**566**	●	
18	36	42	92	17.5	18	0.3	4	0.07	**518**	●	
20	41	52	104	19.5	20	0.3	4	0.09	**520**	●	
20	26	-	92	-	20	0.3	4	0.09	**570**	●	

Prod. Gr. 150

ORION® Solid carbide HPC end mills

5 cutting edges, ULTRA-coated

VHM | ULTRA PRO | Typ N | Z 5 | 35°/38° | 45° | HB | HPC

Application:
HPC end mill with unequal twist and unequal pitch for universal roughing and finishing.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HB
- ULTRA PRO-coated
- with clearance
- unequal helix angle 35°/38°
- with edge protection chamfer
- Cutting edge rounding
- Centre cutting
- unequal cutting edge pitch

Advantage:
- extremely quiet running
- reduced vibration
- higher feed rates and cutting depths possible
- ideal for static and dynamic trochoidal milling
- defined edge rounding for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	230	**190**	**150**	**120**	100			**350**	300	**240**	280			**160**	**100**	**70**	**70**		

									Type	N	
									Surface	ULTRA PRO	
									Tool holding device	HB parallel shank	
									Tolerance of cutting edge Ø	e8	
									Tolerance of shank Ø	h5	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16851... Ident. No.		
6	13	19	57	5.8	6	0.1	5	0.05	**900**	●	
8	21	25	63	7.7	8	0.2	5	0.06	**902**	●	
10	22	30	72	9.7	10	0.2	5	0.07	**904**	●	
12	26	36	83	11.6	12	0.3	5	0.08	**906**	●	
16	36	42	92	15.5	16	0.3	5	0.11	**908**	●	
20	41	52	104	19.5	20	0.3	5	0.13	**910**	●	

Prod. Gr. 1DF

ORION® Solid carbide HPC end mills

5 cutting edges, ULTRA-coated

VHM | ULTRA PRO | Typ N | Z 5 | 35°/38° | 45° | HB | HPC

Application:
HPC end mill with unequal twist and unequal pitch for universal roughing and finishing.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HB
- ULTRA PRO-coated
- with clearance
- unequal helix angle 35°/38°
- with edge protection chamfer

- Cutting edge rounding
- Centre cutting
- unequal cutting edge pitch
- Chip breaker on every cutting edge

Advantage:
- optimal suitability for trochoidal milling
- with chip breaker geometry for short chips
- HPC geometry for maximum feed rates and smooth running
- suitable for large cutting depths

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	230	190	150	120	100			350	300	240	280			160	100	70	70		

							Type		N		
							Surface		ULTRA PRO		
							Tool holding device		HB parallel shank		
							Tolerance of cutting edge Ø		e8		
							Tolerance of shank Ø		h5		
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16851... Ident. No.		
6	18	24	62	5.8	6	0.1	5	0.05	920	●	
8	24	30	68	7.7	8	0.2	5	0.06	922	●	
10	30	38	80	9.7	10	0.2	5	0.07	924	●	
12	36	46	93	11.6	12	0.3	5	0.08	926	●	
16	48	58	108	15.5	16	0.3	5	0.11	928	●	
20	60	74	126	19.5	20	0.3	5	0.13	930	●	

Prod. Gr. 1DF

ORION® Solid carbide finishing end mills

6 cutting edges, ULTRA PRO-coated

VHM | ULTRA PRO | Typ N | Z 6 | 35°/38° | HA | HPC

Application:
Highly accurate finishing cutter with unequal twist and unequal pitch for universal finishing.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- ULTRA PRO-coated
- with clearance
- unequal helix angle 48°/50°

- Cutting edge rounding
- unequal cutting edge pitch
- with face cutting edge correction
- Taper of max. 0.005 mm

Advantage:
- extremely smooth running
- reduced vibration
- higher feed rates and cutting depths possible
- high angular accuracy and plane parallelism

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	230	190	150	120	100			350	300	240	280			160	100	70	70		

							Type		N	
							Surface		ULTRA PRO	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16851... Ident. No.		
6	10	18	58	5.8	6	6	0.11	580	●	
6	13	19	57	5.6	6	6	0.11	581	●	
6	13	27	67	5.8	6	6	0.11	582	●	
6	13	36	76	5.8	6	6	0.11	583	●	
6	15	42	80	5.6	6	6	0.11	584	●	
8	13	24	64	7.7	8	6	0.11	585	●	
8	19	25	63	7.6	8	6	0.11	586	●	
8	17	36	76	7.7	8	6	0.11	587	●	
8	17	48	89	7.7	8	6	0.11	588	●	
8	20	62	100	7.6	8	6	0.11	589	●	
10	22	30	72	9.6	10	6	0.11	590	●	
10	16	30	74	9.7	10	6	0.11	591	●	

							Type	N	
							Surface	ULTRA PRO	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	e8	
							Tolerance of shank Ø	h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16851... Ident. No.	
10	21	45	89	9.7	10	6	0.11	592	●
10	21	60	104	9.7	10	6	0.11	593	●
10	25	58	100	9.6	10	6	0.11	594	●
12	26	36	83	11.5	12	6	0.11	595	●
12	19	36	85	11.6	12	6	0.11	596	●
12	25	54	103	11.6	12	6	0.11	597	●
12	25	72	121	11.6	12	6	0.11	598	●
12	30	73	120	11.5	12	6	0.11	599	●
16	25	48	100	15.5	16	6	0.11	600	●
16	32	42	92	15.5	16	6	0.11	601	●
16	33	72	124	15.5	16	6	0.11	602	●
16	33	96	148	15.5	16	6	0.11	603	●
16	40	100	150	15.5	16	6	0.11	604	●
20	32	60	114	19.5	20	6	0.11	605	●
20	38	52	104	19.5	20	6	0.11	606	●
20	42	90	144	19.5	20	6	0.11	607	●
20	42	120	174	19.5	20	6	0.11	608	●
20	50	98	150	19.5	20	6	0.11	609	●
25	40	75	136	24.5	25	6	0.11	610	●
25	52	113	174	24.5	25	6	0.11	611	●
25	52	150	210	24.5	25	6	0.11	612	●

Prod. Gr. 150

ORION® Solid carbide HPC roughing and finishing end mills

4 cutting edges, ULTRA PRO-coated

VHM | ULTRA PRO | Typ NRF | Z 4 | 35°/38° | 45° | HB | HPC

Application:
HPC roughing and finishing cutter for universal machining.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HB
- ULTRA PRO-coated
- unequal helix angle 35°/38°
- unequal cutting edge pitch
- with clearance
- with edge protection chamfer
- with round knuckle profile

Advantage:
- extremely smooth running
- reduced vibration
- higher feed rates and cutting depths possible

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	230	190	150	120	100			350	300	240	280			160	100	70	70		

							Type	NRF	
							Surface	ULTRA PRO	
							Tool holding device	HB parallel shank	
							Tolerance of cutting edge Ø	f8	
							Tolerance of shank Ø	h6	
mm	mm	mm	mm	mm	mm	F→ mm	Z (PCS)	fz steel 1000 ● (mm)	16851... Ident. No.	
3	8	13	57	2.8	6	0.1	4	0.11	260	●
3.5	11	17	57	3.3	6	0.1	4	0.11	261	●
4	11	17	57	3.8	6	0.1	4	0.11	262	●
4.5	13	19	57	4.3	6	0.1	4	0.11	263	●
5	13	19	57	4.8	6	0.1	4	0.11	264	●
5.5	13	19	57	5.3	6	0.1	4	0.11	265	●
6	13	19	57	5.8	6	0.1	4	0.11	266	●
7	21	25	63	6.7	8	0.2	4	0.11	267	●
8	21	25	63	7.7	8	0.2	4	0.11	268	●
9	22	30	72	8.7	10	0.2	4	0.11	269	●
10	22	30	72	9.7	10	0.2	4	0.11	270	●
11	26	36	83	10.6	12	0.3	4	0.11	271	●
12	26	36	83	11.6	12	0.3	4	0.11	272	●
14	26	36	83	13.6	14	0.3	4	0.11	273	●
15	36	42	92	14.5	16	0.3	4	0.11	274	●
16	36	42	92	15.5	16	0.3	4	0.11	275	●
17	36	42	92	16.5	18	0.3	4	0.11	276	●
18	36	42	92	17.5	18	0.3	4	0.11	277	●
19	41	52	104	18.5	20	0.3	4	0.11	278	●
20	41	52	104	19.5	20	0.3	4	0.11	279	●

Prod. Gr. 150

ORION® Solid carbide HPC roughing end mills

4 cutting edges, ULTRA PRO-coated

VHM | ULTRA PRO | Typ NR | Z 4 | 35°/38° | 45° | HB | HPC

Application:
HPC roughing cutter for universal machining.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HB
- ULTRA PRO-coated
- unequal helix angle 35°/38°
- unequal cutting edge pitch
- with clearance
- with edge protection chamfer
- with round knuckle profile

Advantage:
- extremely smooth running
- reduced vibration
- higher feed rates and cutting depths possible

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	230	190	150	120	100			350	300	240	280			160	100	70	70		

								Type	NR		
								Surface	ULTRA PRO		
								Tool holding device	HB parallel shank		
								Tolerance of cutting edge Ø	f8		
								Tolerance of shank Ø	h6		
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16851... Ident. No.		
3	8	13	57	2.8	6	0.1	4	0.11	330	●	
3.5	11	17	57	3.3	6	0.1	4	0.11	331	●	
4	11	17	57	3.8	6	0.1	4	0.11	332	●	
4.5	13	19	57	4.3	6	0.1	4	0.11	333	●	
5	13	19	57	4.8	6	0.1	4	0.11	334	●	
5.5	13	19	57	5.3	6	0.1	4	0.11	335	●	
6	13	19	57	5.8	6	0.1	4	0.11	336	●	
7	21	25	63	6.7	8	0.2	4	0.11	337	●	
8	21	25	63	7.7	8	0.2	4	0.11	338	●	
9	22	30	72	8.7	10	0.2	4	0.11	339	●	
10	22	30	72	9.7	10	0.2	4	0.11	340	●	
11	26	36	83	10.6	12	0.3	4	0.11	341	●	
12	26	36	83	11.6	12	0.3	4	0.11	342	●	
14	26	36	83	13.6	14	0.3	4	0.11	343	●	
15	36	42	92	14.5	16	0.3	4	0.11	344	●	
16	36	42	92	15.5	16	0.3	4	0.11	345	●	
17	36	42	92	16.5	18	0.3	4	0.11	346	●	
18	36	42	92	17.5	18	0.3	4	0.11	347	●	
19	41	52	104	18.5	20	0.3	4	0.11	348	●	
20	41	52	104	19.5	20	0.3	4	0.11	349	●	

Prod. Gr. 150

ATORN SC roughing cutter

3-4 cutting edges, ULTRA coated

VHM | ULTRA | Typ NR | Z 3 | Z 4 | 45° | 45° | HB

Ident. No. 040, 050, 060, 080, 100, 120, 160, 200

Ident. No. 041, 051, 061, 081, 101, 121, 161, 201

Application:
For universal rough cutting with maximum machining performance. Ideal for dry machining.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HB
- Centre cutting
- With edge protection chamfer
- With clearance

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	150	150	110	110	110	350		140		130				150	70	50	50		

								Type	NR		
								Surface	ULTRA		
								Tool holding device	HB parallel shank		
								Tolerance of cutting edge Ø	e8		
								Tolerance of shank Ø	h6		
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16848... Ident. No.		
4	8	18	57	3.8	6	0.1	3	0.044	041	●	
4	11	18	57	3.8	6	0.1	3	0.032	040	●	
5	9	20	57	4.8	6	0.1	3	0.048	051	●	
5	13	20	57	4.8	6	0.1	3	0.04	050	●	
6	10	20	57	5.8	6	0.1	4	0.056	061	●	

							Type		NR	
							Surface		ULTRA	
							Tool holding device		HB parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16848... Ident. No.	
6	13	20	57	5.8	6	0.1	4	0.048	060	●
8	12	25	63	7.7	8	0.2	4	0.064	081	●
8	19	25	63	7.7	8	0.2	4	0.064	080	●
10	15	30	72	9.5	10	0.2	4	0.072	101	●
10	22	30	72	9.5	10	0.2	4	0.08	100	●
12	18	35	83	11.5	12	0.3	4	0.12	121	●
12	26	35	83	11.5	12	0.3	4	0.096	120	●
16	24	40	92	15.5	16	0.3	4	0.145	161	●
16	32	40	92	15.5	16	0.3	4	0.115	160	●
20	30	50	104	19.5	20	0.3	4	0.17	201	●
20	38	50	104	19.5	20	0.3	4	0.13	200	●

Prod. Gr. 108

ATORN SC roughing cutter

4-6 cutting edges, ULTRA coated

VHM | ULTRA | Typ VA | Z 4 | Z 5 | Z 6 | 45° | 45° | HA | HB

Application:
Roughing cutter for universal machining.

Execution:
- Solid carbide ultra-fine grain
- Centre cutting
- With clearance
- ULTRA-coated
- **Ident. No. 460, 480, 500, 520, 560, 600, 760, 780, 800, 820, 860, 900:** Straight shank in accordance with DIN 6535 HB
- **Ident. No. 461, 481, 501, 521, 561, 601, 761, 781, 801, 821, 861, 901:** Straight shank in accordance with DIN 6535 HA

Ident. No. 460–601

Ident. No. 760–901

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	100	90	70	65	350	300	135	150	120	135			120	35	30	30		

								Type	VA		VA	
								Surface	ULTRA		ULTRA	
								Tool holding device	HA parallel shank		HB parallel shank	
								Tolerance of cutting edge Ø	d11		d11	
								Tolerance of shank Ø	h5		h5	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16849... Ident. No.		16849... Ident. No.	
6	8	16	54	5.8	6	0.1	4	0.044	460	●	760	●
6	13	19	57	5.8	6	0.1	4	0.044	461	●	761	●
8	11	20	58	7.7	8	0.2	4	0.048	480	●	780	●
8	19	25	63	7.7	8	0.2	4	0.048	481	●	781	●
10	13	24	66	9.8	10	0.2	4	0.056	500	●	800	●
10	22	30	72	9.8	10	0.2	4	0.056	501	●	801	●
12	16	26	73	11.8	12	0.2	4	0.064	520	●	820	●
12	26	36	83	11.8	12	0.2	4	0.064	521	●	821	●
16	19	32	82	15.7	16	0.3	5	0.1	560	●	860	●
16	32	42	92	15.7	16	0.3	5	0.1	561	●	861	●
20	19	40	92	19.7	20	0.3	6	0.145	600	●	900	●
20	38	52	104	19.7	20	0.3	6	0.145	601	●	901	●

Prod. Gr. 108

ORION® SC roughing cutter

4-6 cutting edges, TiAlN coated

VHM | TiAlN | Typ HR | Z 4 | Z 5 | Z 6 | 45° | 45° | HB

Application:
For rough cutting at high feed rates and with rigid clamping, up to Vc 160 m/min possible

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HB
- TiAlN-coated
- Centre cutting

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	100	90	80	70	65	300	250	135	145	110	125			115	35	30	30		

					Type	HR		
					Surface	TiAlN		
					Tool holding device	HB parallel shank		
					Tolerance of cutting edge Ø	e8		
					Tolerance of shank Ø	h6		
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16849... Ident. No.	
6	16	57	6	0.1	4	0.044	306	●
7	16	63	8	0.1	4	0.046	307	●
8	16	63	8	0.2	4	0.048	308	●
9	19	72	10	0.2	4	0.052	309	●
10	22	72	10	0.2	4	0.056	310	●
12	25	83	12	0.2	4	0.064	312	●
14	32	83	14	0.2	4	0.072	314	●
16	32	92	16	0.3	5	0.1	316	●
18	32	92	18	0.3	6	0.13	318	●
20	38	104	20	0.3	6	0.145	320	●

Prod. Gr. 150

ORION® SC roughing cutter

3-5 cutting edges, TiAlN - coated

VHM | TiAlN | Typ NR | Z 3 | Z 4 | Z 5 | 20° | 45° | HB

Ident. No. 051, 061, 081, 101, 121, 161, 201–251

Ident. No. 040–050, 060, 080, 100, 120, 160, 200
Short version

Application:
For universal rough milling with maximum cutting performance.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HB
- TiAlN-coated
- Centre cutting
- With edge protection chamfer
- Fine notch separation
- **Ident. No. 040–050, 060, 080, 100, 120, 160, 200:** Short version
- **Ident. No. 051, 061, 081, 101, 121, 161, 201–251:** Long version

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	110	80				175		135		110				100					

					Type	NR		
					Surface	TiAlN		
					Tool holding device	HB parallel shank		
					Tolerance of cutting edge Ø	e8		
					Tolerance of shank Ø	h6		
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ● (mm)	16852... Ident. No.	
4	8	54	6	0.1	3	0.024	040	●
5	8	54	6	0.1	3	0.03	050	●
5	16	57	6	0.1	3	0.03	051	●
6	8	54	6	0.1	3	0.036	060	●
6	16	57	6	0.1	3	0.036	061	●
8	11	58	8	0.2	3	0.048	080	●
8	19	63	8	0.2	3	0.048	081	●
10	13	66	10	0.2	4	0.072	100	●
10	22	72	10	0.2	4	0.072	101	●
12	16	73	12	0.2	4	0.08	120	●
12	26	83	12	0.2	4	0.08	121	●
16	19	82	16	0.3	4	0.096	160	●
16	32	92	16	0.3	4	0.096	161	●
20	19	92	20	0.3	4	0.115	200	●
20	38	104	20	0.3	4	0.115	201	●
25	45	121	25	0.3	5	0.16	251	●

Prod. Gr. 154

ATORN SC multi-flute end mills

6-8 cutting edges, ULTRA coated

VHM | ULTRA | Typ VA | Z 6 | Z 8 | 45° | 45° | HB

Application:
For circumferential milling as a finishing process to create a high surface quality. Face cut only with shallow cutting depths.

Execution:
- Solid carbide ultra-fine grain
- Straight shank pursuant to DIN 6535 HB
- ULTRA-coated
- Centre cutting
- With clearance

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	120	90	75	65	60	350	400	180	220	160	190	140		130	55	45	45		

												Type	VA	
												Surface	ULTRA	
												Tool holding device	HB parallel shank	
												Tolerance of cutting edge Ø	f8	
												Tolerance of shank Ø	h6	
												Coolant supply	External	
mm	mm	mm	mm	mm	mm	F→ mm	Z (PCS)	fz steel 1000 ● (mm)	16886... Ident. No.	
6	13	19	57	5.7	6	0.1	6	0.108	060	●
6	16	40	80	5.8	6	0.1	6	0.108	062	●
6	18	24	62	5.7	6	0.1	6	0.108	061	●
8	19	25	63	7.6	8	0.1	6	0.12	080	●
8	19	60	100	7.7	8	0.1	6	0.12	082	●
8	24	30	68	7.6	8	0.1	6	0.12	081	●
10	22	30	72	9.6	10	0.1	6	0.125	100	●
10	25	60	100	9.7	10	0.1	6	0.125	102	●
10	30	38	80	9.6	10	0.1	6	0.125	101	●
12	26	36	83	11.5	12	0.2	6	0.13	120	●
12	30	73	120	11.6	12	0.2	6	0.13	122	●
12	36	46	93	11.5	12	0.2	6	0.13	121	●
16	32	42	92	15.5	16	0.2	6	0.145	160	●
16	40	100	150	15.5	16	0.2	6	0.145	163	●
16	48	58	108	15.5	16	0.2	6	0.145	161	●
16	65	75	125	15.5	16	0.2	6	0.145	162	●
20	38	52	104	19.5	20	0.2	8	0.16	200	○
20	50	100	150	19.6	20	0.2	8	0.16	203	●
20	60	74	126	19.5	20	0.2	8	0.16	201	●
20	75	98	150	19.5	20	0.2	8	0.16	202	●

Prod. Gr. 108

ORION® SC multi-flute end mills

6 cutting edges, TiAlN-coated

Application:
For circumferential milling as a finishing process to create a high surface quality. Face cut only with shallow cutting depths.

Execution:
- solid carbide ultra-fine grain
- straight shank in line with DIN 6535 HB
- TiAlN-coated
- **No. 16876:** Standard version
- **No. 16881:** Long version

No. 16876

No. 16881

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
16876040-200	115	85	70	60	57	330	380	170	210	150	180	135		125	50	40			
16881040-200	105	75	65	55	50	300	340	155	190	135	160	120		115	45	35			

						Type	N		N	
						Surface	TiAlN		TiAlN	
						Tool holding device	HB parallel shank		HB parallel shank	
						Tolerance of cutting edge Ø	f8		f8	
						Tolerance of shank Ø	h5		h5	
mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16876... Ident. No.		16881... Ident. No.	
4	11	57	6	6	0.03	040	●	-	-
4	16	63	6	6	0.025	-	-	040	●
5	13	57	6	6	0.03	050	●	-	-
5	18	63	6	6	0.025	-	-	050	●
6	13	57	6	6	0.04	060	●	-	-
6	18	63	6	6	0.035	-	-	060	●
8	19	63	8	6	0.06	080	●	-	-
8	24	68	8	6	0.05	-	-	080	●
10	22	72	10	6	0.07	100	●	-	-

					Type	N		N	
					Surface	TiAlN		TiAlN	
					Tool holding device	HB parallel shank		HB parallel shank	
					Tolerance of cutting edge Ø	f8		f8	
					Tolerance of shank Ø	h5		h5	
mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16876... Ident. No.		16881... Ident. No.	
10	30	80	10	6	0.06	-	-	100	●
12	26	83	12	6	0.08	120	●	-	-
12	36	93	12	6	0.07	-	-	120	●
14	26	83	14	6	0.08	140	●	-	-
14	42	100	14	6	0.07	-	-	140	●
16	32	92	16	6	0.09	160	●	-	-
16	48	108	16	6	0.08	-	-	160	●
18	32	92	18	6	0.1	180	●	-	-
18	54	114	18	6	0.09	-	-	180	●
20	38	104	20	6	0.11	200	●	-	-
20	60	126	20	6	0.1	-	-	200	●

Prod. Gr. 154

ORION® SC multi-flute end mills

6-8 cutting edges, TiAlN coated

VHM | TiAlN | Typ H | Z 6 | Z 8 | 50° | HA

Ident. No. 040–050, 060, 080, 100, 120, 160, 200

Ident. No. 051, 061, 081, 101, 121, 161, 201–251

Application:
HSC milling also for dry machining, for machining up to 64 HRC

Execution:
- Solid carbide ultra-fine grain
- Straight shank pursuant to DIN 6535 HA
- TiAlN-coated
- Without centre cutting

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
16883040-200		90	80	60										125		40		80	60
16883051-251		80	70	55										115				70	55

					Type	H	
					Surface	TiAlN	
					Tool holding device	HA parallel shank	
					Tolerance of cutting edge Ø	e8	
					Tolerance of shank Ø	h6	
mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16883... Ident. No.	
4	11	57	6	6	0.01	040	●
5	13	57	6	6	0.01	050	●
5	18	62	6	6	0.008	051	●
6	13	57	6	6	0.014	060	●
6	18	62	6	6	0.01	061	●
8	19	63	8	6	0.02	080	●
8	24	68	8	6	0.016	081	●
10	22	72	10	6	0.025	100	●
10	30	80	10	6	0.02	101	●
12	26	83	12	6	0.03	120	●
12	36	93	12	6	0.025	121	●
16	32	92	16	8	0.04	160	●
16	48	108	16	8	0.035	161	●
20	38	104	20	8	0.045	200	●
20	60	126	20	8	0.04	201	●
25	95	160	25	8	0.05	251	●

Prod. Gr. 154

ORION® Solid carbide HPC torus milling cutters

4 cutting edges, ULTRA PRO-coated

VHM | ULTRA PRO | Typ N | Z 4 | 35°/38° | HB | HPC

Ident. No. 620–656

Ident. No. 660–703

Application:

Ident. No. 620–656: HPC torus milling cutter with unequal pitch for universal roughing and finishing.

Ident. No. 660–703: HPC torus milling cutter in extra-long version with unequal pitch for universal roughing and finishing.

Execution:

- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HB
- ULTRA PRO-coated
- with clearance
- unequal helix angle 35°/38°
- Cutting edge rounding
- Centre cutting
- unequal cutting edge pitch

Advantage:

- extremely smooth running
- reduced vibration
- higher feed rates and cutting depths possible
- ideal for static and dynamic trochoidal milling
- defined edge rounding for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	230	190	150	120	100			350	300	240	280			160	100	70	70		

								Type	N	
								Surface	ULTRA PRO	
								Tool holding device	HB parallel shank	
								Tolerance of cutting edge Ø	e8	
								Tolerance of shank Ø	h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16851... Ident. No.	
3	0.1	8	13	57	2.8	6	4	0.11	620	●
3	0.4	8	13	57	2.8	6	4	0.11	621	●
3	0.5	8	13	57	2.8	6	4	0.11	622	●
3	1	8	13	57	2.8	6	4	0.11	623	●
3	0.3	8	15	69	2.8	6	4	0.11	660	●
3	0.5	8	15	69	2.8	6	4	0.11	661	●
3	1	8	15	69	2.8	6	4	0.11	662	●
4	0.1	11	17	57	3.8	6	4	0.11	624	●
4	0.4	11	17	57	3.8	6	4	0.11	625	●
4	0.5	11	17	57	3.8	6	4	0.11	626	●
4	1	11	17	57	3.8	6	4	0.11	627	●
4	0.3	11	20	69	3.8	6	4	0.11	663	●
4	0.5	11	20	69	3.8	6	4	0.11	664	●
4	1	11	20	69	3.8	6	4	0.11	665	●
5	0.1	13	19	57	4.8	6	4	0.11	628	●
5	0.5	13	19	57	4.8	6	4	0.11	629	●
5	1	13	19	57	4.8	6	4	0.11	630	●
5	0.3	13	25	69	4.8	6	4	0.11	666	●
5	0.5	13	25	69	4.8	6	4	0.11	667	●
5	1	13	25	69	4.8	6	4	0.11	668	●
6	0.1	13	19	57	5.8	6	4	0.11	631	●
6	0.5	13	19	57	5.8	6	4	0.11	632	●
6	1	13	19	57	5.8	6	4	0.11	633	●
6	1.5	13	19	57	5.8	6	4	0.11	634	●
6	0.3	13	30	69	5.8	6	4	0.11	669	●
6	0.5	13	30	69	5.8	6	4	0.11	670	●
6	1	13	30	69	5.8	6	4	0.11	671	●
6	1.5	13	30	69	5.8	6	4	0.11	672	●
6	2	13	30	69	5.8	6	4	0.11	673	●
8	0.15	21	25	63	7.7	8	4	0.11	635	●
8	0.5	21	25	63	7.7	8	4	0.11	636	●
8	1	21	25	63	7.7	8	4	0.11	637	●
8	1.5	21	25	63	7.7	8	4	0.11	638	●
8	2	21	25	63	7.7	8	4	0.11	639	●
8	0.3	17	40	79	7.7	8	4	0.11	674	●
8	0.5	17	40	79	7.7	8	4	0.11	675	●
8	1	17	40	79	7.7	8	4	0.11	676	●
8	1.5	17	40	79	7.7	8	4	0.11	677	●
8	2	17	40	79	7.7	8	4	0.11	678	●
10	0.15	22	30	72	9.7	10	4	0.11	640	●
10	0.5	22	30	72	9.7	10	4	0.11	641	●
10	1	22	30	72	9.7	10	4	0.11	642	●
10	1.5	22	30	72	9.7	10	4	0.11	643	●
10	2	22	30	72	9.7	10	4	0.11	644	●
10	0.3	21	50	93	9.7	10	4	0.11	679	●
10	0.5	21	50	93	9.7	10	4	0.11	680	●
10	1	21	50	93	9.7	10	4	0.11	681	●
10	1.5	21	50	93	9.7	10	4	0.11	682	●
10	2	21	50	93	9.7	10	4	0.11	683	●
12	0.2	26	36	83	11.6	12	4	0.11	645	●

							Type		N	
							Surface		ULTRA PRO	
							Tool holding device		HB parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16851... Ident. No.	
12	0.5	26	36	83	11.6	12	4	0.11	646	●
12	1	26	36	83	11.6	12	4	0.11	647	●
12	1.5	26	36	83	11.6	12	4	0.11	648	●
12	2	26	36	83	11.6	12	4	0.11	649	●
12	0.3	25	60	108	11.6	12	4	0.11	684	●
12	0.5	25	60	108	11.6	12	4	0.11	685	●
12	1	25	60	108	11.6	12	4	0.11	686	●
12	1.5	25	60	108	11.6	12	4	0.11	687	●
12	2	25	60	108	11.6	12	4	0.11	688	●
12	3	25	60	108	11.6	12	4	0.11	689	●
16	0.3	36	42	92	15.5	16	4	0.11	650	●
16	1	36	42	92	15.5	16	4	0.11	651	●
16	2	36	42	92	15.5	16	4	0.11	652	●
16	4	36	42	92	15.5	16	4	0.11	653	●
16	0.3	33	80	132	15.5	16	4	0.11	690	●
16	0.5	33	80	132	15.5	16	4	0.11	691	●
16	1	33	80	132	15.5	16	4	0.11	692	●
16	1.5	33	80	132	15.5	16	4	0.11	693	●
16	2	33	80	132	15.5	16	4	0.11	694	●
20	1	41	52	104	19.5	20	4	0.11	654	●
20	2	41	52	104	19.5	20	4	0.11	655	●
20	4	41	52	104	19.5	20	4	0.11	656	●
20	0.5	42	100	154	19.5	20	4	0.11	698	●
20	1	42	100	154	19.5	20	4	0.11	699	●
20	2	42	100	154	19.5	20	4	0.11	701	●
20	4	42	100	154	19.5	20	4	0.11	703	●

Prod. Gr. 150

ATORN Solid carbide HPC torus milling cutter

4 cutting edges, ULTRA-coated

VHM | ULTRA | Typ N | Z 4 | 30° | HB | HPC

Application:
HPC torus milling cutter with uneven pitch for universal rough machining and smoothing.

Execution:
- Solid carbide ultra-fine grain

- Straight shank in accordance with DIN 6535 HB
- ULTRA-coated
- Centre cutting
- Unequal cutting pitch

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	230	190	150	120	100			350	300	240	280			160	100	70	70		

							Type		N	
							Surface		ULTRA	
							Tool holding device		HB parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16856... Ident. No.	
3	0.1	5	10	50	2.7	6	4	0.02	001	●
3	0.1	8	13	57	2.7	6	4	0.02	002	●
3	0.4	5	10	50	2.7	6	4	0.02	003	●
3	0.4	8	13	57	2.7	6	4	0.02	004	●
3	0.5	5	10	50	2.7	6	4	0.02	005	●
3	0.5	8	13	57	2.7	6	4	0.02	006	●
3	1	5	13	50	2.7	6	4	0.02	007	●
3	1	8	13	57	2.7	6	4	0.02	008	●
4	0.1	8	14	54	3.7	6	4	0.03	009	●
4	0.1	11	17	57	3.7	6	4	0.03	010	●
4	0.4	8	14	54	3.7	6	4	0.03	011	●
4	0.4	11	17	57	3.7	6	4	0.03	012	●
4	0.5	8	14	54	3.7	6	4	0.03	013	●
4	0.5	11	17	57	3.7	6	4	0.03	014	●
4	1	8	14	54	3.7	6	4	0.03	015	●
4	1	11	17	57	3.7	6	4	0.03	016	●
5	0.1	9	16	54	4.7	6	4	0.04	017	●
5	0.1	13	19	57	4.7	6	4	0.04	018	●
5	0.5	9	16	54	4.7	6	4	0.04	019	●

							Type		N	
							Surface		ULTRA	
							Tool holding device		HB parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16856... Ident. No.	
5	0.5	13	19	57	4.7	6	4	0.04	020	●
5	1	9	16	54	4.7	6	4	0.04	021	●
5	1	13	19	57	4.7	6	4	0.04	022	●
6	0.1	10	16	54	5.5	6	4	0.045	023	●
6	0.1	13	19	57	5.5	6	4	0.045	024	●
6	0.5	10	16	54	5.5	6	4	0.045	025	●
6	0.5	13	19	57	5.5	6	4	0.045	026	●
6	1	10	16	54	5.5	6	4	0.045	027	●
6	1	13	19	57	5.5	6	4	0.045	028	●
6	1.5	10	16	54	5.5	6	4	0.045	029	●
6	1.5	13	19	57	5.5	6	4	0.045	030	●
8	0.15	12	20	58	7.4	8	4	0.05	031	●
8	0.15	21	25	63	7.4	8	4	0.05	032	●
8	0.5	12	20	58	7.4	8	4	0.05	033	●
8	0.5	21	25	63	7.4	8	4	0.05	034	●
8	1	12	20	58	7.4	8	4	0.05	035	●
8	1	21	25	63	7.4	8	4	0.05	036	●
8	1.5	12	20	58	7.4	8	4	0.05	037	●
8	1.5	21	25	63	7.4	8	4	0.05	038	●
8	2	12	20	58	7.4	8	4	0.05	039	●
8	2	21	25	63	7.4	8	4	0.05	040	●
10	0.15	14	24	66	9.2	10	4	0.06	041	●
10	0.15	22	30	72	9.2	10	4	0.06	042	●
10	0.5	14	24	66	9.2	10	4	0.06	043	●
10	0.5	22	30	72	9.2	10	4	0.06	044	●
10	1	14	24	66	9.2	10	4	0.06	045	●
10	1	22	30	72	9.2	10	4	0.06	046	●
10	1.5	14	24	66	9.2	10	4	0.06	047	●
10	1.5	22	30	72	9.2	10	4	0.06	048	●
10	2	14	24	66	9.2	10	4	0.06	049	●
10	2	22	30	72	9.2	10	4	0.06	050	●
12	0.2	16	26	73	11	12	4	0.07	051	●
12	0.2	26	36	83	11	12	4	0.07	052	●
12	0.5	26	36	83	11	12	4	0.07	054	●
12	1	16	26	73	11	12	4	0.07	055	●
12	1	26	36	83	11	12	4	0.07	056	●
12	1.5	16	26	73	11	12	4	0.07	057	●
12	1.5	26	36	83	11	12	4	0.07	058	●
12	2	16	26	73	11	12	4	0.07	059	●
12	2	26	36	83	11	12	4	0.07	060	●
16	0.3	22	32	82	15	16	4	0.09	063	●
16	0.3	36	42	92	15	16	4	0.09	064	●
16	1	22	32	82	15	16	4	0.09	065	●
16	1	36	42	92	15	16	4	0.09	066	●
16	2	36	42	92	15	16	4	0.09	068	●
16	4	36	42	92	15	16	4	0.09	070	●
20	1	41	52	104	19	20	4	0.12	080	●
20	2	41	52	104	19	20	4	0.12	082	●
20	4	41	52	104	19	20	4	0.12	084	●

Prod. Gr. 108

ORION® SC torus milling cutter

3-4 cutting edges, TiAlN coated

Application:
Torus milling cutter for universal machining.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HA
- TiAlN-coated
- 3-4 cutters
- Centre cutting
- Edge radius
- Chip chamber lowered from the face over the length of the diameter

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		130	110	120														80	60

					Type		H	
					Surface		TiAlN	
					Tool holding device		HA parallel shank	
					Tolerance of cutting edge Ø		e8	
					Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16862... Ident. No.	
2	0.5	7	57	6	3	0.03	500	●
3	0.5	8	57	6	3	0.035	501	●
4	1	11	57	6	3	0.04	502	●
5	1	13	57	6	3	0.05	503	●
6	1	13	65	8	4	0.055	504	●
8	2	19	80	8	4	0.06	505	●
10	2	22	100	10	4	0.065	506	●
12	3	26	100	12	4	0.075	507	●
14	3	26	104	12	4	0.08	508	●
16	4	32	115	16	4	0.09	509	●

Prod. Gr. 148

ORION® Solid carbide miniature ball nose end mill

2 cutting edges, uncoated

VHM | Typ N | Z 2 | 30° | HA

Application:
Miniature radius milling cutter in a short, stable design for universal machining.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HA
- With clearance
- Cutter tolerance: +/- 0.02 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	90	60	55	40	35	175	190	110	130	90	120	125		60	30	30	25		

				Type		N	
				Surface		Uncoated	
				Tool holding device		HA parallel shank	
				Tolerance of cutting edge Ø		+/-0.02	
				Tolerance of shank Ø		h6	
mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16738... Ident. No.	
0.25	0.5	39	3	2	0.004	325	○
0.3	1	39	3	2	0.005	330	●
0.4	1	39	3	2	0.006	340	●
0.5	1.5	39	3	2	0.008	350	●
0.6	1.5	39	3	2	0.01	360	●
0.8	2	39	3	2	0.018	380	●
1	3	39	3	2	0.024	400	●
1.2	4	39	3	2	0.029	420	●
1.4	4	39	3	2	0.034	440	●
1.5	4	39	3	2	0.036	450	●
1.6	4	39	3	2	0.037	460	●
1.8	5	39	3	2	0.038	480	●
2	5	39	3	2	0.04	500	●
2.5	7	39	3	2	0.044	550	●

Prod. Gr. 150

ORION® Solid carbide ball nose end mill

2 cutting edges, TiAlN-coated

VHM | TiAlN | Typ N | Z 2 | 30° | HA | HB

Ident. No. 020, 030, 040, 050, 060, 080, 100, 120, 160, 200
Shank HB

Ident. No. 021, 031, 041, 051, 061, 081, 101, 121, 161, 201

Application:
Radius milling cutter for universal use for copy milling in dip working and mould construction.

Execution:
- Solid carbide ultra-fine grain
- TiAlN-coated
- Full radius
- Centre cutting
- **Ident. No. 020, 030, 040, 050, 060, 080, 100, 120, 160, 200:** Straight shank in accordance with DIN 6535 HB
- **Ident. No. 021, 031, 041, 051, 061, 081, 101, 121, 161, 201:** Straight shank in accordance with DIN 6535 HA

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	85	75	65	45	45	300	350	130	160	110	135	225		100	35	30	30		

					Type	N		N	
					Surface	TiAlN		TiAlN	
					Tool holding device	HA parallel shank		HB parallel shank	
					Tolerance of cutting edge Ø	h10		h10	
					Tolerance of shank Ø	h5		h5	
mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16741... Ident. No.		16741... Ident. No.	
2	5	50	6	2	0.0155	021	●	020	●
3	5	50	6	2	0.024	031	●	030	●
4	8	54	6	2	0.036	041	●	040	●
5	9	54	6	2	0.045	051	●	050	●
6	10	54	6	2	0.054	061	●	060	●
8	12	58	8	2	0.072	081	●	080	●
10	14	66	10	2	0.084	101	●	100	●
12	16	73	12	2	0.096	121	●	120	●
16	22	82	16	2	0.12	161	●	160	●
20	26	92	20	2	0.145	201	●	200	●

Prod. Gr. 154

ORION® Solid carbide ball nose end mill

2 cutting edges, TiAlN-coated

No. 16742
HA shank

No. 16743

Application:
Radius milling cutter for universal use for copy milling in dip working and mould construction.

Execution:
- Solid carbide ultra-fine grain
- TiAlN-coated

- Centre cutting
- Full radius
- **No. 16742:** Straight shank in accordance with DIN 6535 HA
- **No. 16743:** Straight shank in accordance with DIN 6535 HB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	90	80	70	50	50	495	495	150	170	130	150	250		110	40	35	35		

					Type	N		N	
					Surface	TiAlN		TiAlN	
					Tool holding device	HA parallel shank		HB parallel shank	
					Tolerance of cutting edge Ø	e8		e8	
					Tolerance of shank Ø	h6		h6	
mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16742... Ident. No.		16743... Ident. No.	
3	8	62	3	2	0.02	030	●	-	-
4	8	75	4	2	0.03	040	●	-	-
5	9	75	5	2	0.038	050	●	-	-
6	10	100	6	2	0.045	060	●	060	●
8	12	100	8	2	0.06	080	●	080	●
10	14	100	10	2	0.07	100	●	100	●
12	16	100	12	2	0.08	120	●	120	●
16	22	150	16	2	0.1	160	●	160	●
20	26	150	20	2	0.12	200	●	200	●

Prod. Gr. 154

ORION® Solid carbide ball nose end mill

2 cutting edges, TiAlN-coated

Application:
Radius milling cutter for universal use for copy milling in dip working and mould construction.

Execution:
- Solid carbide ultra-fine grain

- Straight shank in accordance with DIN 6535 HA
- TiAlN-coated
- Centre cutting
- Exact radius with a milling angle of 220°

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	90	80	70	50	50	495	495	150	170	130	150	250		110	40	35	35		

						Type		N	
						Surface		TiAlN	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		f8	
						Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16749... Ident. No.	
1	0.7	5.7	60	0.9	6	2	0.014	110	●
1.5	1.2	10	60	1.3	6	2	0.021	115	●
2	1.5	11.5	60	1.7	6	2	0.028	120	●
3	2.3	17.3	70	2.7	6	2	0.042	130	●
4	3	23	70	3.7	6	2	0.056	140	●
5	3.5	30	80	4.7	6	2	0.07	150	●
6	4	50	90	5.7	6	2	0.084	160	●
8	5.4	65	100	7.7	8	2	0.115	180	●
10	6.7	66	100	9.7	10	2	0.14	200	●

Prod. Gr. 150

ATORN Solid carbide ball nose end mill

4 cutting edges, ULTRA-coated

VHM | ULTRA | Typ N | Z 4 | 30° | HB

Ident. No. 060, 080, 100, 120, 140–160

Ident. No. 061, 081, 101, 121

Application:
Radius milling cutter for universal machining.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HB
- Up to Ø 6 mm = HA shank
- Centre cutting
- ULTRA-coated

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
16868060; 16868080-160	120	90	75	60	60	300	350	200	240	170	200			130	55	45	45		
16868061; 16868081-121	110	80	65	55	55	270	315	180	215	155	180			115	50	40	40		

					Type		N
					Surface		ULTRA
					Tool holding device		HB parallel shank
					Tolerance of cutting edge Ø		f8
					Tolerance of shank Ø		h5
mm	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16868... Ident. No.	
6	13	57	6	4	0.04	060	●
6	40	100	6	4	0.03	061	●
8	19	63	8	4	0.05	080	●
8	40	100	8	4	0.04	081	●
10	22	72	10	4	0.08	100	●
10	40	100	10	4	0.06	101	●
12	26	83	12	4	0.09	120	●
12	45	100	12	4	0.07	121	●
14	26	83	14	4	0.1	140	●
16	32	92	16	4	0.12	160	●

Prod. Gr. 108

Trochoidal milling

TVC = Trochoidal Volume Cutting
this milling strategy creates smarter and more efficient tool paths, especially when rough machining. this means that more material can be removed in a shorter time – without any loss of quality. overlapping a circular path on the feed movement has a positive influence on contact conditions. reducing stepover while at the same time utilising the entire cutting length results in the process forces being significantly reduced.

Advantages:
- Cutting depths of 3 to 5xD can be achieved without any problem
- Optimised and controlled tool engagement
- Almost constant engagement angle (max. 70°) and average chip thickness
- Reduced stress on the tool/spindle/bearings
- Extremely aggressive cutting parameters can be selected

Static:
Only grooves are milled. The tool paths consist exclusively of circular tool paths.

Dynamic:
Free workpiece contours are milled. The tool paths consist of circular and straight tool paths. The circular paths may in some cases include very large radii or linear movements.

ATORN Solid carbide TVC end mill “trochoidal” - STEEL

4-5 cutting edges, ULTRA coated

Ident. No. 002–012

Ident. No. 020–028

Application:
The TVC end mills are optimally suited for processing with modern milling strategies. Cutting edge lengths of 3-5xD, reinforced cores and specially developed chip breaker geometries allow high working depths with maximum process reliability.

Execution:
- solid carbide ultra-fine grain
- straight shank in line with DIN 6535 HB
- ULTRA-coated
- centre cutting and edge protection chamfer
- special chip breakers for short chips
- uneven twist angle
- **Ident. No. 002–012:** 3xD design with clearance

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	270	250	220											170					

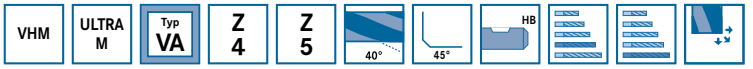
Type	N
Surface	ULTRA
Tool holding device	HB parallel shank
Tolerance of cutting edge Ø	h10
Tolerance of shank Ø	h6
Coolant supply	External

mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1000 ●	16859... Ident. No.	
6	25	-	70	-	6	0.12	4	0.07	020	●
6	19	21	62	5.7	6	0.12	5	0.07	002	●
8	26	28	68	7.7	8	0.16	5	0.09	004	●
8	34	-	80	-	8	0.16	4	0.09	022	●
10	32	35	80	9.7	10	0.2	5	0.11	006	●
10	42	-	95	-	10	0.2	4	0.11	024	●
12	38	42	93	11.7	12	0.24	5	0.14	008	●
12	50	-	105	-	12	0.24	4	0.14	026	●
16	50	56	108	15.7	16	0.32	5	0.18	010	●
16	66	-	125	-	16	0.32	4	0.18	028	●
20	62	70	126	19.7	20	0.4	5	0.21	012	●

Prod. Gr. 1HJ

ATORN Solid carbide TVC end mill “trochoidal” - STAINLESS STEEL

4-5 cutting edges, ULTRA M coated



Ident. No. 100–110

Ident. No. 120–128

Application:
The TVC end mills are optimally suited for processing with modern milling strategies. Cutting edge lengths of 3-5xD, reinforced cores and specially developed chip breaker geometries allow high working depths with maximum process reliability.

Execution:
- solid carbide ultra-fine grain
- straight shank in line with DIN 6535 HB
- ULTRA M-coated
- centre cutting and edge protection chamfer
- special chip breakers for short chips
- uneven twist angle
- **Ident. No. 100–110:** 3xD design with clearance

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
				100	110										100	100	80		

							Type		VA	
							Surface		ULTRA M	
							Tool holding device		HB parallel shank	
							Tolerance of cutting edge Ø		h10	
							Tolerance of shank Ø		h6	
							Coolant supply		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steinl. st. ●	16859... Ident. No.	
6	19	21	62	5.7	6	0.12	5	0.07	100	●
6	25	-	70	-	6	0.12	4	0.07	120	●
8	26	28	68	7.7	8	0.16	5	0.09	102	●
8	34	-	80	-	8	0.16	4	0.09	122	●
10	32	35	80	9.7	10	0.2	5	0.11	104	●
10	42	-	95	-	10	0.2	4	0.11	124	●
12	38	42	93	11.7	12	0.24	5	0.14	106	●
12	50	-	105	-	12	0.24	4	0.14	126	●
16	50	56	108	15.7	16	0.32	5	0.18	108	●
16	66	-	125	-	16	0.32	4	0.18	128	●
20	62	70	126	19.7	20	0.4	5	0.21	110	●

Prod. Gr. 1HJ

ATORN Solid carbide TVC end mill “trochoidal” - ALUMINIUM

4 cutting edges, uncoated

Application:

The TVC end mills are optimally suited for processing with modern milling strategies. Cutting edge lengths of 3-5xD, reinforced cores and specially developed chip breaker geometries allow high working depths with maximum process reliability.

Execution:

- solid carbide ultra-fine grain
- straight shank in line with DIN 6535 HB
- uncoated and polished
- centre cutting and edge protection chamfer
- uneven twist angle
- **Ident. No. 140–154:** 3xD design with clearance

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
16859140-154						600	400												
16859160-172						500	360												

							Type		W	
							Surface		Uncoated	
							Tool holding device		HB parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h5	
							Coolant supply		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16859... Ident. No.	
4	13	14	62	3.8	6	0.08	4	0.05	140	●
4	17	-	70	-	6	0.08	4	0.05	160	○
5	16	17.5	62	4.8	6	0.1	4	0.06	142	●
5	21	-	70	-	6	0.1	4	0.06	162	●
6	19	21	62	5.8	6	0.12	4	0.1	144	●
6	25	-	70	-	6	0.12	4	0.1	164	●
8	26	28	68	7.8	8	0.16	4	0.12	146	●
8	34	-	80	-	8	0.16	4	0.12	166	●
10	32	35	80	9.8	10	0.2	4	0.14	148	●
10	42	-	95	-	10	0.2	4	0.14	168	●
12	38	42	93	11.8	12	0.24	4	0.18	150	●
12	50	-	105	-	12	0.24	4	0.18	170	●
16	50	56	108	15.8	16	0.32	4	0.21	152	●
16	66	-	125	-	16	0.32	4	0.21	172	●
20	62	70	126	19.8	20	0.4	4	0.28	154	●

Prod. Gr. 1HJ

ATORN Solid carbide TVC end mill

3 cutting edges, ULTRA N PRO-coated

VHM | ULTRA N PRO | Typ W | Z 3 | 45° | 45° | HA | HB

Application:
The TVC end mills are optimally suited for processing with modern milling strategies. Cutting edge lengths of 3.5xD, reinforced cores and specially developed chip breaker geometries allow high working depths with maximum process reliability.

Execution:
- solid carbide ultra-fine grain
- straight shank in line with DIN 6535 HB
- ULTRA-N PRO-coated
- with edge protection chamfer
- Defined edge rounding of the cutting edge
- centre cutting
- Polish sanding

Advantage:
- Ultra-smooth coating thickness
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						220	470	210	275	195	230	385							

Type							W		W	
Surface							ULTRA N PRO		ULTRA N PRO	
Tool holding device							HA parallel shank		HB parallel shank	
Tolerance of cutting edge Ø							h9		h9	
Tolerance of shank Ø							h6		h6	
Coolant supply							External		External	
mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16665... Ident. No.		16665... Ident. No.	
6	21	62	6	0.2	3	0.07	700	●	701	●
8	28	68	8	0.2	3	0.09	705	●	706	●
10	35	80	10	0.2	3	0.1	710	●	711	●
12	42	93	12	0.2	3	0.11	715	●	716	●
16	56	108	16	0.2	3	0.12	-	-	720	●
20	70	126	20	0.2	3	0.16	-	-	725	●

Prod. Gr. 1HJ

Solid carbide mills for machining aluminium

ATORN Solid carbide 1-flute end mill

1 cutting edge, uncoated

Application:
For milling, plunging and contour milling NF metals and plastics.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HA
- Uncoated
- Clearance
- right-hand cutting
- Mirror finish

Advantage:
- Defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

							Type	W		
							Surface	Uncoated		
							Tool holding device	HA parallel shank		
							Tolerance of cutting edge Ø	h9		
							Tolerance of shank Ø	h5		
							Coolant supply	External		
mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.		
1.5	6	22	50	1.45	3	1	0.01	105	●	
2	8	22	50	1.8	3	1	0.014	106	●	
3	12	22	50	2.8	3	1	0.02	107	●	
4	15	29	57	3.8	4	1	0.03	108	●	
5	17	32	60	4.8	5	1	0.04	109	●	
6	20	28	64	5.8	6	1	0.055	110	●	
8	24	28	64	7.8	8	1	0.07	111	●	
10	25	33	73	9.7	10	1	0.085	112	●	
12	32	39	84	11.7	12	1	0.1	113	●	
16	38	45	93	15.7	16	1	0.12	114	●	

Prod. Gr. 1HJ

ORION® Solid carbide 1-flute end mill

1 cutting edge, uncoated

Application:
For milling, recessing and contour milling of non-ferrous metals and plastics.

Execution:
- solid carbide ultra-fine grain
- straight shank in accordance with DIN 6535 HA
- sharp-edged
- uncoated
- right-hand cutting

Delivery:
Up to 3 mm diameter = 10 pieces

Notes:
Minimum order: up to 3.0 mm diameter = 10 pieces

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						180	350	150	200	145	180	260							

						Type	W	
						Surface	Uncoated	
						Tool holding device	HA parallel shank	
						Tolerance of cutting edge Ø	h10	
						Tolerance of shank Ø	h6	
mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16700... Ident. No.		
1	4	38	3	1	0.008	110	●	
1.5	6	38	3	1	0.01	115	●	
2	8	38	3	1	0.012	120	●	
3	12	38	3	1	0.016	130	●	
4	12	50	6	1	0.03	140	●	
5	14	50	6	1	0.04	150	●	
6	16	50	6	1	0.055	160	●	

					Type	W	
					Surface	Uncoated	
					Tool holding device	HA parallel shank	
					Tolerance of cutting edge Ø	h10	
					Tolerance of shank Ø	h6	
mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16700... Ident. No.	
8	20	60	8	1	0.065	180	●
10	22	70	10	1	0.075	200	●

Prod. Gr. 150

ATORN Solid carbide 1-flute end mill

1 cutting edge, ULTRA N PRO-coated

Application:
For milling, recessing and contour milling of non-ferrous metals and plastics.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- ULTRA-N PRO-coated
- sharp-edged
- Defined edge rounding of the cutting edge
- centre cutting
- Polish sanding

Advantage:
- Ultra-smooth coating thickness
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

					Type	W	
					Surface	ULTRA N PRO	
					Tool holding device	HA parallel shank	
					Tolerance of cutting edge Ø	h9	
					Tolerance of shank Ø	h6	
					Coolant supply	External	
mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16665... Ident. No.	
1	4	50	3	1	0.01	005	●
1.5	6	50	3	1	0.01	010	●
2	8	50	3	1	0.014	015	●
3	12	50	3	1	0.02	020	●
4	15	60	4	1	0.03	025	●
5	17	60	5	1	0.04	030	●
6	20	65	6	1	0.055	035	●
8	22	65	8	1	0.07	040	●
10	25	75	10	1	0.085	045	●
12	30	80	12	1	0.1	050	●

Prod. Gr. 1HJ

ATORN Solid carbide miniature end mill

2 cutting edges, ULTRA N-coated

Application:
Miniature end mill with long neck for machining NF metals.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HA
- Defined edge rounding of cutter
- With edge protection chamfer
- With clearance
- ZrCN ULTRA N-coated

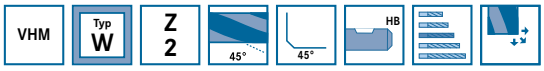
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						280	450	230	280	200	250	375							

						Type		W		
						Surface		ULTRA N		
						Tool holding device		HA parallel shank		
						Tolerance of cutting edge Ø		h9		
						Tolerance of shank Ø		h5		
						Coolant supply		External		
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.	
0.5	0.9	4	55	0.48	4	0.05	2	0.003	010	●
0.5	0.9	6	65	0.48	4	0.05	2	0.003	015	●
0.5	0.9	10	65	0.48	4	0.05	2	0.003	020	●
1	1.5	5	55	0.95	4	0.1	2	0.005	030	●
1	1.5	10	65	0.95	4	0.1	2	0.005	035	●
1	1.5	15	65	0.95	4	0.1	2	0.005	040	●
1.5	1.8	8	55	1.44	4	0.1	2	0.008	050	●
1.5	1.8	15	65	1.44	4	0.1	2	0.008	055	●
1.5	1.8	20	65	1.44	4	0.1	2	0.008	060	●
2	2	10	55	1.92	4	0.1	2	0.01	070	●
2	2	20	65	1.92	4	0.1	2	0.01	075	●
2.5	2.5	12	55	2.4	4	0.1	2	0.013	090	●
2.5	2.5	20	65	2.4	4	0.1	2	0.013	095	●

Prod. Gr. 1HJ

ATORN Solid carbide end mill

2 cutting edges, uncoated



Application:
For milling, plunging and contour milling NF metals and plastics.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HB
- With edge protection chamfer
- Uncoated
- With clearance
- Defined edge rounding of cutter
- Centre cutting
- Mirror finish

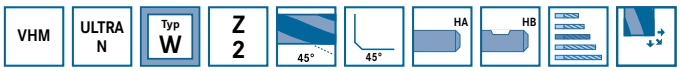
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						180	380	170	225	160	190	315							

						Type		W		
						Surface		Uncoated		
						Tool holding device		HB parallel shank		
						Tolerance of cutting edge Ø		h9		
						Tolerance of shank Ø		h5		
						Coolant supply		External		
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.	
3	8	18	57	2.9	6	0.1	2	0.013	120	●
4	11	18	57	3.9	6	0.1	2	0.016	121	●
5	13	20	57	4.9	6	0.1	2	0.022	122	●
6	13	20	57	5.8	6	0.1	2	0.026	123	●
8	19	26	63	7.8	8	0.1	2	0.04	124	●
10	22	29	72	9.7	10	0.2	2	0.05	125	●
12	26	36	83	11.7	12	0.2	2	0.07	126	●
16	32	42	92	15.7	16	0.2	2	0.09	127	●
20	38	52	104	19.7	20	0.2	2	0.11	128	●

Prod. Gr. 1HJ

ATORN Solid carbide end mill

2 cutting edges, ULTRA N-coated



Ident. No. 130–137

Ident. No. 140–147

Application:
End mill for plunging and groove milling in NF metals.

Execution:
- Solid carbide ultra-fine grain
- With edge protection chamfer
- Defined edge rounding of cutter
- Centre cutting
- With clearance
- ZrCN ULTRA N-coated
- **Ident. No. 130–137:** Straight shank in accordance with DIN 6535 HA
- **Ident. No. 140–147:** Straight shank in accordance with DIN 6535 HB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

Type														W				W	
Surface														ULTRA N				ULTRA N	
Tool holding device														HA parallel shank				HB parallel shank	
Tolerance of cutting edge Ø														h9				h9	
Tolerance of shank Ø														h5				h5	
Coolant supply														External				External	
mm	mm	mm	mm	mm	mm	mm							Z (PCS)	fz alu ● (mm)	16652... Ident. No.			16652... Ident. No.	
3	8	18	57	2.9	6	0.1							2	0.013	130	●		140	●
4	11	18	57	3.9	6	0.1							2	0.016	131	●		141	●
5	13	20	57	4.9	6	0.1							2	0.022	132	●		142	●
6	13	20	57	5.8	6	0.1							2	0.026	133	●		143	●
8	19	26	63	7.8	8	0.1							2	0.04	134	●		144	●
10	22	29	72	9.7	10	0.2							2	0.05	135	●		145	●
12	26	36	83	11.7	12	0.2							2	0.07	136	●		146	●
16	32	42	92	15.7	16	0.2							2	0.09	137	●		147	●

Prod. Gr. 1HJ

ATORN Solid carbide end mill

2 cutting edges, ULTRA N PRO-coated

Application:
For dive, groove and keyway milling as well as helical and circumferential milling in all non-ferrous metals and plastics.

Execution:
- Solid carbide ultra-fine grain
- straight shank in line with DIN 6535 HB
- ULTRA-N PRO-coated
- with edge protection chamfer
- Defined edge rounding of the cutting edge
- centre cutting
- with clearance
- Polish sanding

Advantage:
- Ultra-smooth coating thickness
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						180	380	170	225	160	190	315							

Type														W				W	
Surface														ULTRA N PRO				ULTRA N PRO	
Tool holding device														HA parallel shank				HB parallel shank	
Tolerance of cutting edge Ø														h9				h9	
Tolerance of shank Ø														h6				h6	
Coolant supply														External				External	
mm	mm	mm	mm	mm	mm	mm							Z (PCS)	fz alu ● (mm)	16665... Ident. No.			16665... Ident. No.	
3	8	18	57	2.9	6	0.1							2	0.013	100	●		-	-
4	11	18	57	3.9	6	0.1							2	0.016	105	●		-	-
5	13	20	57	4.9	6	0.1							2	0.022	110	●		-	-
6	13	20	57	5.8	6	0.1							2	0.026	115	●		-	-
8	19	26	63	7.8	8	0.1							2	0.04	120	●		121	●
10	22	29	72	9.7	10	0.2							2	0.05	125	●		126	●
12	26	36	83	11.7	12	0.2							2	0.07	130	●		131	●
16	32	42	92	15.7	16	0.2							2	0.09	-	-		135	●
20	38	52	104	19.5	20	0.2							2	0.11	-	-		140	●

Prod. Gr. 1HJ

ATORN Solid carbide end mill

2-4 cutting edges, ULTRA N PRO-coated

VHM | ULTRA N PRO | Typ W | Z 2 | Z 3 | Z 4 | 20° | HA

Application:
For dive, groove and keyway milling as well as helical and circumferential milling in all non-ferrous metals and plastics with maximum results.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- ULTRA-N PRO-coated
- sharp-edged
- Defined edge rounding of the cutting edge
- centre cutting
- with clearance
- Polish sanding

Advantage:
- Ultra-smooth coating thickness
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

							Type	W		
							Surface	ULTRA N PRO		
							Tool holding device	HA parallel shank		
							Tolerance of cutting edge Ø	h9		
							Tolerance of shank Ø	h6		
							Coolant supply	External		
mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16665... Ident. No.		
3	11	14	50	2.9	6	2	0.042	200	●	
4	13	16	54	3.7	4	2	0.054	205	●	
5	15	18	54	4.9	6	2	0.06	210	●	
6	16	21	64	5.8	6	2	0.072	215	●	
8	22	27	70	7.8	8	2	0.084	220	●	
10	25	32	72	9.7	10	2	0.096	225	●	
12	28	38	83	11.7	12	3	0.108	230	●	
16	36	44	92	15.7	16	3	0.12	235	●	
20	41	54	104	19.5	20	4	0.145	240	●	

Prod. Gr. 1HJ

ORION Solid carbide end mill

2-3 cutting edges, uncoated

VHM | Typ W | Z 2 | Z 3 | 20° | HA | HB

No. 16815

No. 16817

Application:
End mill for plunge milling, groove milling and keyway cutting as well as face and side milling in all non-ferrous metals.

Execution:
- solid carbide ultra-fine grain
- centre cutting
- finishing teeth
- cemented carbide quality K30/40
- **No. 16815:** straight shank in accordance with DIN 6535 HA
- **No. 16817:** straight shank in accordance with DIN 6535 HB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						700	800	240	260	200	220	250							

							Type	W		W		
							Surface	Uncoated		Uncoated		
							Tool holding device	HA parallel shank		HB parallel shank		
							Tolerance of cutting edge Ø	h12		h12		
							Tolerance of shank Ø	h6		h6		
mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16815... Ident. No.		16817... Ident. No.		
4	11	21	57	3.8	6	2	0.044	304	●	304	●	
5	13	21	57	4.8	6	2	0.049	305	●	305	●	
6	13	21	57	5.8	6	2	0.054	306	●	306	●	
8	19	27	63	7.8	8	2	0.064	308	●	308	●	
10	22	32	72	9.8	10	2	0.072	310	●	310	●	
12	26	38	83	11.8	12	3	0.12	312	●	312	●	
14	26	38	83	13.8	14	3	0.145	314	○	314	○	
16	32	44	92	15.8	16	3	0.17	316	●	316	●	
20	38	54	104	19.8	20	3	0.22	320	●	320	○	

Prod. Gr. 150

ATORN Solid carbide end mill

3 cutting edges, uncoated

VHM | Typ W | Z 3 | 45° | 45° | 90° | HA | HB

Ident. No. 200–208

Ident. No. 210–228

Application:

Ident. No. 200–208, 220–228: End mill for universal machining of non-ferrous metals.

Ident. No. 210–218: End mill for universal machining of NF metals.

Execution:

- Solid carbide ultra-fine grain
- Centre cutting
- With clearance
- Uncoated
- Mirror finish

- **Ident. No. 200–208:** Straight shank in accordance with DIN 6535 HA
- **Ident. No. 200–208, 220–228:** Defined edge rounding of the cutting edge
- **Ident. No. 200–218:** With edge protection chamfer
- **Ident. No. 210–218:** Defined edge rounding of cutter
- **Ident. No. 210–228:** Straight shank in accordance with DIN 6535 HB
- **Ident. No. 220–228:** Sharp-edged

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						180	380	170	225	160	190	315							

Type														W				W	
Surface														Uncoated				Uncoated	
Tool holding device														HA parallel shank				HB parallel shank	
Tolerance of cutting edge Ø														h9				h9	
Tolerance of shank Ø														h5				h5	
Coolant supply														External				External	
mm	mm	mm	mm	mm	mm	F mm		Z (PCS)	fz alu ● (mm)	16652... Ident. No.				16652... Ident. No.					
3	12	16	57	2.8	6	0.1		3	0.024	200	●			210	●				
3	12	16	57	2.8	6	-		3	0.024	-	-			220	●				
4	12	18	57	3.8	6	0.1		3	0.03	201	●			211	●				
4	12	18	57	3.8	6	-		3	0.03	-	-			221	●				
5	15	18	57	4.7	6	0.1		3	0.042	202	●			212	●				
5	15	18	57	4.7	6	-		3	0.042	-	-			222	●				
6	16	21	57	5.6	6	0.1		3	0.048	203	●			213	●				
6	16	21	57	5.6	6	-		3	0.048	-	-			223	●				
8	22	28	64	7.6	8	0.1		3	0.06	204	●			214	●				
8	22	28	64	7.6	8	-		3	0.06	-	-			224	●				
10	25	33	73	9.6	10	0.2		3	0.084	205	●			215	●				
10	25	33	73	9.6	10	-		3	0.084	-	-			225	●				
12	28	39	84	11.4	12	0.2		3	0.096	206	●			216	●				
12	28	39	84	11.4	12	-		3	0.096	-	-			226	●				
16	35	45	93	15.4	16	0.2		3	0.108	207	●			217	●				
16	35	45	93	15.4	16	-		3	0.108	-	-			227	●				
20	40	54	104	19.4	20	0.2		3	0.12	208	●			218	●				
20	40	54	104	19.4	20	-		3	0.12	-	-			228	●				

Prod. Gr. 1HJ

ATORN Solid carbide end mill with internal cooling

3 cutting edges, uncoated

VHM | Typ W | Z 3 | 40° | HA | IK

Application:

End mill with uneven pitch for roughing and finishing of non-ferrous metals with maximum machining performance.

Execution:

- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- With chip breakers on the front
- Defined edge rounding of the cutting edge
- centre cutting

- With edge protection radius
- Polish sanding
- with internal cooling

Advantage:

- High material removal rate
- Uneven pitch reduces vibrations
- Corner radius increases the service life
- High-gloss polished cutting edges for better chip removal
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						385	605	200	250	200	250	385							

						Type		W	
						Surface		Uncoated	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		e8	
						Tolerance of shank Ø		h6	
						Coolant supply		Internal	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16655... Ident. No.	
4	12	20	50	3.7	6	3	0.015	010	●
5	15	20	50	4.7	6	3	0.022	020	●
6	16	20	50	5.5	6	3	0.031	030	●
8	20	30	64	7.4	8	3	0.045	040	●
10	22	32	70	9.2	10	3	0.062	050	●
12	25	37	75	11	12	3	0.077	060	●
16	32	46	90	15	16	3	0.122	070	●

Prod. Gr. 1HJ

ATORN Solid carbide end mill

3 cutting edges, ULTRA N-coated

Ident. No. 250–258, 270–278

Ident. No. 260–268

Application:
End mill for universal machining of non-ferrous metals.

Execution:
- solid carbide ultra-fine grain
- defined edge rounding of the cutting edge
- centre cutting
- with clearance
- ZrCN ULTRA-N coated
- **Ident. No. 250–258, 270–278:** straight shank in accordance with DIN 6535 HA
- **Ident. No. 250–268:** with edge protection chamfer
- **Ident. No. 260–268:** straight shank in accordance with DIN 6535 HB
- **Ident. No. 270–278:** sharp-edged

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

							Type	W		W	
							Surface	ULTRA N		ULTRA N	
							Tool holding device	HA parallel shank		HB parallel shank	
							Tolerance of cutting edge Ø	h9		h9	
							Tolerance of shank Ø	h5		h5	
							Coolant supply	External		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.		16652... Ident. No.	
3	12	16	57	2.8	6	0.1	3	0.042	250	●	260	●
3	12	16	57	2.8	6	-	3	0.042	270	●	-	-
4	12	18	57	3.8	6	0.1	3	0.054	251	●	261	●
4	12	18	57	3.8	6	-	3	0.054	271	●	-	-
5	15	18	57	4.7	6	0.1	3	0.06	252	●	262	●
5	15	18	57	4.7	6	-	3	0.06	272	●	-	-
6	16	21	57	5.6	6	0.1	3	0.072	253	●	263	●
6	16	21	57	5.6	6	-	3	0.072	273	●	-	-
8	22	28	64	7.6	8	0.1	3	0.084	254	●	264	●
8	22	28	64	7.6	8	-	3	0.084	274	●	-	-
10	25	33	73	9.6	10	0.2	3	0.096	255	●	265	●
10	25	33	73	9.6	10	-	3	0.096	275	●	-	-
12	28	39	84	11.4	12	0.2	3	0.108	256	●	266	●
12	28	39	84	11.4	12	-	3	0.108	276	●	-	-
16	35	45	93	15.4	16	0.2	3	0.12	257	●	267	●
16	35	45	93	15.4	16	-	3	0.12	277	●	-	-
20	40	54	104	19.4	20	0.2	3	0.145	258	●	268	●
20	40	54	104	19.4	20	-	3	0.145	278	●	-	-

Prod. Gr. 1HJ

ATORN SC HPC end mill

3 cutting edges, ULTRA N PRO-coated

VHM | ULTRA N PRO | Typ W | Z 3 | 45° | 45° | HA | HB | HPC

Application:
HPC end mill with variable pitch for roughing and finishing non-ferrous metals with maximum results.

Execution:
- Solid carbide ultra-fine grain
- straight shank in line with DIN 6535 HB
- ULTRA-N PRO-coated
- with edge protection chamfer
- Defined edge rounding of the cutting edge
- centre cutting
- with clearance
- Polish sanding

Advantage:
- Ultra-smooth coating thickness
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

Type									W			W							
Surface									ULTRA N PRO			ULTRA N PRO							
Tool holding device									HA parallel shank			HB parallel shank							
Tolerance of cutting edge Ø									h9			h9							
Tolerance of shank Ø									h6			h6							
Coolant supply									External			External							
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16665... Ident. No.			16665... Ident. No.							
3	12	16	57	2.9	6	0.1	3	0.042	300	●		301	●						
4	12	18	57	3.9	6	0.1	3	0.054	305	●		306	●						
5	15	18	57	4.9	6	0.1	3	0.06	310	●		311	●						
6	15	21	57	5.8	6	0.1	3	0.072	315	●		316	●						
8	22	28	64	7.8	8	0.1	3	0.084	320	●		321	●						
10	25	33	73	9.7	10	0.2	3	0.096	325	●		326	●						
12	28	39	84	11.7	12	0.2	3	0.108	330	●		331	●						
16	35	45	93	15.7	16	0.2	3	0.12	-	-		335	●						
20	41	52	104	19.5	20	0.2	3	0.145	-	-		340	●						

Prod. Gr. 1HJ

ATORN Solid carbide end mill

3 cutting edges, ULTRA N PRO-coated

VHM | ULTRA N PRO | Typ W | Z 3 | 45° | 45° | HA | HB | HPC

Application:
Long HPC end mill with variable pitch for roughing and finishing non-ferrous metals with maximum results.

Execution:
- Solid carbide ultra-fine grain
- straight shank in line with DIN 6535 HB
- ULTRA-N PRO-coated
- with edge protection chamfer
- Defined edge rounding of the cutting edge
- centre cutting
- with clearance
- Polish sanding

Advantage:
- Ultra-smooth coating thickness
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						180	380	170	225	160	190	315							

Type									W			W							
Surface									ULTRA N PRO			ULTRA N PRO							
Tool holding device									HA parallel shank			HB parallel shank							
Tolerance of cutting edge Ø									h9			h9							
Tolerance of shank Ø									h6			h6							
Coolant supply									External			External							
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16665... Ident. No.			16665... Ident. No.							
4	6	24	80	3.9	6	0.1	3	0.016	400	●		-	-						
5	8	30	80	4.9	6	0.1	3	0.022	405	●		-	-						
6	10	42	80	5.8	6	0.2	3	0.026	410	●		-	-						
8	13	62	100	7.8	8	0.2	3	0.04	415	●		416	●						
10	16	58	100	9.7	10	0.2	3	0.05	420	●		421	●						
12	19	73	120	11.7	12	0.2	3	0.07	425	●		426	●						
16	25	92	150	15.7	16	0.2	3	0.09	-	-		430	●						
20	32	100	150	19.5	20	0.2	3	0.11	-	-		435	●						

Prod. Gr. 1HJ

ATORN Solid carbide end mill with internal cooling

3 cutting edges, ULTRA N PRO-coated

Application:
Long HPC end mill with variable pitch for roughing and finishing non-ferrous metals with maximum results.

Execution:
- solid carbide ultra-fine grain
- straight shank in line with DIN 6535 HB
- ULTRA-N PRO-coated
- with edge protection chamfer
- Defined edge rounding of the cutting edge
- centre cutting
- with clearance
- Polish sanding
- with internal cooling

Advantage:
- Ultra-smooth coating thickness
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						180	380	170	225	160	190	315							

Type									W		W				
Surface									ULTRA N PRO		ULTRA N PRO				
Tool holding device									HA parallel shank		HB parallel shank				
Tolerance of cutting edge Ø									h9		h9				
Tolerance of shank Ø									h6		h6				
Coolant supply									Internal		Internal				
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16665... Ident. No.		16665... Ident. No.				
6	10	42	80	5.8	6	0.1	3	0.026	500	●	-	-			
8	13	62	100	7.8	8	0.1	3	0.04	505	●	506	●			
10	16	58	100	9.7	10	0.2	3	0.05	510	●	511	●			
12	19	73	120	11.7	12	0.2	3	0.07	515	●	516	●			
16	25	92	150	15.7	16	0.2	3	0.09	-	-	520	●			
20	32	100	150	19.5	20	0.2	3	0.11	-	-	525	●			

Prod. Gr. 1HJ

ATORN Solid carbide end mill

3 cutting edges, uncoated

Application:
End mill for universal machining of non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HA
- With edge protection chamfer
- Centre cutting
- With clearance
- Uncoated
- Defined edge rounding of the cutting edge

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						160	340	150	200	145	170	285							

Type							W		
Surface							Uncoated		
Tool holding device							HA parallel shank		
Tolerance of cutting edge Ø							h9		
Tolerance of shank Ø							h5		
Coolant supply							External		
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.	
3	15	21	64	2.8	6	0.1	3	0.022	300	●
4	19	27	64	3.8	6	0.1	3	0.027	301	●
5	20	28	64	4.7	6	0.1	3	0.038	302	●
6	20	28	64	5.6	6	0.1	3	0.043	303	●
8	38	44	80	7.6	8	0.1	3	0.054	304	●
10	45	55	95	9.6	10	0.2	3	0.076	305	●
12	53	55	100	11.4	12	0.2	3	0.086	306	●
16	63	75	123	15.4	16	0.2	3	0.097	307	●
20	65	75	125	19.4	20	0.2	3	0.108	308	●

Prod. Gr. 1HJ

ATORN Solid carbide end mill

3 cutting edges, ULTRA N-coated

VHM | ULTRA N | Typ W | Z 3 | 45° | 45° | 90° | HA

Application:
End mill for universal machining of non-ferrous metals.

Execution:
- ZrCN ULTRA-N coated
- **Ident. No. 310–318:**
  - Solid carbide ultra-fine grain
  - Straight shank in accordance with DIN 6535 HA
  - With edge protection chamfer
  - Centre cutting
  - With clearance
  - Defined edge rounding of the cutting edge
- **Ident. No. 320–328:**
  - solid carbide ultra-fine grain
  - straight shank in accordance with DIN 6535 HA
  - defined edge rounding of the cutting edge
  - centre cutting
  - with clearance
  - sharp-edged

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						180	380	170	225	155	190	315							

							Type		W	
							Surface		ULTRA N	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		h9	
							Tolerance of shank Ø		h5	
							Coolant supply		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.	
3	15	21	64	2.8	6	0.1	3	0.038	310	●
3	15	21	64	2.8	6	-	3	0.038	320	●
4	19	27	64	3.8	6	0.1	3	0.049	311	●
4	19	27	64	3.8	6	-	3	0.049	321	●
5	20	28	64	4.7	6	0.1	3	0.054	312	●
5	20	28	64	4.7	6	-	3	0.054	322	●
6	20	28	64	5.6	6	0.1	3	0.065	313	●
6	20	28	64	5.6	6	-	3	0.065	323	●
8	38	44	80	7.6	8	0.1	3	0.076	314	●
8	38	44	80	7.6	8	-	3	0.076	324	●
10	45	55	95	9.6	10	0.2	3	0.086	315	●
10	45	55	95	9.6	10	-	3	0.086	325	●
12	53	55	100	11.4	12	0.2	3	0.097	316	●
12	53	55	100	11.4	12	-	3	0.097	326	●
16	63	75	123	15.4	16	0.2	3	0.108	317	●
16	63	75	123	15.4	16	-	3	0.108	327	●
20	65	75	125	19.4	20	0.2	3	0.13	318	●
20	65	75	125	19.4	20	-	3	0.13	328	●

Prod. Gr. 1HJ

ATORN Solid carbide torus roughing cutter with internal cooling

3 cutting edges, uncoated

VHM | Typ WF | Z 3 | 40° | HA | IK

Application:
Suitable for rough cutting with outstanding material removal rates on NF metals.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- Defined edge rounding of the cutting edge
- centre cutting
- Radius tolerance = +/- 0.01 mm
- Clearance
- Internal cooling

Advantage:
- High material removal rate
- Uneven pitch reduces vibrations
- Corner radius increases the service life
- Large chip area for optimum chip flow

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						405	635	220	270	220	270	405							

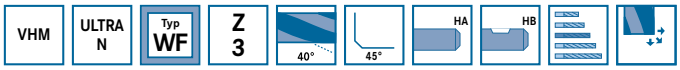
							Type		WF	
							Surface		Uncoated	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	R mm	Z (PCS)	fz alu ● (mm)	16655... Ident. No.	
6	13	24	60	5.5	6	0.1	3	0.061	100	●
8	20	28	64	7.4	8	0.1	3	0.090	110	●

							Type	WF		
							Surface	Uncoated		
							Tool holding device	HA parallel shank		
							Tolerance of cutting edge Ø	e8		
							Tolerance of shank Ø	h6		
mm	mm	mm	mm	mm	mm	R mm	Z (PCS)	fz alu ● (mm)	16655... Ident. No.	
10	22	35	75	9.2	10	0.1	3	0.123	120	●
12	26	40	75	11	12	0.12	3	0.162	130	●
16	32	40	90	15	16	0.16	3	0.223	140	●
20	40	50	100	19	20	0.2	3	0.267	150	●

Prod. Gr. 1HJ

ATORN SC roughing cutter

3 cutting edges, ULTRA N-coated



Ident. No. 400–405

Ident. No. 410–415
Shank HB

Application:
Suitable for rough cutting with outstanding material removal rates on NF metals.

Execution:
- Solid carbide ultra-fine grain
- With edge protection chamfer
- Defined edge rounding of cutter
- Centre cutting
- With clearance
- ZrCN ULTRA N-coated
- **Ident. No. 400–405:** Straight shank in accordance with DIN 6535 HA
- **Ident. No. 410–415:** Straight shank in accordance with DIN 6535 HB

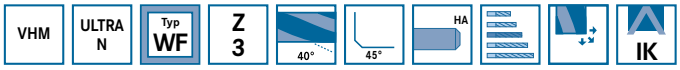
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

						Type	WF		WF	
						Surface	ULTRA N		ULTRA N	
						Tool holding device	HA parallel shank		HB parallel shank	
						Tolerance of cutting edge Ø	h9		h9	
						Tolerance of shank Ø	h5		h5	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.		16652... Ident. No.	
6	13	18	57	5.6	6	0.4	3	0.086	400	●	410	●
8	21	25	63	7.6	8	0.4	3	0.106	401	●	411	●
10	22	30	72	9.6	10	0.4	3	0.125	402	●	412	●
12	26	36	83	11.4	12	0.4	3	0.145	403	●	413	●
16	36	42	92	15.4	16	0.4	3	0.155	404	●	414	●
20	41	52	104	19.4	20	0.4	3	0.2	405	●	415	●

Prod. Gr. 1HJ

ATORN Solid carbide roughing cutter with internal cooling

3 cutting edges, ULTRA N-coated



Application:
Suitable for rough cutting with outstanding material removal rates on NF metals.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HA
- With edge protection chamfer
- Defined edge rounding of cutter
- Centre cutting
- With clearance
- ZrCN ULTRA N-coated
- With internal cooling

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						220	470	210	275	195	230	385							

						Type	WF		
						Surface	ULTRA N		
						Tool holding device	HA parallel shank		
						Tolerance of cutting edge Ø	h9		
						Tolerance of shank Ø	h5		
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.	
6	13	18	57	5.6	6	0.4	3	0.108	420	●
8	21	25	63	7.6	8	0.4	3	0.13	421	●
10	22	30	72	9.6	10	0.4	3	0.155	422	●

							Type	WF	
							Surface	ULTRA N	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	h9	
							Tolerance of shank Ø	h5	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.	
12	26	36	83	11.4	12	0.4	3	0.18	423	●
16	36	42	92	15.4	16	0.4	3	0.19	424	●
20	41	52	104	19.4	20	0.4	3	0.25	425	●

Prod. Gr. 1HJ

ATORN Solid carbide roughing cutter

3 cutting edges, ULTRA N PRO-coated

Application:
Suitable for rough cutting with outstanding material removal rates on NF metals.

Execution:
- Solid carbide ultra-fine grain
- straight shank in line with DIN 6535 HB
- ULTRA-N PRO coated
- with edge protection chamfer
- Defined edge rounding of the cutting edge
- centre cutting
- Clearance
- Polish sanding

Advantage:
- Ultra-smooth coating
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

							Type	WF		WF	
							Surface	ULTRA N PRO		ULTRA N PRO	
							Tool holding device	HA parallel shank		HB parallel shank	
							Tolerance of cutting edge Ø	h9		h9	
							Tolerance of shank Ø	h6		h6	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16665... Ident. No.		16665... Ident. No.	
6	14	20	57	5.9	6	0.2	3	0.086	800	●	801	●
8	21	26	63	7.8	8	0.25	3	0.106	805	●	806	●
10	23	31	72	9.8	10	0.3	3	0.125	810	●	811	●
12	27	37	83	11.7	12	0.35	3	0.145	815	●	816	●
16	36	43	92	15.7	16	0.4	3	0.155	-	-	820	●
20	41	52	104	19.5	20	0.4	3	0.2	-	-	825	●

Prod. Gr. 1HJ

ATORN Solid carbide roughing cutter with internal cooling

3 cutting edges, ULTRA N PRO-coated

Application:
Suitable for rough cutting with outstanding material removal rates on NF metals.

Execution:
- Solid carbide ultra-fine grain
- straight shank in line with DIN 6535 HB
- ULTRA-N PRO coated
- with edge protection chamfer
- Defined edge rounding of the cutting edge
- centre cutting
- Clearance
- Polish sanding
- Internal cooling

Advantage:
- Ultra-smooth coating
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Technical data:
- Z: 3 PCS

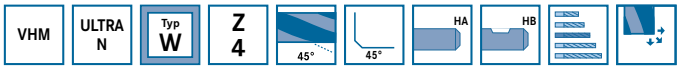
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						220	470	210	275	195	230	385							

							Type	WF		WF		
							Surface	ULTRA N PRO		ULTRA N PRO		
							Tool holding device	HA parallel shank		HB parallel shank		
							Tolerance of cutting edge Ø	h9		h9		
							Tolerance of shank Ø	h6		h6		
mm	mm	mm	mm	mm	mm	F mm	fz alu ● (mm)	16665... Ident. No.		16665... Ident. No.		
6	14	20	57	5.9	6	0.2	0.108	900	●	901	●	
8	21	26	63	7.8	8	0.25	0.13	905	●	906	●	
10	23	31	72	9.8	10	0.3	0.155	910	●	911	●	
12	27	37	83	11.7	12	0.35	0.18	915	○	916	●	
16	36	43	92	15.7	16	0.4	0.19	-	-	920	●	
20	41	52	104	19.5	20	0.4	0.25	-	-	925	●	

Prod. Gr. 1HJ

ATORN Solid carbide end mill

4 cutting edges, ULTRA N-coated



Ident. No. 500–508

Ident. No. 510–518

Application:
End mill for universal machining of non-ferrous metals.

Execution:
- solid carbide ultra-fine grain
- with edge protection chamfer
- defined edge rounding of the cutting edge
- centre cutting
- with clearance
- ZrCN ULTRA-N coated
- **Ident. No. 500–508:** straight shank in accordance with DIN 6535 HA
- **Ident. No. 510–518:** straight shank in accordance with DIN 6535 HB

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

						Type	W		W			
						Surface	ULTRA N		ULTRA N			
						Tool holding device	HA parallel shank		HB parallel shank			
						Tolerance of cutting edge Ø	h9		h9			
						Tolerance of shank Ø	h5		h5			
						Coolant supply	External		External			
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.		16652... Ident. No.	
3	6	10	57	2.8	6	0.1	4	0.04	500	●	510	●
4	8	14	57	3.8	6	0.1	4	0.048	501	●	511	●
5	10	16	57	4.7	6	0.1	4	0.065	502	●	512	●
6	12	19	57	5.6	6	0.2	4	0.07	503	●	513	○
8	16	25	63	7.6	8	0.2	4	0.09	504	●	514	●
10	20	30	72	9.6	10	0.2	4	0.1	505	●	515	●
12	24	36	83	11.4	12	0.2	4	0.11	506	●	516	●
16	32	42	92	15.4	16	0.2	4	0.12	507	●	517	●
20	40	52	104	19.4	20	0.2	4	0.16	508	●	518	●

Prod. Gr. 1HJ

ATORN Solid carbide end mill

4 cutting edges, ULTRA N-coated

Application:
End mill for universal machining of non-ferrous metals.

Execution:
- solid carbide ultra-fine grain
- straight shank in accordance with DIN 6535 HA
- with edge protection chamfer
- defined edge rounding of the cutting edge
- centre cutting
- with clearance
- ZrCN ULTRA-N coated

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						180	380	170	225	160	190	315							

							Type		W	
							Surface		ULTRA N	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		h9	
							Tolerance of shank Ø		h5	
							Coolant supply		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.	
4	16	22	62	3.8	6	0.1	4	0.04	521	●
5	17	24	62	4.7	6	0.1	4	0.05	522	●
6	18	24	62	5.6	6	0.2	4	0.06	523	●
8	24	30	72	7.6	8	0.2	4	0.07	524	●
10	30	38	80	9.6	10	0.2	4	0.08	525	●
12	36	46	93	11.5	12	0.2	4	0.09	526	●
16	48	58	108	15.4	16	0.2	4	0.1	527	●

Prod. Gr. 1HJ

ATORN Solid carbide end mill

4 cutting edges, ULTRA N-coated

Application:
End mill for universal machining of non-ferrous metals.

Execution:
- solid carbide ultra-fine grain
- straight shank in accordance with DIN 6535 HA
- with edge protection chamfer
- defined edge rounding of the cutting edge
- centre cutting
- with clearance
- ZrCN ULTRA-N coated

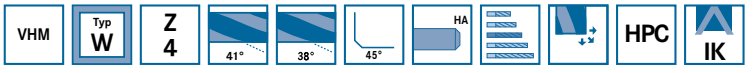
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						170	360	160	210	150	180	300							

							Type		W	
							Surface		ULTRA N	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		h9	
							Tolerance of shank Ø		h5	
							Coolant supply		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.	
6	12	42	80	5.6	6	0.2	4	0.054	533	●
8	16	58	100	7.6	8	0.2	4	0.06	534	●
10	20	62	100	9.6	10	0.2	4	0.07	535	●
12	24	75	120	11.4	12	0.2	4	0.08	536	●
16	32	100	150	15.4	16	0.2	4	0.09	537	●

Prod. Gr. 1HJ

ATORN Solid carbide HPC end mill with internal cooling

4 cutting edges, uncoated



Application:
HPC end mill with uneven twist and uneven pitch for roughing and finishing of non-ferrous metals with maximum machining performance.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- With chip breakers on the front
- Defined edge rounding of the cutting edge
- centre cutting
- with edge protection chamfer
- Clearance
- Polish sanding
- Internal cooling

Advantage:
- Chip breakers on the front provide short chips when processing long-chipping materials
- High material removal rate
- Uneven pitch and twist reduces vibrations
- High-gloss polished cutting edges for better chip removal
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						680	850	220	270	220	270	700							

							Type		W	
							Surface		Uncoated	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
							Coolant supply		Internal	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16655... Ident. No.	
6	13	20	57	5.5	6	0.1	4	0.069	200	●
8	20	26	64	7.4	8	0.1	4	0.092	210	●
10	22	30	72	9.2	10	0.2	4	0.116	220	●
12	26	36	83	11	12	0.2	4	0.139	230	●
16	32	42	92	15	16	0.2	4	0.185	240	●
20	38	52	104	19	20	0.3	4	0.231	250	●

Prod. Gr. 1HJ

ATORN Solid carbide HPC end mill with internal cooling

4 cutting edges, uncoated

VHM | Typ W | Z 4 | 41° | 38° | 45° | HA | HPC | IK

Application:
HPC end mill with variable pitch and variable twist for roughing and finishing non-ferrous metals with maximum results.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- With chip breakers on the front and periphery
- Defined edge rounding of the cutting edge
- centre cutting
- with edge protection chamfer
- with clearance
- Polish sanding
- with internal cooling

Advantage:
- Chip breakers on the front and periphery provide short chips when processing long-chipping materials
- High material removal rate
- Variable pitch and swirl reduces vibration
- High-gloss polished cutting edges for better chip removal
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						680	850	220	270	220	270	700							

							Type		W	
							Surface		Uncoated	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
							Coolant supply		Internal	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16655... Ident. No.	
6	13	20	57	5.5	6	0.1	4	0.073	300	●
8	20	26	64	7.4	8	0.1	4	0.097	310	●
10	22	30	72	9.2	10	0.2	4	0.121	320	●
12	26	36	83	11	12	0.2	4	0.146	330	●
16	32	42	92	15	16	0.2	4	0.194	340	●
20	38	52	104	19	20	0.3	4	0.243	350	●

Prod. Gr. 1HJ

ATORN Solid carbide HPC end mill

4 cutting edges, ULTRA N-coated

VHM | ULTRA N | Typ W | Z 4 | 35°/38° | 45° | HA | HPC

Application:
HPC end mill with uneven twist and uneven pitch for rough and finish machining of non-ferrous metals.

Execution:
- solid carbide ultra-fine grain
- straight shank in accordance with DIN 6535 HA
- with edge protection chamfer
- defined edge rounding of the cutting edge
- centre cutting
- with clearance
- uneven 35°/38° twist angle
- ZrCN ULTRA-N coated

Advantage:
- extremely quiet running
- reduces vibrations
- higher feeds and cutting depths possible
- ideal for static and dynamic trochoidal milling
- defined edge rounding for maximum service life

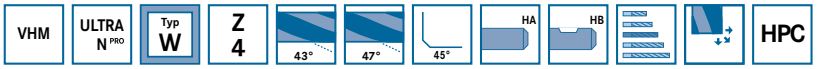
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						210	445	200	260	185	220	365							

							Type		W	
							Surface		ULTRA N	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		h9	
							Tolerance of shank Ø		h5	
							Coolant supply		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.	
3	6	10	57	2.8	6	0.1	4	0.05	600	●
4	8	14	57	3.8	6	0.1	4	0.06	601	●
5	10	16	57	4.7	6	0.1	4	0.075	602	●
6	12	19	57	5.6	6	0.2	4	0.08	603	●
8	16	25	63	7.6	8	0.2	4	0.1	604	●
10	20	30	72	9.6	10	0.2	4	0.11	605	●
12	24	36	83	11.4	12	0.2	4	0.12	606	●
16	32	42	92	15.4	16	0.2	4	0.14	607	●
20	40	52	104	19.4	20	0.2	4	0.19	608	●

Prod. Gr. 1HJ

ATORN SC HPC end mill

4 cutting edges, ULTRA N PRO-coated



Application:
HPC end mill with variable pitch and variable twist for roughing and finishing non-ferrous metals with maximum results.

Execution:
- solid carbide ultra-fine grain
- straight shank in line with DIN 6535 HB
- ULTRA-N PRO-coated
- with edge protection chamfer
- Defined edge rounding of the cutting edge
- centre cutting
- with clearance
- Polish sanding

Advantage:
- Ultra-smooth coating thickness
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

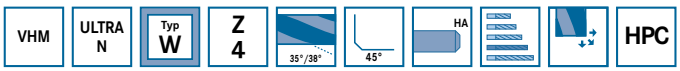
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

						Type	W		W	
						Surface	ULTRA N PRO		ULTRA N PRO	
						Tool holding device	HA parallel shank		HB parallel shank	
						Tolerance of cutting edge Ø	h9		h9	
						Tolerance of shank Ø	h6		h6	
						Coolant supply	External		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16665... Ident. No.		16665... Ident. No.	
3	6	10	57	2.9	6	0.1	4	0.04	600	●	-	-
4	8	14	57	3.9	6	0.1	4	0.048	605	●	-	-
5	10	16	57	4.9	6	0.1	4	0.065	610	●	-	-
6	12	19	57	5.8	6	0.2	4	0.07	615	●	-	-
8	16	25	63	7.8	8	0.2	4	0.09	620	●	621	●
10	20	30	72	9.7	10	0.2	4	0.1	625	●	626	●
12	24	36	83	11.7	12	0.2	4	0.11	630	●	631	●
16	32	42	92	15.7	16	0.2	4	0.12	-	-	635	●
20	40	52	104	19.5	20	0.2	4	0.16	-	-	640	●

Prod. Gr. 1HJ

ATORN Solid carbide HPC end mill

4 cutting edges, ULTRA N-coated



Application:
HPC end mill with uneven twist and uneven pitch for rough and finish machining of non-ferrous metals.

Execution:
- solid carbide ultra-fine grain
- straight shank in accordance with DIN 6535 HA
- with edge protection chamfer
- defined edge rounding of the cutting edge
- centre cutting
- with clearance
- uneven 35°/38° twist angle
- ZrCN ULTRA-N coated

Advantage:
- extremely quiet running
- reduces vibrations
- higher feeds and cutting depths possible
- ideal for static and dynamic trochoidal milling
- defined edge rounding for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						190	400	180	235	165	200	330							

Type	W
Surface	ULTRA N
Tool holding device	HA parallel shank
Tolerance of cutting edge Ø	h9
Tolerance of shank Ø	h5
Coolant supply	External

mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	16652... Ident. No.	
4	16	22	62	3.8	6	0.1	4	0.05	611	●
5	17	24	62	4.7	6	0.1	4	0.065	612	●
6	18	24	62	5.6	6	0.2	4	0.07	613	●
8	24	30	68	7.6	8	0.2	4	0.085	614	●
10	30	38	80	9.6	10	0.2	4	0.095	615	●
12	36	46	93	11.4	12	0.2	4	0.1	616	●
16	48	58	108	15.4	16	0.2	4	0.12	617	●
20	60	74	126	19.4	20	0.2	4	0.16	618	●

Prod. Gr. 1HJ

ATORN Solid carbide miniature torus milling cutter

2 cutting edges, ULTRA N-coated

VHM | ULTRA N | Typ W | Z 2 | 30° | HA

Application:
Miniature torus milling cutter with long neck for machining non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain

- Straight shank in accordance with DIN 6535 HA
- Defined edge rounding of the blade
- Centre cutting
- With clearance
- ZrCN ULTRA N-coated

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						280	450	230	280	200	250	375							

Type	W
Surface	ULTRA N
Tool holding device	HA parallel shank
Tolerance of cutting edge Ø	h9
Tolerance of shank Ø	h5

mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16653... Ident. No.	
0.5	0.05	0.9	4	55	0.48	4	2	0.006	010	●
0.5	0.05	0.9	6	65	0.48	4	2	0.006	015	●
0.5	0.08	0.9	10	65	0.48	4	2	0.006	020	●
1	0.08	1.5	5	55	0.95	4	2	0.012	030	●
1	0.1	1.5	10	65	0.95	4	2	0.012	035	●
1	0.1	1.5	15	65	0.95	4	2	0.012	040	●
1.5	0.12	1.8	8	55	1.44	4	2	0.018	050	●
1.5	0.15	1.8	15	65	1.44	4	2	0.018	055	●
1.5	0.15	1.8	20	65	1.44	4	2	0.018	060	○
2	0.2	2	10	55	1.92	4	2	0.024	070	●
2	0.2	2	20	65	1.92	4	2	0.024	075	●
2.5	0.25	2.5	12	55	2.4	4	2	0.03	090	●
2.5	0.25	2.5	20	65	2.4	4	2	0.03	095	●

Prod. Gr. 1HK

ATORN SC torus milling cutter

2 cutting edges, ULTRA N-coated

VHM | ULTRA N | Typ W | Z 2 | 30° | HA

Application:
Torus milling cutter, standard version for machining non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain

- Straight shank in accordance with DIN 6535 HA
- Defined edge rounding of the blade
- Centre cutting
- With clearance
- ZrCN ULTRA N-coated
- Radius tolerance = +/- 0.01 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

									Type	W	
									Surface	ULTRA N	
									Tool holding device	HA parallel shank	
									Tolerance of cutting edge Ø	h9	
									Tolerance of shank Ø	h5	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16653... Ident. No.		
3	0.3	4	14	50	2.9	3	2	0.036	105	●	
4	0.3	5	16	50	3.8	4	2	0.048	110	●	
5	0.3	6	18	54	4.8	5	2	0.06	115	●	
6	0.3	7	21	57	5.7	6	2	0.08	120	●	
6	1	7	21	57	5.7	6	2	0.08	125	●	
6	2	7	21	57	5.7	6	2	0.08	130	●	
8	0.3	9	27	63	7.7	8	2	0.11	135	●	
8	1	9	27	63	7.7	8	2	0.11	140	●	
8	2	9	27	63	7.7	8	2	0.11	145	●	
10	0.3	11	32	72	9.6	10	2	0.13	150	●	
10	1.5	11	32	72	9.6	10	2	0.13	155	●	
10	3	11	32	72	9.6	10	2	0.13	160	●	
12	1.5	12	38	83	11.6	12	2	0.15	165	●	
12	4	12	38	83	11.6	12	2	0.15	170	●	
16	2	16	44	92	15.5	16	2	0.16	175	●	
16	4	16	44	92	15.5	16	2	0.16	180	●	

Prod. Gr. 1HJ

ATORN SC torus milling cutter

2 cutting edges, ULTRA N-coated

Application:
Torus milling cutter, long version for machining non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain

- Straight shank in accordance with DIN 6535 HA
- Defined edge rounding of the blade
- Centre cutting
- With clearance
- ZrCN ULTRA N-coated
- Radius tolerance = +/- 0.01 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

									Type	W	
									Surface	ULTRA N	
									Tool holding device	HA parallel shank	
									Tolerance of cutting edge Ø	h9	
									Tolerance of shank Ø	h5	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16653... Ident. No.		
3	0.3	4	32	75	2.8	3	2	0.035	205	●	
4	0.3	5	36	75	3.75	4	2	0.042	210	●	
5	0.3	6	40	75	4.7	5	2	0.049	215	●	
6	0.3	7	44	80	5.6	6	2	0.063	220	●	
6	1	7	44	80	5.6	6	2	0.063	225	●	
6	2	7	44	80	5.6	6	2	0.063	230	●	
8	0.3	9	54	100	7.6	8	2	0.084	235	●	
8	1	9	54	100	7.6	8	2	0.084	240	●	
8	2	9	54	100	7.6	8	2	0.084	245	●	
10	0.3	11	60	100	9.5	10	2	0.098	250	●	
10	1.5	11	60	100	9.5	10	2	0.098	255	●	
10	3	11	60	100	9.5	10	2	0.098	260	●	
12	1.5	12	75	120	11.5	12	2	0.115	265	●	
12	4	12	75	120	11.5	12	2	0.115	270	●	
16	2	16	92	150	15.5	16	2	0.14	275	●	
16	4	16	92	150	15.5	16	2	0.14	280	●	

Prod. Gr. 1HJ

ATORN SC torus milling cutter

2 cutting edges, ULTRA N-coated

VHM | ULTRA N | Typ W | Z 2 | 30° | HA

Application:
Torus milling cutter, extra-long version for machining non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HA
- Defined edge rounding of the blade
- Centre cutting
- With clearance
- ZrCN ULTRA N-coated
- Radius tolerance = +/- 0.01 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						170	360	160	210	150	180	300							

								Type	W		
								Surface	ULTRA N		
								Tool holding device	HA parallel shank		
								Tolerance of cutting edge Ø	h9		
								Tolerance of shank Ø	h5		
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16653... Ident. No.		
6	0.3	7	80	120	5.6	6	2	0.054	320	●	
6	1	7	80	120	5.6	6	2	0.054	325	●	
8	0.3	9	90	130	7.6	8	2	0.072	330	●	
8	1	9	90	130	7.6	8	2	0.072	335	●	
8	2	9	90	130	7.6	8	2	0.072	340	●	
10	0.3	11	110	150	9.5	10	2	0.084	345	●	
10	3	11	110	150	9.5	10	2	0.084	350	●	
12	1.5	12	115	160	11.5	12	2	0.096	355	●	
12	4	12	115	160	11.5	12	2	0.096	360	●	
16	2	16	140	200	15.5	16	2	0.12	365	●	

Prod. Gr. 1HJ

ATORN SC torus milling cutter

2 cutting edges, ULTRA N PRO-coated

VHM | ULTRA N PRO | Typ W | Z 2 | 30° | HA

Application:
Torus milling cutter, standard version for machining non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- ULTRA-N PRO-coated
- Radius tolerance = +/- 0.01 mm
- Defined edge rounding of the cutting edge
- centre cutting
- with clearance

Advantage:
- Ultra-smooth coating thickness
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

								Type	W		
								Surface	ULTRA N PRO		
								Tool holding device	HA parallel shank		
								Tolerance of cutting edge Ø	h9		
								Tolerance of shank Ø	h6		
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16666... Ident. No.		
3	0.3	4	14	50	2.9	6	2	0.036	005	●	
4	0.3	5	16	50	3.9	6	2	0.048	010	●	
5	0.3	6	18	54	4.9	6	2	0.06	015	●	
6	0.3	7	21	57	5.8	6	2	0.08	020	●	
6	1	7	21	57	5.8	6	2	0.08	025	●	
6	2	7	21	57	5.8	6	2	0.08	030	●	
8	0.3	9	27	63	7.8	8	2	0.11	035	●	
8	1	9	27	63	7.8	8	2	0.11	040	●	
8	2	9	27	63	7.8	8	2	0.11	045	●	
10	0.3	11	32	72	9.7	10	2	0.13	050	●	
10	1.5	11	32	72	9.7	10	2	0.13	055	●	
10	3	11	32	72	9.7	10	2	0.13	060	●	
12	1.5	13	38	83	11.7	12	2	0.15	065	●	

							Type		W	
							Surface		ULTRA N PRO	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		h9	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16666... Ident. No.	
12	4	13	38	83	11.7	12	2	0.15	070	●
16	2	17	44	92	15.7	16	2	0.16	075	●
16	5	17	44	92	15.7	16	2	0.16	080	●

Prod. Gr. 1HJ

ATORN SC torus milling cutter

2 cutting edges, ULTRA N PRO-coated

Application:
Torus milling cutter, long version for machining non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- ULTRA-N PRO-coated
- Radius tolerance = +/- 0.01 mm
- Defined edge rounding of the cutting edge
- centre cutting
- with clearance

Advantage:
- Ultra-smooth coating thickness
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

							Type		W	
							Surface		ULTRA N PRO	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		h9	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16666... Ident. No.	
3	0.3	4	32	75	2.9	6	2	0.035	100	●
4	0.3	5	36	75	3.9	6	2	0.042	105	●
5	0.3	6	40	75	4.9	6	2	0.049	110	●
6	0.3	7	44	80	5.8	6	2	0.063	115	●
6	1	7	44	80	5.8	6	2	0.063	120	●
6	2	7	44	80	5.8	6	2	0.063	125	●
8	0.3	9	54	100	7.8	8	2	0.084	130	●
8	1	9	54	100	7.8	8	2	0.084	135	●
8	2	9	54	100	7.8	8	2	0.084	140	●
10	0.3	11	60	100	9.7	10	2	0.098	145	●
10	1.5	11	60	100	9.7	10	2	0.098	150	●
10	3	11	60	100	9.7	10	2	0.098	155	●
12	1.5	13	75	120	11.7	12	2	0.115	160	●
12	4	13	75	120	11.7	12	2	0.115	165	●
16	2	17	92	150	15.7	16	2	0.14	170	●
16	5	17	92	150	15.7	16	2	0.14	175	●

Prod. Gr. 1HJ

ATORN Solid carbide HPC torus milling cutter

3 cutting edges, ULTRA N-coated

Ident. No. 520–580
HA shank

Ident. No. 620–680

Application:
HPC torus milling cutter for roughing and finishing non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain
- Defined edge rounding of the blade
- Radius tolerance = +/- 0.01 mm
- Centre cutting
- With clearance
- ZrCN ULTRA N-coated
- **Ident. No. 520–580:** Straight shank in accordance with DIN 6535 HA
- **Ident. No. 620–680:** Straight shank in accordance with DIN 6535 HB

Advantage:
- Higher feed rates and cutting depths possible
- Defined edge rounding for outstanding service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

Type													W				W		
Surface													ULTRA N				ULTRA N		
Tool holding device													HA parallel shank				HB parallel shank		
Tolerance of cutting edge Ø													h9				h9		
Tolerance of shank Ø													h5				h5		
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16653... Ident. No.				16653... Ident. No.			
5	0.5	13	18	57	4.7	6	3	0.03	520	●			620	●		
5	1	13	18	57	4.7	6	3	0.03	525	●			625	●		
6	0.5	13	18	57	5.6	6	3	0.04	530	●			630	●		
6	1	13	18	57	5.6	6	3	0.04	535	●			635	●		
8	0.5	21	25	63	7.6	8	3	0.05	540	●			640	●		
8	1	21	25	63	7.6	8	3	0.05	545	●			645	●		
10	0.5	22	30	72	9.6	10	3	0.07	550	●			650	●		
10	1	22	30	72	9.6	10	3	0.07	555	●			655	●		
12	0.5	26	36	83	11.4	12	3	0.08	560	●			660	●		
12	1	26	36	83	11.4	12	3	0.08	565	●			665	●		
16	2	36	42	92	15.4	16	3	0.1	570	●			670	●		
16	4	36	42	92	15.4	16	3	0.1	575	○			675	●		
20	4	41	52	104	19.4	20	3	0.14	580	○			680	●		

Prod. Gr. 1HJ

ATORN Solid carbide HPC / TVC torus milling cutter

3 cutting edges, ULTRA N PRO-coated

Application:
HPC/TVC torus milling cutter with uneven pitch for roughing and finishing of non-ferrous metals with maximum machining performance.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- ULTRA-N PRO-coated
- Radius tolerance = +/- 0.01 mm
- Defined edge rounding of the cutting edge
- centre cutting
- with clearance

Advantage:
- Ultra-smooth coating thickness
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	175	210	350							

Type													W						
Surface													ULTRA N PRO						
Tool holding device													HA parallel shank						
Tolerance of cutting edge Ø													h9						
Tolerance of shank Ø													h6						
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16666... Ident. No.										
6	0.5	25	31	71	5.8	6	3	0.04	200	●									
6	1	25	31	71	5.8	6	3	0.04	205	●									
8	0.5	33	41	80	7.8	8	3	0.05	210	●									
8	1	33	41	80	7.8	8	3	0.05	215	●									
8	2	33	41	80	7.8	8	3	0.05	220	●									
10	0.5	41	51	95	9.7	10	3	0.07	225	●									
10	1	41	51	95	9.7	10	3	0.07	230	●									
10	2	41	51	95	9.7	10	3	0.07	235	●									
12	0.5	49	61	109	11.7	12	3	0.08	240	●									
12	1	49	61	109	11.7	12	3	0.08	245	●									
12	2	49	61	109	11.7	12	3	0.08	250	●									
16	2	65	81	132	15.7	16	3	0.1	255	●									
16	3	65	81	132	15.7	16	3	0.1	260	●									
20	2	82	101	154	19.5	20	3	0.14	265	●									
20	3	82	101	154	19.5	20	3	0.14	270	●									

Prod. Gr. 1HJ

ATORN SC 3D roughing cutter

3 cutting edges, CALIDA Z coated

VHM | CALIDA | Typ WF | Z 3 | 7° | HA | HSC | HPC

Application:
For high-performance milling in aluminium with cutting values up to 1600 m/min.

Execution:
- Solid carbide ultra-fine grain
- HA straight shank
- With clearance
- CALIDA Z high-performance coating (ZrCrN titanium-free)
- Defined cutting edge rounding
- Centre cutting
- Reinforced core
- Flat 7° twist

Advantage:
- Extremely stable high-performance geometry
- Chip breaker for machining short chips
- Fast and reliable chip removal
- Also for long-chipping materials
- Wear protection through corner radius (torus)

Notes:
The tools should be shrunk-in. A stable machine and firmly clamped parts are important.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						850	1000	800	950	600	700								

								Type		WF	
								Surface		CALIDA Z	
								Tool holding device		HA parallel shank	
								Tolerance of cutting edge Ø		e8	
								Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	R mm		Z (PCS)	fz alu ● (mm)	16651... Ident. No.	
6	8	21	57	5.8	6	0.6		3	0.21	060	●
8	10	27	63	7.8	8	0.8		3	0.27	080	●
10	12	32	72	9.7	10	1		3	0.39	100	●
12	16	38	83	11.7	12	1.2		3	0.48	120	●
16	20	44	92	15.7	16	1.6		3	0.6	160	●
20	25	54	104	19	20	2		3	0.65	200	○
25	30	65	121	24	25	2.5		3	0.7	250	●

Prod. Gr. 108

ATORN Solid carbide HPC torus milling cutter with internal cooling

4 cutting edges, uncoated

VHM | Typ W | Z 4 | 41° | 38° | HA | HPC | IK

Application:
HPC torus milling cutter with uneven pitch for roughing and finishing of non-ferrous metals with maximum machining performance.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- With chip breaker on the end
- Defined edge rounding of the cutting edge
- centre cutting
- Radius tolerance = +/- 0.01 mm
- Clearance
- Polish sanding
- Internal cooling

Advantage:
- Chip breakers on the end ensure short chips for long-chipping materials
- High material removal rate
- Uneven pitch and twist reduces vibrations
- High-gloss polished cutting edges for better chip removal
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						680	850	220	270	220	270	700							

								Type		W	
								Surface		Uncoated	
								Tool holding device		HA parallel shank	
								Tolerance of cutting edge Ø		e8	
								Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm		Z (PCS)	fz alu ● (mm)	16655... Ident. No.	
10	2	22	30	72	9.2	10		4	0.116	400	●
10	3	22	30	72	9.2	10		4	0.116	410	●
12	2	26	36	83	11	12		4	0.139	420	●
12	3	26	36	83	11	12		4	0.139	430	●
16	2	32	42	92	15	16		4	0.185	440	●
16	3	32	42	92	15	16		4	0.185	450	●
16	4	32	42	92	15	16		4	0.185	460	●
20	2	38	52	104	19	20		4	0.231	470	●

							Type		W	
							Surface		Uncoated	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16655... Ident. No.	
20	3	38	52	104	19	20	4	0.231	480	●
20	4	38	52	104	19	20	4	0.231	490	●

Prod. Gr. 1HJ

ATORN Solid carbide HPC torus milling cutter with internal cooling

4 cutting edges, uncoated

Application:
HPC torus milling cutter with uneven pitch for roughing and finishing of non-ferrous metals with maximum machining performance.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- With chip breaker on the end and at circumference
- Defined edge rounding of the cutting edge
- centre cutting
- Radius tolerance = +/- 0.01 mm
- with clearance
- Polish sanding
- with internal cooling

Advantage:
- Chip breakers on the end and at circumference ensure short chips for long-chipping materials
- High material removal rate
- Uneven pitch and twist reduces vibrations
- High-gloss polished cutting edges for better chip removal
- Ideal for NF metals and plastics

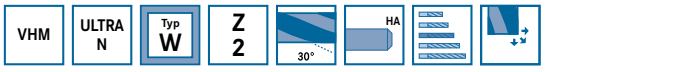
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						680	850	220	270	220	270	700							

							Type		W	
							Surface		Uncoated	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16655... Ident. No.	
10	2	22	30	72	9.2	10	4	0.116	500	●
10	3	22	30	72	9.2	10	4	0.116	510	●
12	2	26	36	83	11	12	4	0.139	520	●
12	3	26	36	83	11	12	4	0.139	530	●
16	2	32	42	92	15	16	4	0.185	540	●
16	3	32	42	92	15	16	4	0.185	550	●
16	4	32	42	92	15	16	4	0.185	560	●
20	2	38	52	104	19	20	4	0.231	570	●
20	3	38	52	104	19	20	4	0.231	580	●
20	4	38	52	104	19	20	4	0.231	590	●

Prod. Gr. 1HJ

ATORN Solid carbide miniature ball nose end mill

2 cutting edges, ULTRA N-coated



Application:
Mini radius cutter with long neck for machining non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HA
- Defined flute edge rounding
- With clearance
- ZrCN ULTRA N coated

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						310	495	250	310	220	275	415							

							Type	W	
							Surface	ULTRA N	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	h9	
							Tolerance of shank Ø	h5	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16654... Ident. No.	
0.5	0.9	4	55	0.48	4	2	0.006	010	●
0.5	0.9	6	65	0.48	4	2	0.006	015	●
0.5	0.9	10	65	0.48	4	2	0.006	020	●
1	1.5	5	55	0.95	4	2	0.012	030	●
1	1.5	10	65	0.95	4	2	0.012	035	●
1	1.5	15	65	0.95	4	2	0.012	040	●
1.5	1.8	8	55	1.44	4	2	0.018	050	●
1.5	1.8	15	65	1.44	4	2	0.018	055	●
1.5	1.8	20	65	1.44	4	2	0.018	060	●
2	2	10	55	1.92	4	2	0.023	070	●
2	2	20	65	1.92	4	2	0.023	075	●
2.5	2.5	12	55	2.4	4	2	0.029	090	●
2.5	2.5	20	65	2.4	4	2	0.029	095	●

Prod. Gr. 1HK

ATORN Solid carbide ball nose end mill

2 cutting edges, ULTRA N-coated

Application:
Standard radius cutter for machining non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain

- Straight shank in accordance with DIN 6535 HA
- Defined flute edge rounding
- With clearance
- ZrCN ULTRA N coated
- Radius tolerance = +/- 0.01 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						220	470	210	275	190	230	385							

							Type	W	
							Surface	ULTRA N	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	h9	
							Tolerance of shank Ø	h5	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16654... Ident. No.	
3	6	16	50	2.9	3	2	0.06	105	●
4	7	17	54	3.8	4	2	0.072	110	●
5	8	18	54	4.8	5	2	0.084	115	●
6	10	21	54	5.7	6	2	0.108	120	●
8	12	27	60	7.7	8	2	0.145	125	●
10	13	32	67	9.6	10	2	0.17	130	●
12	16	38	73	11.6	12	2	0.19	135	●
16	20	44	83	15.5	16	2	0.24	140	●

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

2 cutting edges, ULTRA N-coated

Application:
Long radius cutter for machining non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain

- Straight shank in accordance with DIN 6535 HA
- Defined flute edge rounding
- With clearance
- ZrCN ULTRA N coated
- Radius tolerance = +/- 0.01 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	170	210	345							

						Type		W	
						Surface		ULTRA N	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		h9	
						Tolerance of shank Ø		h5	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16654... Ident. No.	
3	10	32	75	2.9	3	2	0.05	205	●
4	13	36	75	3.8	4	2	0.06	210	●
5	15	40	75	4.8	5	2	0.07	215	●
6	16	44	100	5.7	6	2	0.09	220	●
8	22	54	100	7.7	8	2	0.12	225	●
10	25	60	100	9.6	10	2	0.14	230	●
12	26	60	100	11.6	12	2	0.16	235	●
16	30	92	150	15.5	16	2	0.2	240	●

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

2 cutting edges, ULTRA N-coated

Application:
Extra-long radius cutter for machining non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HA
- Defined flute edge rounding
- With clearance
- ZrCN ULTRA N coated
- Radius tolerance = +/- 0.01 mm

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	170	210	345							

						Type		W	
						Surface		ULTRA N	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		h9	
						Tolerance of shank Ø		h5	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16654... Ident. No.	
3	10	82	125	2.8	3	2	0.04	305	●
4	13	86	125	3.75	4	2	0.048	310	●
6	16	94	150	5.6	6	2	0.072	315	●
8	22	104	150	7.6	8	2	0.096	320	●
10	25	110	150	9.6	10	2	0.115	325	●
12	26	110	150	11.4	12	2	0.13	330	●

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

2 cutting edges, ULTRA N PRO-coated

Application:
Standard radius cutter for machining non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- ULTRA-N PRO coated
- Radius tolerance = +/- 0.001 mm
- Defined edge rounding of the cutting edge
- centre cutting
- Clearance

Advantage:
- Ultra-smooth coating
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

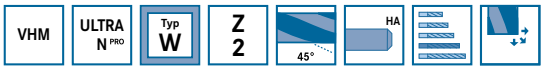
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						220	470	210	275	190	230	385							

							Type	W	
							Surface	ULTRA N PRO	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	h9	
							Tolerance of shank Ø	h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16667... Ident. No.	
3	6	16	50	2.9	3	2	0.06	005	●
4	7	17	54	3.9	4	2	0.072	010	●
5	8	18	54	4.9	5	2	0.084	015	●
6	10	21	54	5.8	6	2	0.108	020	●
8	12	27	59	7.8	8	2	0.145	025	●
10	13	32	67	9.8	10	2	0.17	030	●
12	16	38	73	11.7	12	2	0.19	035	●
16	20	44	83	15.7	16	2	0.24	040	●

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

2 cutting edges, ULTRA N PRO-coated



Application:
Long radius cutter for machining non-ferrous metals.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- ULTRA-N PRO coated
- Radius tolerance = +/- 0.001 mm
- Defined edge rounding of the cutting edge
- centre cutting
- Clearance

Advantage:
- Ultra-smooth coating
- Excellent chip removal
- defined edge rounding for maximum service life
- Large chip area for optimum chip flow
- Ideal for NF metals and plastics

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						200	425	190	250	170	210	345							

							Type	W	
							Surface	ULTRA N PRO	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	h9	
							Tolerance of shank Ø	h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16667... Ident. No.	
3	10	32	75	2.9	3	2	0.05	100	●
4	13	36	75	3.9	4	2	0.06	105	●
5	15	40	75	4.9	5	2	0.07	110	●
6	16	44	100	5.8	6	2	0.09	115	●
8	22	54	100	7.8	8	2	0.12	120	●
10	25	60	100	9.8	10	2	0.14	125	●
12	26	60	100	11.7	12	2	0.16	130	●
16	30	92	150	15.7	16	2	0.2	135	○

Prod. Gr. 1HJ

Solid carbide milling cutter, plastic processing

ATORN Solid carbide HSC 1-flute end mill - hard plastics

1 cutting edge, uncoated

VHM | Z 1 | 30° | HA | HSC

Ident. No. 010–120
Left-hand spiral

Ident. No. 200–310
Right-hand twist

Application:
For the milling, grooving and contour milling of high-performance plastics.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- Uncoated
- Surface polished
- With centre cutting
- For hard high-performance plastics such as Duroplast: Bakelite, melamine, MF, MPF, etc.

- **Ident. No. 010–120:** DownCut
- **Ident. No. 200–310:** UpCut

Advantage:
- Ideal for sheet metal, boards and thin-walled materials
- Large chip space for easy chip removal

Notes:
You can find detailed information on the usage value of this tool on our online shop.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
												550							

Type						Left-hand twist		Right-hand twist	
Surface						Uncoated		Uncoated	
Tool holding device						HA parallel shank		HA parallel shank	
Tolerance of cutting edge Ø						h10		h10	
Tolerance of shank Ø						h6		h6	
Coolant supply						External		External	
mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16656... Ident. No.		16656... Ident. No.	
2	8	64	6	1	0.1	010	●	200	●
3	12	64	3	1	0.11	020	●	210	●
3	12	64	6	1	0.11	030	●	220	●
4	12	64	4	1	0.12	040	●	230	●
4	20	64	6	1	0.12	050	●	240	●
5	16	64	6	1	0.13	060	●	250	●
6	12	64	6	1	0.14	070	●	260	●
6	38	76	6	1	0.14	080	●	270	●
8	25	64	8	1	0.18	090	●	280	●
8	38	76	8	1	0.18	100	●	290	●
10	30	76	10	1	0.2	110	●	300	●
12	38	76	12	1	0.24	120	●	310	○

Prod. Gr. 108

ATORN Solid carbide HSC 1-flute end mill - soft plastics

1 cutting edge, uncoated

VHM | Z 1 | 30° | HA | HSC

Ident. No. 400–490, 510

Ident. No. 600–690, 710

Application:
For the milling, grooving and contour milling of standard plastics.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- Uncoated
- Surface polished
- With centre cutting
- For soft standard plastics like thermoplastics PVC, PE, PP, etc.

- **Ident. No. 400–510:** DownCut
- **Ident. No. 600–710:** UpCut

Advantage:
- Ideal for sheet metal, boards and thin-walled materials
- Large chip space for easy chip removal

Notes:
You can find detailed information on the usage value of this tool on our online shop.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
												345							

					Type	Left-hand twist		Right-hand twist	
					Surface	Uncoated		Uncoated	
					Tool holding device	HA parallel shank		HA parallel shank	
					Tolerance of cutting edge Ø	h10		h10	
					Tolerance of shank Ø	h6		h6	
					Coolant supply	External		External	
mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16656... Ident. No.		16656... Ident. No.	
2	8	64	6	1	0.1	400	●	600	●
3	12	64	3	1	0.15	410	●	610	●
3	12	64	6	1	0.15	420	●	620	●
4	12	64	4	1	0.2	430	●	630	●
4	20	64	6	1	0.2	440	●	640	●
5	16	64	6	1	0.23	450	●	650	●
6	12	64	6	1	0.25	460	●	660	●
6	38	76	6	1	0.25	470	●	670	●
8	25	64	8	1	0.3	480	●	680	●
8	38	76	8	1	0.3	490	●	690	●
10	30	76	10	1	0.35	500	●	700	●
12	38	76	12	1	0.4	510	○	710	●

Prod. Gr. 108

ATORN Solid carbide HSC 1-flute end mill - straight-grooved

1 cutting edge, uncoated

Application:
For milling, recessing and contour milling of light alloys and plastics.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- uncoated
- Surface polished
- Straight grooved with centre cutting

Advantage:
- Ideal for sheet metal, boards and thin-walled materials
- No tensile forces on workpiece
- Large chip space for easy chip removal

Notes:
You can find detailed information on the usage value of this tool on our online shop.

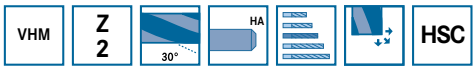
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
												350							

					Type	W	
					Surface	Uncoated	
					Tool holding device	HA parallel shank	
					Tolerance of cutting edge Ø	h10	
					Tolerance of shank Ø	h6	
					Coolant supply	External	
mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16656... Ident. No.	
3	12	40	3	1	0.032	800	●
3	15	60	6	1	0.030	810	○
4	15	60	6	1	0.048	820	●
4	20	75	6	1	0.044	830	○
5	16	60	6	1	0.065	840	○
6	20	60	6	1	0.060	850	○
6	35	75	6	1	0.058	860	○
8	22	63	8	1	0.096	870	○
8	40	100	8	1	0.090	880	○
10	25	72	10	1	0.120	890	○
10	55	100	10	1	0.110	900	○
12	30	83	12	1	0.144	910	●

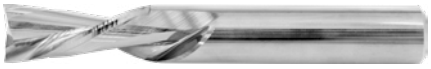
Prod. Gr. 108

ATORN Solid carbide HSC end mill

2 cutting edges, uncoated



Ident. No. 010–100



Ident. No. 200–300

Application:
For milling, recessing and contour milling of light alloys and plastics.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- uncoated
- Surface polished
- For soft standard plastics like thermoplastics PVC, PE, PP, etc.
- With centre cutting
- **Ident. No. 010–100:** Right cutting with right-hand spiral
- **Ident. No. 200–300:** Right cutting with left-hand spiral

Advantage:
- Ideal for sheet metal, boards and thin-walled materials
- Extremely sharp cutting edges
- Large chip space for easy chip removal
- **Ident. No. 200–300:** Chip ejection downwards

Notes:
You can find detailed information on the usage value of this tool on our online shop.

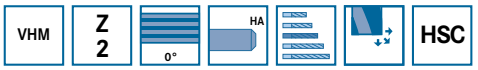
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
												625							

Type							Right-hand twist		Left-hand twist	
Surface							Uncoated		Uncoated	
Tool holding device							HA parallel shank		HA parallel shank	
Tolerance of cutting edge Ø							h10		h10	
Tolerance of shank Ø							h6		h6	
Coolant supply							External		External	
mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)		16657... Ident. No.		16657... Ident. No.	
2	8	50	3	2	0.024		010	●	-	-
2	6	50	6	2	0.024		-	-	200	●
3	12	40	3	2	0.032		020	●	210	●
3	12	50	6	2	0.032		-	-	220	●
4	14	40	4	2	0.048		030	●	230	●
5	16	50	5	2	0.065		040	●	240	○
6	18	50	6	2	0.060		050	●	250	●
8	20	63	8	2	0.096		060	●	260	●
10	25	72	10	2	0.120		070	●	270	○
12	30	83	12	2	0.144		080	●	280	○
16	35	92	16	2	0.192		090	○	290	○
20	45	104	20	2	0.240		100	○	300	○

Prod. Gr. 108

ATORN Solid carbide HSC end mill - straight-grooved

2 cutting edges, uncoated



Ident. No. 400–430, 450

Ident. No. 500–530, 550

Application:

Ident. No. 400–450: For the milling, grooving and contour milling of standard plastics.

Ident. No. 500–550: For the milling, grooving and contour milling of high-performance plastics.

Execution:

- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- Uncoated
- Surface polished
- Straight grooved with centre cutting
- **Ident. No. 400–450:** For soft standard plastics like thermoplastics PVC, PE, PP, etc.
- **Ident. No. 500–550:** For hard high-performance plastics such as Duroplast: Bakelite, melamine, MF, MPF, etc.

Notes:

You can find detailed information on the usage value of this tool on our online shop.

					Type	Standard		High-performance	
					Surface	Uncoated		Uncoated	
					Tool holding device	HA parallel shank		HA parallel shank	
					Tolerance of cutting edge Ø	h10		h10	
					Tolerance of shank Ø	h6		h6	
					Coolant supply	External		External	
mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	16657... Ident. No.		16657... Ident. No.	
4	16	64	6	2	0.060	400	●	500	●
5	20	64	6	2	0.096	410	●	510	●
6	25	64	6	2	0.120	420	●	520	●
8	25	76	8	2	0.144	430	●	530	●
10	35	88	10	2	0.192	440	●	540	●
12	35	88	12	2	0.240	450	○	550	●

Prod. Gr. 108

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
												350							

ATORN Solid carbide face milling cutter

3 cutting edges, uncoated

Application:

For face milling of larger surfaces in light alloys and plastics.

Execution:

- Steel shank with soldered-on cemented carbide head
- Straight shank in accordance with DIN 6535 HA
- uncoated
- Without centre cutting

Notes:

You can find detailed information on the usage value of this tool on our online shop.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
												350							

							Type	W	
							Surface	Uncoated	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	h10	
							Tolerance of shank Ø	h8	
							Coolant supply	External	
mm	mm	mm	mm	R mm	Z (PCS)	fz alu ● (mm)	16657... Ident. No.		
10	8	50	6	0.5	3	0.120	700	○	
12	8	50	6	0.5	3	0.144	710	○	
14	8	50	10	0.5	3	0.175	720	○	
16	8	50	10	0.5	3	0.192	730	●	
18	8	50	10	0.5	3	0.220	740	○	
20	8	50	10	0.5	3	0.240	750	●	
30	8	50	12	0.5	3	0.300	760	○	

Prod. Gr. 108

Solid carbide mills for machining stainless steel

ATORN Solid carbide end mill

3 cutting edges, ULTRA MS coated

VHM | ULTRA MS | Typ VA | Z 3 | 40° | HA | HB

Application:
End mill for machining stainless steel, titanium alloy, nickel and copper alloys.

Execution:
- ultra-fine grain cemented carbide
- with clearance
- high-performance ULTRA MS layer
- defined cutting edge rounding

- centre cutting
- **Ident. No. 150–166:** HB straight shank
- **Ident. No. 170–186:** HA straight shank

Advantage:
- optimised, positive cutting geometry
- optimum chip removal and temperature resistance
- maximum service life thanks to ULTRA MS coating

Ident. No. 150–166

Ident. No. 170–186

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	140	130		70	60										70	60	70		

Type							VA		VA	
Surface							ULTRA MS		ULTRA MS	
Tool holding device							HA parallel shank		HB parallel shank	
Tolerance of cutting edge Ø							e8		e8	
Tolerance of shank Ø							h6		h6	
Coolant supply							External		External	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steinl. st. ● (mm)	16670... Ident. No.		16670... Ident. No.	
3	9	15	50	2.8	6	3	0.015	170	●	150	●
4	12	20	50	3.7	6	3	0.02	172	●	152	●
5	15	20	50	4.6	6	3	0.025	174	●	154	●
6	16	20	50	5.5	6	3	0.03	176	●	156	●
8	20	30	64	7.4	8	3	0.036	178	●	158	●
10	22	32	70	9.2	10	3	0.044	180	●	160	●
12	25	37	75	11	12	3	0.052	182	●	162	●
16	32	46	90	15	16	3	0.065	184	●	164	●
20	38	58	100	19	20	3	0.08	186	●	166	●

Prod. Gr. 1HJ

ATORN Solid carbide end mill

4 cutting edges, ULTRA MS coated

VHM | ULTRA MS | Typ VA | Z 4 | 40° | HA | HB

Application:
End mill for machining stainless steel, titanium alloy, nickel and copper alloys.

Execution:
- ultra-fine grain cemented carbide
- with clearance
- high-performance ULTRA MS layer
- defined cutting edge rounding

- centre cutting
- **Ident. No. 190–206:** HB straight shank
- **Ident. No. 210–226:** HA straight shank

Advantage:
- optimised, positive cutting geometry
- optimum chip removal and temperature resistance
- maximum service life thanks to ULTRA MS coating

Ident. No. 190–206

Ident. No. 210–226

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	140	130		70	60										70	60	70		

Type							VA		VA	
Surface							ULTRA MS		ULTRA MS	
Tool holding device							HA parallel shank		HB parallel shank	
Tolerance of cutting edge Ø							e8		e8	
Tolerance of shank Ø							h6		h6	
Coolant supply							External		External	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steinl. st. ● (mm)	16670... Ident. No.		16670... Ident. No.	
3	9	15	50	2.8	6	4	0.015	210	●	190	●
4	12	20	50	3.7	6	4	0.02	212	●	192	●
5	15	20	50	4.6	6	4	0.025	214	●	194	●
6	16	20	50	5.5	6	4	0.03	216	●	196	●
8	20	30	64	7.4	8	4	0.036	218	●	198	●

							Type	VA		VA	
							Surface	ULTRA MS		ULTRA MS	
							Tool holding device	HA parallel shank		HB parallel shank	
							Tolerance of cutting edge Ø	e8		e8	
							Tolerance of shank Ø	h6		h6	
							Coolant supply	External		External	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steinl. st. ● (mm)	16670... Ident. No.		16670... Ident. No.	
10	22	32	70	9.2	10	4	0.044	220	●	200	●
12	25	37	75	11	12	4	0.052	222	●	202	●
16	32	46	90	15	16	4	0.065	224	●	204	●
20	38	58	100	19	20	4	0.08	226	○	206	●

Prod. Gr. 1HJ

ATORN Solid carbide HPC end mill

4 cutting edges, ULTRA MS coated

VHM | ULTRA MS | Typ VA | Z 4 | 35°/38° | 45° | HA | HB | HPC

Ident. No. 260–274

Ident. No. 276–290

Application:
HPC end mill with uneven helical and uneven pitch for rough machining and finish machining of stainless steel, titanium alloy, nickel and copper alloys. The uneven helical pitch means that vibrations on the tool are reduced, which results in outstanding finished surfaces, while, at the same time, feed rates and cutting depths can be increased.

Execution:
- ultra-fine grain cemented carbide
- with uneven helical and cutter distribution (35/38°)
- with clearance
- high-performance ULTRA MS layer
- with edge protection chamfer
- defined cutting edge rounding
- centre cutting
- **Ident. No. 260–274:** HB straight shank
- **Ident. No. 276–290:** HA straight shank

Advantage:
- rough machining and finishing with just one tool
- optimum suitability for trochoidal milling
- HPC geometry for maximum feed rates and running smoothness
- suitable for large cutting depths

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	140	130		70	60										70	60	70		

							Type	VA		VA	
							Surface	ULTRA MS		ULTRA MS	
							Tool holding device	HA parallel shank		HB parallel shank	
							Tolerance of cutting edge Ø	e8		e8	
							Tolerance of shank Ø	h6		h6	
							Coolant supply	External		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steinl. st. ● (mm)	16670... Ident. No.		16670... Ident. No.	
4	11	20	57	3.7	6	0.1	4	0.02	276	●	260	●
5	13	20	57	4.6	6	0.1	4	0.025	278	●	262	●
6	13	20	57	5.5	6	0.1	4	0.03	280	●	264	●
8	20	30	64	7.4	8	0.2	4	0.036	282	●	266	●
10	22	32	72	9.2	10	0.2	4	0.044	284	●	268	●
12	26	37	83	11	12	0.2	4	0.052	286	●	270	●
16	32	46	92	15	16	0.3	4	0.065	288	●	272	●
20	38	58	104	19	20	0.4	4	0.08	290	●	274	●

Prod. Gr. 1HJ

ATORN Solid carbide HPC end mill

4 cutting edges, ULTRA MS-coated

VHM | ULTRA MS | Typ VA | Z 4 | 35°/38° | 45° | HA | HB | HPC

Ident. No. 320–327

Ident. No. 330–337

Application:
HPC end mill with uneven helical and uneven pitch for rough machining and finish machining of stainless steel, titanium alloy, nickel and copper alloys. The uneven helical pitch means that vibrations on the tool are reduced, which results in outstanding finished surfaces, while, at the same time, feed rates and cutting depths can be increased.

Execution:
- ultra-fine grain cemented carbide
- with uneven helical and cutter distribution (35/38°)
- with clearance
- high-performance ULTRA MS layer
- with edge protection chamfer
- defined cutting edge rounding
- centre cutting
- **Ident. No. 320–327:** HB straight shank
- **Ident. No. 330–337:** HA straight shank

Advantage:
- rough machining and finishing with just one tool
- optimum suitability for trochoidal milling
- HPC geometry for maximum feed rates and running smoothness
- suitable for large cutting depths

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	140	130		70	60										70	60	70		

Type															VA			VA	
Surface															ULTRA MS			ULTRA MS	
Tool holding device															HA parallel shank			HB parallel shank	
Tolerance of cutting edge Ø															e8			e8	
Tolerance of shank Ø															h6			h6	
Coolant supply															External			External	
mm	mm	mm	mm	mm	mm	F mm		Z (PCS)	fz steinl. st. ● (mm)	16670... Ident. No.			16670... Ident. No.						
4	19	32	75	3.7	6	0.1		4	0.015	330	●		320	●					
5	19	32	75	4.6	6	0.1		4	0.02	331	●		321	●					
6	19	32	75	5.5	6	0.1		4	0.025	332	●		322	●					
8	26	40	75	7.4	8	0.2		4	0.031	333	●		323	●					
10	32	46	100	9.2	10	0.2		4	0.04	334	●		324	●					
12	32	46	100	11	12	0.2		4	0.047	335	●		325	●					
16	50	75	125	15	16	0.3		4	0.06	336	●		326	●					
20	57	75	125	19	20	0.4		4	0.075	337	●		327	●					

Prod. Gr. 1HJ

ATORN Solid carbide HPC end mill

5 cutting edges, ULTRA MS coated

Application:
HPC end mill with uneven helical and uneven pitch for rough machining and finish machining of stainless steel, titanium alloy, nickel and copper alloys. The uneven helical pitch means that vibrations on the tool are reduced, which results in outstanding finished surfaces, while, at the same time, feed rates and cutting depths can be increased.

Execution:
- ultra-fine grain cemented carbide
- with uneven helical (35/38°)
- with reinforced core
- with clearance
- high-performance ULTRA MS layer
- with edge protection chamfer
- defined cutting edge rounding
- centre cutting
- **Ident. No. 340–347:** HB straight shank
- **Ident. No. 350–357:** HA straight shank

Advantage:
- optimum suitability for trochoidal milling
- HPC geometry for maximum feed rates and running smoothness
- suitable for large cutting depths

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	140	130		70	60										70	60	70		

Type															VA			VA	
Surface															ULTRA MS			ULTRA MS	
Tool holding device															HA parallel shank			HB parallel shank	
Tolerance of cutting edge Ø															e8			e8	
Tolerance of shank Ø															h6			h6	
Coolant supply															External			External	
mm	mm	mm	mm	mm	mm	F mm		Z (PCS)	fz steinl. st. ● (mm)	16670... Ident. No.			16670... Ident. No.						
4	12	20	57	3.7	6	0.1		5	0.02	350	●		340	●					
5	13	20	57	4.6	6	0.1		5	0.025	351	○		341	○					
6	13	20	57	5.5	6	0.1		5	0.03	352	●		342	●					
8	20	30	64	7.4	8	0.2		5	0.036	353	●		343	●					
10	22	32	72	9.2	10	0.2		5	0.044	354	●		344	●					
12	26	37	83	11	12	0.2		5	0.052	355	●		345	●					
16	32	46	92	15	16	0.3		5	0.065	356	●		346	●					
20	38	58	104	19	20	0.4		5	0.08	357	●		347	○					

Prod. Gr. 1HJ

ATORN SC roughing cutter

4 cutting edges, ULTRA MS-coated

VHM | ULTRA MS | Typ VA | Z 4 | 40° | 45° | HB

Application:
Roughing cutter with unequal cutting pitch for machining stainless steels and titanium/Ni/Co alloys.

Execution:
- Ultra-fine grain cemented carbide
- HB straight shank
- With clearance
- ULTRA MS high-performance coating
- With edge protection chamfer
- Defined cutting edge rounding
- Centre cutting

Advantage:
- High-performance roughing
- Optimised, positive cutting geometry
- Excellent chip removal and temperature resistance
- Maximum service life thanks to ULTRA MS coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	140	130		70	60										70	60	70		

								Type	VA		
								Surface	ULTRA MS		
								Tool holding device	HB parallel shank		
								Tolerance of cutting edge Ø	e8		
								Tolerance of shank Ø	h6		
mm	mm	mm	mm	mm	mm	F mm		Z (PCS)	fz steinl. st. ● (mm)	16670... Ident. No.	
6	16	20	57	5.5	6	0.1		4	0.023	240	●
8	20	30	64	7.4	8	0.2		4	0.03	242	●
10	22	32	72	9.2	10	0.2		4	0.035	244	●
12	26	37	83	11	12	0.2		4	0.041	246	●
16	32	46	92	15	16	0.3		4	0.052	248	●
20	38	58	104	19	20	0.4		4	0.065	250	●

Prod. Gr. 1HJ

ATORN Solid carbide HPC torus milling cutter

4 cutting edges, ULTRA MS-coated

VHM | ULTRA MS | Typ VA | Z 4 | 35°/38° | HA | HB | HPC

Ident. No. 150–204

Ident. No. 210–264

Application:
HPC torus milling cutter with an unequal twist and unequal pitch for smoothing and rough machining stainless steels and titanium, Ni and Co alloys. The unequal twist angle prevents vibration on the tool, thereby ensuring excellent finishing surfaces as well as higher feed rates and greater cutting depths.

Execution:
- Ultra-fine grain cemented carbide
- With clearance
- ULTRA MS high-performance coating
- Defined cutting edge rounding
- Centre cutting
- **Ident. No. 150–204:** HB straight shank
- **Ident. No. 210–264:** HA straight shank

Advantage:
- Rough machining and smoothing with a single tool
- Ideal for trochoidal milling
- HPC geometry for optimum feed rates and running smoothness
- Suitable for large cutting depths

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	140	130		70	60										70	60	70		

								Type	VA		VA		
								Surface	ULTRA MS		ULTRA MS		
								Tool holding device	HA parallel shank		HB parallel shank		
								Tolerance of cutting edge Ø	e8		e8		
								Tolerance of shank Ø	h6		h6		
mm	R mm	mm	mm	mm	mm	mm		Z (PCS)	fz steinl. st. ● (mm)	16672... Ident. No.		16672... Ident. No.	
4	0.3	11	20	57	3.7	6		4	0.015	210	●	150	●
4	0.5	11	20	57	3.7	6		4	0.015	212	●	152	●
5	0.3	13	20	57	4.6	6		4	0.02	214	●	154	●
5	0.5	13	20	57	4.6	6		4	0.02	216	○	156	●
6	0.3	13	20	57	5.5	6		4	0.023	218	●	158	●
6	0.5	13	20	57	5.5	6		4	0.023	220	●	160	●
6	1	13	20	57	5.5	6		4	0.023	222	●	162	●
8	0.5	20	30	64	7.4	8		4	0.03	226	●	166	●
8	1	20	30	64	7.4	8		4	0.03	228	●	168	●
10	0.5	22	32	72	9.2	10		4	0.035	232	●	172	●
10	1	22	32	72	9.2	10		4	0.035	234	●	174	●
12	0.5	26	37	83	11	12		4	0.045	236	●	176	●
12	1	26	37	83	11	12		4	0.045	238	●	178	●

							Type	VA		VA	
							Surface	ULTRA MS		ULTRA MS	
							Tool holding device	HA parallel shank		HB parallel shank	
							Tolerance of cutting edge Ø	e8		e8	
							Tolerance of shank Ø	h6		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz steinl. st. ● (mm)	16672... Ident. No.		16672... Ident. No.	
12	2	26	37	83	11	12	4	0.045	240	●	180	●
12	3	26	37	83	11	12	4	0.045	244	●	184	●
16	1	32	46	92	15	16	4	0.06	248	●	188	●
16	2	32	46	92	15	16	4	0.06	250	●	190	●
16	3	32	46	92	15	16	4	0.06	252	○	192	●
16	4	32	46	92	15	16	4	0.06	254	●	194	●
20	1	38	58	104	19	20	4	0.08	258	○	198	○
20	2	38	58	104	19	20	4	0.08	260	○	200	●
20	3	38	58	104	19	20	4	0.08	262	●	202	○
20	4	38	58	104	19	20	4	0.08	264	●	204	○

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

2 cutting edges, ULTRA MS coated

Application:
Radius milling cutter for machining stainless steel, titanium, Ni and Co alloys.

Execution:
- Ultra-fine grain cemented carbide
- Radius tolerance = 0/-0.010 mm
- Reinforced core
- With clearance

- ULTRA MS high-performance coating
- Defined cutting edge rounding
- **Ident. No. 140–156:** HB straight shank
- **Ident. No. 170–186:** HA straight shank

Advantage:
- Optimised, positive cutting geometry
- Excellent chip removal and temperature resistance
- Maximum service life thanks to ULTRA MS coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	150	140		75	65										70	60	70		

							Type	VA		VA	
							Surface	ULTRA MS		ULTRA MS	
							Tool holding device	HA parallel shank		HB parallel shank	
							Tolerance of cutting edge Ø	e8		e8	
							Tolerance of shank Ø	h6		h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steinl. st. ● (mm)	16674... Ident. No.		16674... Ident. No.	
3	5	20	57	2.8	6	2	0.015	170	●	140	●
4	6	20	57	3.7	6	2	0.02	172	●	142	●
5	7	20	57	4.6	6	2	0.025	174	●	144	●
6	8	20	57	5.5	6	2	0.03	176	●	146	●
8	10	25	64	7.4	8	2	0.036	178	●	148	●
10	12	35	75	9.2	10	2	0.044	180	●	150	●
12	14	35	75	11	12	2	0.052	182	○	152	○
16	18	45	90	15	16	2	0.065	184	○	154	●
20	22	50	100	19	20	2	0.08	186	●	156	●

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

2 cutting edges, ULTRA MS coated

Application:
Radius milling cutter for machining stainless steel, titanium, Ni and Co alloys.

Execution:
- Ultra-fine grain cemented carbide
- Radius tolerance = 0/-0.010 mm
- Reinforced core
- With clearance

- ULTRA MS high-performance coating
- Defined cutting edge rounding
- **Ident. No. 200–216:** HB straight shank
- **Ident. No. 230–246:** HA straight shank

Advantage:
- Optimised, positive cutting geometry
- Excellent chip removal and temperature resistance
- Maximum service life thanks to ULTRA MS coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	150	140		75	65										70	60	70		

							Type	VA		VA	
							Surface	ULTRA MS		ULTRA MS	
							Tool holding device	HB parallel shank		HA parallel shank	
							Tolerance of cutting edge Ø	e8		e8	
							Tolerance of shank Ø	h6		h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steinl. st. ● (mm)	**16674...** Ident. No.		**16674...** Ident. No.	
3	5	21	75	2.8	6	2	0.015	**200**	●	**230**	●
4	8	28	75	3.7	6	2	0.02	**202**	●	**232**	●
5	9	32	75	4.6	6	2	0.025	**204**	●	**234**	●
6	10	40	75	5.5	6	2	0.03	**206**	●	**236**	●
8	12	40	75	7.4	8	2	0.036	**208**	●	**238**	●
10	14	60	100	9.2	10	2	0.044	**210**	●	**240**	●
12	16	60	100	11	12	2	0.052	**212**	●	**242**	●
16	32	80	125	15	16	2	0.065	**214**	○	**244**	●
20	38	80	125	19	20	2	0.08	**216**	○	**246**	○

Prod. Gr. 1HJ

Solid carbide barrel milling cutter

ATORN Solid carbide barrel milling cutter, tangential

4 cutting edges, uncoated/ULTRA coated

VHM | ULTRA | Typ N | Z 4 | 15° | HA | HSC

Application:
Barrel milling cutters revolutionise finishing on 5-axis milling machines. Due to the larger radii, you can achieve significantly higher infeeds with improved surfaces.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- Tangential design
- Forming tolerance of +/-0.01
- Defined edge rounding
- **Ident. No. 100–120:** ULTRA coated
- **Ident. No. 200–220:** Uncoated

Advantage:
- Suitable for easily accessible edges
- Reduced machining times thanks to large line skips
- Highly economical
- Improved surfaces thanks to large radii

Ident. No. 100–120

Ident. No. 200–220

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	190	150	130	100	80	550	600	200	210	180	210	400		185				120	

Type								N		N		
Surface								ULTRA		Uncoated		
Tool holding device								HA parallel shank		HA parallel shank		
Tolerance of cutting edge Ø								+/-0.01		+/-0.01		
Tolerance of shank Ø								h6		h6		
mm	R1 (mm)	R2 (mm)	mm	mm	mm	Z (PCS)	fz steel 1000 ● (mm)	16968... Ident. No.		16968... Ident. No.		
2	1	95	24	70	8	4	0.048	100	●	200	●	
4	2	90	28	83	12	4	0.072	110	●	210	●	
6	3	80	30	105	16	4	0.096	120	●	220	●	

Prod. Gr. 1HJ

ATORN Solid carbide barrel milling cutter, conical

4 cutting edges, uncoated/ULTRA coated

VHM | ULTRA | Typ N | Z 4 | 15° | HA | HSC

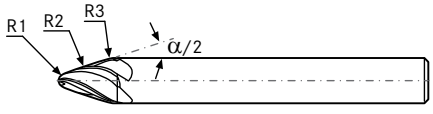
Application:
Barrel milling cutters revolutionise finishing on 5-axis milling machines. Due to the larger radii, you can achieve significantly higher infeeds with improved surfaces.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in line with DIN 6535 HA
- Conical design
- Forming tolerance of +/-0.01
- Defined edge rounding
- α/2 is the recommended angle to the surface
- **Ident. No. 500–550:** ULTRA coated
- **Ident. No. 600–650:** Uncoated

Advantage:
- Suitable for deep cavities and steep areas
- Reduced machining times thanks to large line skips
- Highly economical
- Improved surfaces thanks to large radii

Ident. No. 500–550

Ident. No. 600–650



Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	190	150	130	100	80	550	600	200	210	180	210	400		185				120	

Type								N		N			
Surface								ULTRA		Uncoated			
Tool holding device								HA parallel shank		HA parallel shank			
Tolerance of cutting edge Ø								+/-0.01		+/-0.01			
Tolerance of shank Ø								h6		h6			
mm	R1 (mm)	R2 (mm)	R3 (mm)	mm	mm	mm	α/2 (Degree)	Z (PCS)	fz steel 1000 ● (mm)	16968... Ident. No.		16968... Ident. No.	
2	1	300	1	10	75	8	18	4	0.048	500	●	600	●
4	2	450	2	14	100	12	18	4	0.072	510	●	610	●
6	3	1200	3	18	120	16	18	4	0.096	520	●	620	●
6	3	800	3	12	120	16	28	4	0.096	530	●	630	●
8	4	1200	4	16	120	16	18	4	0.096	540	●	640	●
8	4	800	4	11	120	16	28	4	0.096	550	●	650	●

Prod. Gr. 1HJ

Solid carbide mills for machining steel up to 52 HRC

ATORN Solid carbide end mill

4 cutters, RockTec-52-coated

Application:
End mill in a standard design for machining materials up to 52 HRC, e.g. in dip working and mould forming.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank pursuant to DIN 6535
- With clearance
- Type N
- Chip angle 3°
- RockTec 52-coated

Advantage:
- Excellent chip removal and temperature resistance
- Maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	160	150	120	115										130		90		70	

							Type	N
							Surface	RockTec 52
							Tool holding device	HA parallel shank
							Tolerance of cutting edge Ø	e8
							Tolerance of shank Ø	h6
							Coolant supply	External
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16972... Ident. No.	
3	9	15	50	2.8	6	4	0.03	200	●
4	12	20	50	3.7	6	4	0.04	201	●
5	15	20	50	4.6	6	4	0.05	202	●
6	16	20	50	5.5	6	4	0.06	203	●
8	20	30	64	7.4	8	4	0.08	204	●
10	22	32	70	9.2	10	4	0.09	205	●
12	25	37	75	11	12	4	0.1	206	●
16	32	46	90	15	16	4	0.12	207	●
20	38	58	100	19	20	4	0.16	208	●

Prod. Gr. 1HJ

ATORN Solid carbide end mill

4 cutters, RockTec-52-coated

Application:
End mill in a long design with short cutters for machining materials up to 52 HRC, e.g. in dip working and mould forming.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank pursuant to DIN 6535
- With clearance
- Type N
- Chip angle 3°
- RockTec 52-coated

Advantage:
- Excellent chip removal and temperature resistance
- Maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	145	135	110	105										120		80		65	

							Type	N
							Surface	RockTec 52
							Tool holding device	HA parallel shank
							Tolerance of cutting edge Ø	e8
							Tolerance of shank Ø	h6
							Coolant supply	External
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16972... Ident. No.	
3	5	30	75	2.8	6	4	0.027	220	●
4	8	32	75	3.7	6	4	0.035	221	●
5	9	32	75	4.6	6	4	0.045	222	●
6	10	40	75	5.5	6	4	0.05	223	●
8	12	40	75	7.4	8	4	0.07	224	●
10	14	60	100	9.2	10	4	0.08	225	●

						Type		N	
						Surface		RockTec 52	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		e8	
						Tolerance of shank Ø		h6	
						Coolant supply		External	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16972... Ident. No.	
12	16	60	100	11	12	4	0.09	226	●
16	22	85	125	15	16	4	0.11	227	●
20	26	85	125	19	20	4	0.14	228	○

Prod. Gr. 1HJ

ATORN Solid carbide end mill

4 cutters, RockTec-52-coated

VHM | RockTec 52 | Typ N | Z 4 | 40° | HA

Application:
End mill in an extra-long design with short cutters for machining materials up to 52 HRC, e.g. in dip working and mould forming.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank pursuant to DIN 6535

- With clearance
- Type N
- Chip angle 3°
- RockTec 52-coated

Advantage:
- Excellent chip removal and temperature resistance
- Maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	130	120	100	95										110		70		60	

						Type		N	
						Surface		RockTec 52	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		e8	
						Tolerance of shank Ø		h6	
						Coolant supply		External	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16972... Ident. No.	
3	5	60	100	2.8	6	4	0.025	230	●
4	8	60	100	3.7	6	4	0.03	231	●
5	9	60	100	4.6	6	4	0.04	232	●
6	10	60	100	5.5	6	4	0.045	233	●
8	12	60	100	7.4	8	4	0.065	234	●
10	14	85	125	9.2	10	4	0.07	235	●
12	16	110	150	11	12	4	0.08	236	●
16	22	110	150	15	16	4	0.1	237	●
20	26	110	150	19	20	4	0.13	238	○

Prod. Gr. 1HJ

ATORN SC multi-flute end mills

6 cutting edges, RockTec 52-coated

VHM | RockTec 52 | Typ N | Z 6 | Z 8 | 50° | HA

Application:
Multi-tooth mill for circumferential machining, fine finishing and semi-roughing up to 52 HRC.

Execution:
- Solid carbide ultra-fine grain
- Centre cutting
- Edge protection chamfer
- HA shank pursuant to DIN 6535
- Cutting edge finish

- With clearance
- Type N
- Chip angle 3°
- RockTec 52-coated

Advantage:
- Excellent chip removal and temperature resistance
- Maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	160	150	120	115										130		90		70	

							Type		N	
							Surface		RockTec 52	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
							Coolant supply		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1300 ● (mm)	16972... Ident. No.	
3	8	20	50	2.8	6	0.1	6	0.027	240	●
4	11	20	50	3.7	6	0.1	6	0.035	241	●
5	13	20	50	4.6	6	0.1	6	0.045	242	●
6	15	20	50	5.5	6	0.1	6	0.055	243	●
8	20	30	64	7.4	8	0.2	6	0.07	244	●
10	22	32	70	9.2	10	0.2	6	0.08	245	●
12	25	37	75	11	12	0.2	6	0.09	246	●
16	30	46	90	15	16	0.3	8	0.11	247	●
20	38	58	100	19	20	0.4	8	0.14	248	●

Prod. Gr. 1HJ

ATORN SC multi-flute end mills

6 cutting edges, RockTec 52-coated

Application:
Multi-tooth mill for circumferential machining, fine finishing and semi-roughing up to 52 HRC.

Execution:
- Solid carbide ultra-fine grain
- Centre cutting
- Edge protection chamfer
- HA shank pursuant to DIN 6535
- Cutting edge finish
- With clearance
- Type N
- Chip angle 3°
- RockTec 52-coated

Advantage:
- Excellent chip removal and temperature resistance
- Maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	145	135	110	105										120		80		65	

							Type		N	
							Surface		RockTec 52	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
							Coolant supply		External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1300 ● (mm)	16972... Ident. No.	
3	19	30	75	2.8	6	0.1	6	0.025	250	○
4	19	32	75	3.7	6	0.1	6	0.03	251	●
5	19	32	75	4.6	6	0.1	6	0.04	252	●
6	31	40	75	5.5	6	0.1	6	0.045	253	●
8	31	40	75	7.4	8	0.2	6	0.06	254	●
10	45	60	100	9.2	10	0.2	6	0.07	255	●
12	50	60	100	11	12	0.2	6	0.08	256	●
16	57	85	125	15	16	0.3	8	0.1	257	●
20	57	85	125	19	20	0.4	8	0.13	258	●

Prod. Gr. 1HJ

ATORN Solid carbide miniature torus milling cutter

4 cutters, RockTec-52-coated

Application:
Miniature torus milling cutter with a long neck for machining materials up to 52 HRC, e.g. in dip cutting and mould construction.

Execution:
- Solid carbide ultra-fine grain
- HA shaft pursuant to DIN 6535
- cutting edge finish
- with clearance
- 0° chip angle
- Radius tolerance = 0/-0.010 mm
- RockTec 52 coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- optimum chip removal and temperature resistance
- maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	160	**150**	**120**													60		70	

Type									N		
Surface									RockTec 52		
Tool holding device									HA parallel shank		
Tolerance of cutting edge Ø									e8		
Tolerance of shank Ø									h6		
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16973... Ident. No.		
1	0.1	1	4	50	0.95	6	4	0.019	**300**	●	
1	0.1	1	6	50	0.95	6	4	0.019	**302**	●	
1	0.1	1	8	50	0.95	6	4	0.019	**304**	●	
1	0.1	1	10	50	0.95	6	4	0.019	**306**	●	
1	0.1	1	12	50	0.95	6	4	0.016	**308**	●	
1.5	0.2	1.5	6	50	1.45	6	4	0.022	**310**	●	
1.5	0.2	1.5	8	50	1.45	6	4	0.022	**312**	●	
1.5	0.2	1.5	10	50	1.45	6	4	0.022	**314**	●	
1.5	0.2	1.5	12	50	1.45	6	4	0.022	**316**	●	
2	0.2	2	6	50	1.95	6	4	0.042	**318**	●	
2	0.2	2	8	50	1.95	6	4	0.042	**320**	●	
2	0.2	2	10	50	1.95	6	4	0.040	**322**	●	
2	0.2	2	12	50	1.95	6	4	0.038	**324**	●	
2	0.2	2	16	50	1.95	6	4	0.038	**326**	●	
2.5	0.3	2.5	8	50	2.4	6	4	0.038	**328**	●	
2.5	0.3	2.5	10	50	2.4	6	4	0.038	**330**	●	
2.5	0.3	2.5	12	50	2.4	6	4	0.038	**332**	●	
2.5	0.3	2.5	16	50	2.4	6	4	0.038	**334**	●	
3	0.3	3	8	50	2.85	6	4	0.053	**336**	●	
3	0.3	3	10	50	2.85	6	4	0.053	**338**	●	
3	0.3	3	12	50	2.85	6	4	0.053	**340**	●	
3	0.3	3	16	60	2.85	6	4	0.053	**342**	●	
3	0.3	3	20	60	2.85	6	4	0.053	**344**	●	
4	0.5	4	10	60	3.85	6	4	0.065	**346**	●	
4	0.5	4	15	60	3.85	6	4	0.065	**348**	●	
4	0.5	4	20	60	3.85	6	4	0.065	**350**	●	
4	0.5	4	25	75	3.85	6	4	0.062	**352**	●	

Prod. Gr. 1HK

ATORN SC torus milling cutter

4 cutters, RockTec-52-coated

VHM | RockTec 52 | Typ N | Z 4 | 40° | HA

Application:
Torus milling cutter for universal machining of materials up to 52 HRC, e.g. for countersinking and mould making.

Execution:
- solid carbide ultra-fine grain
- cutting edge finish
- HA shank in accordance with DIN 6535
- with clearance

- type N
- 3° chip angle
- RockTec 52 coated
- radius tolerance = 0/-0.010 mm

Advantage:
- optimum chip removal and temperature resistance
- maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	160	**150**	**120**	115										**130**		90		70	

Type							N		
Surface							RockTec 52		
Tool holding device							HA parallel shank		
Tolerance of cutting edge Ø							e8		
Tolerance of shank Ø							h6		
mm	R mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16973... Ident. No.		
3	0.3	9	50	6	4	0.03	**100**	●	
3	0.5	9	50	6	4	0.03	**101**	●	
4	0.3	12	50	6	4	0.04	**102**	●	
4	0.5	12	50	6	4	0.04	**103**	●	
4	1	12	50	6	4	0.04	**104**	●	
5	0.5	15	50	6	4	0.05	**105**	●	
5	1	15	50	6	4	0.05	**106**	●	
5	0.3	15	50	6	4	0.05	**126**	●	
6	0.3	20	60	6	4	0.06	**107**	●	
6	0.5	20	60	6	4	0.06	**108**	●	

						Type	N	
						Surface	RockTec 52	
						Tool holding device	HA parallel shank	
						Tolerance of cutting edge Ø	e8	
						Tolerance of shank Ø	h6	
mm	R mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16973... Ident. No.	
6	1	20	60	6	4	0.06	109	●
8	0.5	20	64	8	4	0.08	110	●
8	1	20	64	8	4	0.08	111	●
8	1.5	20	64	8	4	0.08	112	●
8	2	20	64	8	4	0.08	113	●
10	0.5	22	75	10	4	0.09	114	●
10	1.5	22	75	10	4	0.09	115	●
10	2	22	75	10	4	0.09	116	●
10	1	22	75	10	4	0.09	127	●
12	1	25	75	12	4	0.1	117	●
12	2	25	75	12	4	0.1	118	●
12	3	25	75	12	4	0.1	119	●
16	1	32	90	16	4	0.12	120	●
16	2	32	90	16	4	0.12	121	●
16	3	32	90	16	4	0.12	122	●
20	1	38	100	20	4	0.16	123	●
20	2	38	100	20	4	0.16	124	●
20	3	38	100	20	4	0.16	125	●

Prod. Gr. 1HJ

ATORN SC torus milling cutter

4 cutters, RockTec-52-coated

Application:
Torus milling cutter with short cutter for machining materials up to 52 HRC, e.g. for countersinking and mould making.

Execution:
- solid carbide ultra-fine grain
- cutting edge finish
- HA shank in accordance with DIN 6535
- with clearance
- type N
- 3° chip angle
- RockTec 52 coated
- radius tolerance = 0/-0.010 mm

Advantage:
- optimum chip removal and temperature resistance
- maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	160	150	120	115										130		90		70	

							Type	N	
							Surface	RockTec 52	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	e8	
							Tolerance of shank Ø	h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16973... Ident. No.	
3	0.3	4	14	60	2.8	6	4	0.03	130	●
3	0.5	4	14	60	2.8	6	4	0.03	131	●
4	0.3	5	16	60	3.7	6	4	0.04	132	●
4	0.5	5	16	60	3.7	6	4	0.04	133	●
5	0.3	6	18	60	4.6	6	4	0.05	134	●
5	0.5	6	18	60	4.6	6	4	0.05	135	●
6	0.5	7	20	60	5.5	6	4	0.06	136	●
6	1	7	20	60	5.5	6	4	0.06	137	●
8	0.5	9	26	64	7.4	8	4	0.08	138	●
8	1	9	26	64	7.4	8	4	0.08	139	●
10	1	11	31	70	9.2	10	4	0.09	140	●
10	2	11	31	70	9.2	10	4	0.09	141	●
12	1	13	37	75	11	12	4	0.1	142	●
12	2	13	37	75	11	12	4	0.1	143	●
16	1	17	43	90	15	16	4	0.12	144	●
16	2	17	43	90	15	16	4	0.12	145	●

Prod. Gr. 1HJ

ATORN SC torus milling cutter

4 cutters, RockTec-52-coated

Application:
Torus milling cutter long with short cutter for machining materials up to 52 HRC, e.g. for countersinking and mould making.

Execution:
- solid carbide ultra-fine grain
- cutting edge finish
- HA shank in accordance with DIN 6535
- with clearance
- type N
- 3° chip angle
- RockTec 52 coated
- radius tolerance = 0/-0.010 mm

Advantage:
- optimum chip removal and temperature resistance
- maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	145	135	110	105										120		80		65	

								Type	N		
								Surface	RockTec 52		
								Tool holding device	HA parallel shank		
								Tolerance of cutting edge Ø	e8		
								Tolerance of shank Ø	h6		
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16973... Ident. No.		
3	0.3	5	30	75	2.8	6	4	0.025	150	●	
3	0.5	5	30	75	2.8	6	4	0.025	151	●	
4	0.3	8	32	75	3.7	6	4	0.03	152	●	
4	0.5	8	32	75	3.7	6	4	0.03	153	●	
5	0.3	9	32	75	4.6	6	4	0.04	154	●	
5	0.5	9	32	75	4.6	6	4	0.04	155	●	
6	0.5	10	40	75	5.5	6	4	0.05	156	●	
6	1	10	40	75	5.5	6	4	0.05	157	●	
8	0.5	12	40	75	7.4	8	4	0.07	158	●	
8	1	12	40	75	7.4	8	4	0.07	159	●	
10	1	14	60	100	9.2	10	4	0.08	160	●	
10	2	14	60	100	9.2	10	4	0.08	161	●	
12	1	16	60	100	11	12	4	0.09	162	●	
12	2	16	60	100	11	12	4	0.09	163	●	
16	1	22	85	125	15	16	4	0.11	164	●	
16	2	22	85	125	15	16	4	0.11	165	●	

Prod. Gr. 1HJ

ATORN SC torus milling cutter

4 cutters, RockTec-52-coated

Application:
Torus milling cutter extra long with short cutter for machining materials up to 52 HRC, e.g. for countersinking and mould making.

Execution:
- solid carbide ultra-fine grain
- cutting edge finish
- HA shank in accordance with DIN 6535
- with clearance
- type N
- 3° chip angle
- RockTec 52 coated
- radius tolerance = 0/-0.010 mm

Advantage:
- optimum chip removal and temperature resistance
- maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	135	130	105	100										110		75		60	

								Type	N		
								Surface	RockTec 52		
								Tool holding device	HA parallel shank		
								Tolerance of cutting edge Ø	e8		
								Tolerance of shank Ø	h6		
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16973... Ident. No.		
3	0.3	5	60	100	2.8	6	4	0.02	170	○	
3	0.5	5	60	100	2.8	6	4	0.02	171	○	
4	0.3	8	60	100	3.7	6	4	0.025	172	●	
4	0.5	8	60	100	3.7	6	4	0.025	173	●	

							Type		N	
							Surface		RockTec 52	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16973... Ident. No.	
5	0.3	9	60	100	4.6	6	4	0.035	174	●
5	0.5	9	60	100	4.6	6	4	0.035	175	●
6	0.5	10	60	100	5.5	6	4	0.04	176	●
6	1	10	60	100	5.5	6	4	0.04	177	●
8	0.5	12	60	100	7.4	8	4	0.06	178	●
8	1	12	60	100	7.4	8	4	0.06	179	●
10	1	14	85	125	9.2	10	4	0.07	180	●
10	2	14	85	125	9.2	10	4	0.07	181	●
12	1	16	110	150	11	12	4	0.08	182	●
12	2	16	110	150	11	12	4	0.08	183	●
16	1	22	110	150	15	16	4	0.1	184	○
16	2	22	110	150	15	16	4	0.1	185	○

Prod. Gr. 1HJ

ATORN Solid carbide HSC high-feed milling cutter

4 cutting edges, RockTec 65-coated

Application:
High-feed milling cutter (HSC) with short blade for processing materials up to 65 HRC. Applications in die and mould making and general mechanical engineering.

Execution:
- Solid carbide ultra-fine grain
- HA shank in line with DIN 6535
- Cutting edge finish
- Centre cutting

- Type H
- Chip angle -1°
- Twist angle 3°
- RockTec 65-coated

Advantage:
- High material removal rate, high surface quality
- High feeds of 0.2-0.5 mm per tooth possible
- Good dimensional and geometric accuracy
- RockTec 65 coating for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			160															90	120

							Type		H	
							Surface		RockTec 65	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16976... Ident. No.	
4	0.4	1.5	8	57	3.7	6	4	0.13	190	●
4	0.4	1.5	15	57	3.7	6	4	0.13	191	●
5	0.5	2	10	57	4.6	6	4	0.17	192	○
5	0.5	2	21	57	4.6	6	4	0.17	193	●
6	0.6	2.5	12	57	5.5	6	4	0.2	194	●
6	0.6	2.5	26	57	5.5	6	4	0.2	195	●
8	0.8	3	16	63	7.4	8	6	0.24	196	●
8	0.8	3	31	63	7.4	8	6	0.24	197	●
10	1	3.5	20	72	9.2	10	6	0.34	198	●
10	1	3.5	36	72	9.2	10	6	0.34	199	●
12	1.2	4	24	83	11	12	6	0.42	200	●
12	1.2	4	41	83	11	12	6	0.42	201	●

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

2 cutting edges, RockTec 52-coated

VHM | RockTec 52 | Typ N | Z 2 | 30° | HA

Application:
Radius cutter in standard design for machining materials up to 52 HRC, e.g. in die and mould making.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in accordance with DIN 6535
- With clearance

- Type N
- Chip angle 3°
- RockTec 52-coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- Optimum chip removal and temperature resistance
- maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	175	**165**	**130**	125	110									**145**	110	100	90	75	

							Type	N	
							Surface	RockTec 52	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	e8	
							Tolerance of shank Ø	h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	**16974...** Ident. No.	
2	4	8	40	1.85	4	2	0.03	**200**	●
2.5	4	10	40	2.35	4	2	0.035	**201**	○
3	5	14	50	2.8	4	2	0.04	**202**	●
4	8	20	50	3.7	4	2	0.04	**203**	●
5	9	20	50	4.6	6	2	0.05	**204**	●
6	10	20	50	5.5	6	2	0.06	**205**	●
8	12	30	64	7.4	8	2	0.08	**206**	●
10	14	32	70	9.2	10	2	0.09	**207**	●
12	16	38	75	11	12	2	0.1	**208**	●
16	32	46	90	15	16	2	0.12	**209**	●
20	38	58	100	19	20	2	0.14	**210**	●

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

2 cutting edges, RockTec 52-coated

VHM | RockTec 52 | Typ N | Z 2 | 30° | HA

Application:
Radius cutter in long design for machining materials up to 52 HRC, e.g. in die and mould making.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in accordance with DIN 6535
- With clearance

- Type N
- Chip angle 3°
- RockTec 52-coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- Optimum chip removal and temperature resistance
- Maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	160	**150**	**120**	110	100									**130**	100	90	80	65	

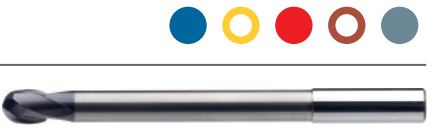
							Type	N	
							Surface	RockTec 52	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	e8	
							Tolerance of shank Ø	h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	**16974...** Ident. No.	
2	4	14	75	1.85	6	2	0.025	**220**	●
2.5	4	18	75	2.35	6	2	0.03	**221**	●
3	5	21	75	2.8	6	2	0.035	**222**	●
4	8	28	75	3.7	6	2	0.035	**223**	●
5	9	32	75	4.6	6	2	0.04	**224**	●
6	10	40	75	5.5	6	2	0.05	**225**	●
8	12	40	75	7.4	8	2	0.07	**226**	●
10	14	60	100	9.2	10	2	0.08	**227**	●
12	16	60	100	11	12	2	0.09	**228**	●

						Type		N	
						Surface		RockTec 52	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		e8	
						Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16974... Ident. No.	
16	32	80	125	15	16	2	0.1	229	●
20	38	80	125	19	20	2	0.12	230	○

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

2 cutting edges, RockTec 52-coated



VHM | RockTec 52 | Typ N | Z 2 | 30° | HA

Application:
Radius cutter in extra-long design for machining materials up to 52 HRC, e.g. in die and mould making.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in accordance with DIN 6535
- With clearance

- Type N
- Chip angle 3°
- RockTec 52-coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- Optimum chip removal and temperature resistance
- Maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	150	140	110	105	95									125	95	85	75	65	

						Type		N	
						Surface		RockTec 52	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		e8	
						Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16974... Ident. No.	
2	4	20	100	1.85	6	2	0.02	240	●
2.5	4	25	100	2.35	6	2	0.025	241	○
3	5	30	100	2.8	6	2	0.03	242	●
4	8	40	100	3.7	6	2	0.03	243	●
5	9	50	100	4.6	6	2	0.035	244	●
6	10	60	150	5.5	6	2	0.04	245	●
8	12	80	150	7.4	8	2	0.06	246	●
10	14	100	150	9.2	10	2	0.07	247	●
12	16	110	150	11	12	2	0.08	248	●
16	32	150	200	15	16	2	0.09	249	●
20	38	150	200	19	20	2	0.1	250	○

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

4 cutters, RockTec-52-coated

VHM | RockTec 52 | Typ N | Z 4 | 30° | HA

Application:
Radius cutter in standard design for machining materials up to 52 HRC, e.g. in die and mould making.

Execution:
- solid carbide ultra-fine grain
- cutting edge finish
- HA shank in accordance with DIN 6535
- with clearance

- type N
- 3° chip angle
- RockTec 52-coated
- radius tolerance = 0/-0.010 mm

Advantage:
- optimum chip removal and temperature resistance
- maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	175	165	130	125	110									145	110	100	90	75	

						Type		N	
						Surface		RockTec 52	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		e8	
						Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16974... Ident. No.	
3	5	14	50	2.8	6	4	0.03	260	●
4	8	20	50	3.7	6	4	0.04	261	●
5	9	20	50	4.6	6	4	0.05	262	●
6	10	20	50	5.5	6	4	0.06	263	●
8	12	30	64	7.4	8	4	0.08	264	●
10	14	32	70	9.2	10	4	0.09	265	●
12	16	38	75	11	12	4	0.1	266	●
16	32	46	90	15	16	4	0.12	267	●
20	38	58	100	19	20	4	0.14	268	●

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

4 cutters, RockTec-52-coated

VHM | RockTec 52 | Typ N | Z 4 | 30° | HA

Application:
Radius cutter in long design for machining materials up to 52 HRC, e.g. in die and mould making.

Execution:
- solid carbide ultra-fine grain
- cutting edge finish
- HA shank in accordance with DIN 6535
- with clearance
- type N
- 3° chip angle
- RockTec 52-coated
- radius tolerance = 0/-0.010 mm

Advantage:
- optimum chip removal and temperature resistance
- maximum service life thanks to RockTec 52 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	160	150	120	110	100									130	100	90	80	65	

						Type		N	
						Surface		RockTec 52	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		e8	
						Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz steel 1300 ● (mm)	16974... Ident. No.	
3	5	21	75	2.8	6	4	0.025	270	●
4	8	28	75	3.7	6	4	0.035	271	●
5	9	32	75	4.6	6	4	0.04	272	●
6	10	40	75	5.5	6	4	0.05	273	●
8	12	40	75	7.4	8	4	0.07	274	●
10	14	60	100	9.2	10	4	0.08	275	●
12	16	60	100	11	12	4	0.09	276	●
16	32	80	125	15	16	4	0.1	277	●
20	38	80	125	19	20	4	0.12	278	○

Prod. Gr. 1HJ

Solid carbide mills for machining steel up to 65 HRC

ATORN Solid carbide end mill

4 cutting edges, RockTec 65-coated

Application:
End mill in a standard design for machining materials up to 65 HRC, e.g. dip cutting and mould construction.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in accordance with DIN 6535

- With clearance
- Type H
- Chip angle -6°
- RockTec 65-coated

Advantage:
- Excellent chip removal and temperature resistance
- Maximum service life thanks to RockTec 65 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		200	**180**	140													95	140	120

								Type	H	
								Surface	RockTec 65	
								Tool holding device	HA parallel shank	
								Tolerance of cutting edge Ø	e8	
								Tolerance of shank Ø	h6	
								Coolant supply	External	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16975... Ident. No.		
3	9	15	50	2.8	6	4	0.027	**200**	●	
4	12	20	50	3.7	6	4	0.036	**201**	●	
5	15	20	50	4.6	6	4	0.045	**202**	●	
6	16	20	50	5.5	6	4	0.055	**203**	●	
8	20	30	64	7.4	8	4	0.07	**204**	●	
10	22	32	70	9.2	10	4	0.08	**205**	●	
12	25	37	75	11	12	4	0.09	**206**	●	
16	32	46	90	15	16	4	0.11	**207**	●	
20	38	58	100	19	20	4	0.14	**208**	●	

Prod. Gr. 1HJ

ATORN Solid carbide end mill

4 cutting edges, RockTec 65-coated

Application:
End mill, long, with short cutters for machining materials up to 65 HRC, e.g. in dip cutting and mould construction.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in accordance with DIN 6535

- With clearance
- Type H
- Chip angle -6°
- RockTec 65-coated

Advantage:
- Excellent chip removal and temperature resistance
- Maximum service life thanks to RockTec 65 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		180	**160**	125													85	125	110

								Type	H	
								Surface	RockTec 65	
								Tool holding device	HA parallel shank	
								Tolerance of cutting edge Ø	e8	
								Tolerance of shank Ø	h6	
								Coolant supply	External	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16975... Ident. No.		
3	5	30	75	2.8	6	4	0.02	**220**	●	
4	8	32	75	3.7	6	4	0.03	**221**	●	
5	9	32	75	4.6	6	4	0.035	**222**	●	
6	10	40	75	5.5	6	4	0.045	**223**	●	
8	12	40	75	7.4	8	4	0.06	**224**	●	

						Type		H	
						Surface		RockTec 65	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		e8	
						Tolerance of shank Ø		h6	
						Coolant supply		External	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16975... Ident. No.	
10	14	60	100	9.2	10	4	0.07	225	●
12	16	60	100	11	12	4	0.07	226	●
16	22	85	125	15	16	4	0.09	227	●
20	26	85	125	19	20	4	0.11	228	○

Prod. Gr. 1HJ

ATORN Solid carbide end mill

4 cutting edges, RockTec 65-coated

Application:
End mill, extra long, with short cutters for machining materials up to 65 HRC, e.g. in dip cutting and mould construction.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in accordance with DIN 6535
- With clearance
- Type H
- Chip angle -6°
- RockTec 65-coated

Advantage:
- Excellent chip removal and temperature resistance
- Maximum service life thanks to RockTec 65 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		160	145	110													75	115	100

						Type		H	
						Surface		RockTec 65	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		e8	
						Tolerance of shank Ø		h6	
						Coolant supply		External	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16975... Ident. No.	
3	5	60	100	2.8	6	4	0.018	230	●
4	8	60	100	3.7	6	4	0.027	231	●
5	9	60	100	4.6	6	4	0.03	232	●
6	10	60	100	5.5	6	4	0.04	233	●
8	12	60	100	7.4	8	4	0.05	234	●
10	14	85	125	9.2	10	4	0.065	235	●
12	16	110	150	11	12	4	0.07	236	●
16	22	110	150	15	16	4	0.08	237	●
20	26	110	150	19	20	4	0.1	238	○

Prod. Gr. 1HJ

ATORN SC multi-flute end mills

6 cutting edges, RockTec 65-coated

Application:
Multi-tooth mills for circumferential, ultra-fine finish cutting and semi-rough cutting in materials up to 65 HRC.

Execution:
- Solid carbide ultra-fine grain
- Centre cutting
- Edge protection chamfer
- HA shank in accordance with DIN 6535
- With clearance
- Type H
- Chip angle -26°
- RockTec 65-coated

Advantage:
- Excellent chip removal and temperature resistance
- Maximum service life thanks to RockTec 65 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		200	180	140													95	140	120

							Type	H	
							Surface	RockTec 65	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	e8	
							Tolerance of shank Ø	h6	
							Coolant supply	External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz hard 52 HRC ● (mm)	16975... Ident. No.	
3	8	20	50	2.8	6	0.1	6	0.02	240	●
4	11	20	50	3.7	6	0.1	6	0.03	241	●
5	13	20	50	4.6	6	0.1	6	0.04	242	●
6	15	20	50	5.5	6	0.1	6	0.05	243	●
8	20	30	64	7.4	8	0.2	6	0.06	244	●
10	22	32	70	9.2	10	0.2	6	0.07	245	●
12	25	37	75	11	12	0.2	6	0.08	246	●
16	30	46	90	15	16	0.3	8	0.1	247	●
20	38	58	100	19	20	0.4	8	0.13	248	●

Prod. Gr. 1HJ

ATORN SC multi-flute end mills

6 cutting edges, RockTec 65-coated

VHM | RockTec 65 | Typ H | Z 6 | Z 8 | 50° | HA

Application:
Multi-tooth mills for circumferential, ultra-fine finish cutting and semi-rough cutting in materials up to 65 HRC.

Execution:
- Solid carbide ultra-fine grain
- Centre cutting
- Edge protection chamfer
- HA shank in accordance with DIN 6535
- With clearance
- Type H
- Chip angle -26°
- RockTec 65-coated

Advantage:
- Excellent chip removal and temperature resistance
- Maximum service life thanks to RockTec 65 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		180	160	125													85	125	110

							Type	H	
							Surface	RockTec 65	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	e8	
							Tolerance of shank Ø	h6	
							Coolant supply	External	
mm	mm	mm	mm	mm	mm	F mm	Z (PCS)	fz hard 52 HRC ● (mm)	16975... Ident. No.	
3	19	30	75	2.8	6	0.1	6	0.018	250	○
4	19	32	75	3.7	6	0.1	6	0.027	251	●
5	19	32	75	4.6	6	0.1	6	0.03	252	●
6	31	40	75	5.5	6	0.1	6	0.04	253	●
8	31	40	75	7.4	8	0.2	6	0.055	254	●
10	45	60	100	9.2	10	0.2	6	0.06	255	●
12	50	60	100	11	12	0.2	6	0.06	256	●
16	57	85	125	15	16	0.3	8	0.08	257	●
20	57	85	125	19	20	0.4	8	0.1	258	●

Prod. Gr. 1HJ

ORION® Solid carbide HPC multi-flute end mills

4-10 cutting edges, TiAlN coated

VHM | TiSiN | Typ H | Z 10 | Z 4 | Z 6 | Z 8 | 45° | HA | HPC

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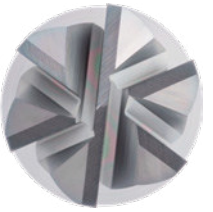


Application:
Multi-tooth mill for circumferential machining, fine finishing and semi-roughing up to 68 HRC.

Execution:
- solid carbide ultra-fine grain
- TiSiN-coated
- Unequal twist angle
- HA shaft in line with DIN 6535
- type H
- 0° chip angle
- cutting edge finish
- centre cutting

Advantage:
- optimum chip removal and temperature resistance
- Maximum service life deu to TiSiN coating

Notes:
At >60 HRC: ae = 0.07xD. Face cut from Z6 is only possible to a limited extent.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			180															170	100

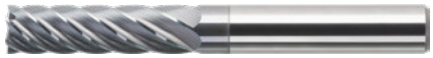
						Type	H
						Surface	TiSiN
						Tool holding device	HA parallel shank
						Tolerance of cutting edge Ø	e8
						Tolerance of shank Ø	h6
mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16931... Ident. No.	
2	8	58	6	4	0.016	103	●
3	12	58	6	4	0.016	106	●
4	13	58	6	4	0.016	109	●
5	15	58	6	6	0.016	112	●
6	16	58	6	6	0.016	115	●
8	22	70	8	6	0.02	118	●
10	25	73	10	6	0.02	121	●
12	28	84	12	6	0.025	124	●
16	35	93	16	8	0.025	127	●
20	40	104	20	10	0.03	130	●

Prod. Gr. 1FQ

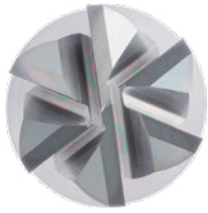
ORION® Solid carbide HPC multi-flute end mills

6-10 cutting edges, TiAlN coated

VHM | TiSiN | Typ H | Z 10 | Z 6 | Z 8 | 45° | HA | HPC



Ident. No. 180–181, 183–187



Application:
Multi-tooth mill for circumferential machining, fine finishing and semi-roughing up to 68 HRC.

Execution:
- solid carbide ultra-fine grain
- TiSiN-coated
- Unequal twist angle
- HA shaft in line with DIN 6535
- type H
- 0° chip angle
- cutting edge finish
- centre cutting

Advantage:
- optimum chip removal and temperature resistance
- Maximum service life deu to TiSiN coating

Notes:
At >60 HRC: ae = 0.07xD. Face cut from Z6 is only possible to a limited extent.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			150															140	80

						Type	H
						Surface	TiSiN
						Tool holding device	HA parallel shank
						Tolerance of cutting edge Ø	e8
						Tolerance of shank Ø	h6
mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16931... Ident. No.	
6	21	65	6	6	0.016	180	●
8	28	75	8	6	0.02	181	●
10	35	85	10	6	0.02	182	●
12	45	100	12	6	0.025	183	●
16	50	110	16	8	0.025	184	●
16	65	125	16	8	0.025	185	●
20	55	126	20	10	0.03	186	●
20	70	135	20	10	0.03	187	●

Prod. Gr. 1FQ

ATORN Solid carbide miniature torus milling cutter

4 cutting edges, RockTec 65-coated

VHM | RockTec 65 | Typ H | Z 4 | 25° | HA

Application:
Torus milling cutter with long neck for machining materials up to 65 HRC, e.g. for countersinking and mould making.

Execution:
- Solid carbide ultra-fine grain
- HA shaft pursuant to DIN 6535
- cutting edge finish
- with clearance
- type H
- 0° chip angle
- RockTec 65-coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- optimum chip removal and temperature resistance
- RockTec 65 coating for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			120															80	90

Type									H	
Surface									RockTec 65	
Tool holding device									HA parallel shank	
Tolerance of cutting edge Ø									e8	
Tolerance of shank Ø									h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16976... Ident. No.	
1	0.1	1	4	50	0.95	6	4	0.018	300	●
1	0.1	1	6	50	0.95	6	4	0.018	302	●
1	0.1	1	8	50	0.95	6	4	0.018	304	●
1	0.1	1	10	50	0.95	6	4	0.018	306	●
1	0.1	1	12	50	0.95	6	4	0.012	308	●
1.5	0.2	1.5	6	50	1.45	6	4	0.019	310	●
1.5	0.2	1.5	8	50	1.45	6	4	0.019	312	●
1.5	0.2	1.5	10	50	1.45	6	4	0.019	314	○
1.5	0.2	1.5	12	50	1.45	6	4	0.019	316	●
2	0.2	2	6	50	1.95	6	4	0.034	318	●
2	0.2	2	8	50	1.95	6	4	0.034	320	●
2	0.2	2	10	50	1.95	6	4	0.034	322	●
2	0.2	2	12	50	1.95	6	4	0.034	324	●
2	0.2	2	16	50	1.95	6	4	0.034	326	●
2.5	0.3	2.5	8	50	2.4	6	4	0.034	328	●
2.5	0.3	2.5	10	50	2.4	6	4	0.034	330	●
2.5	0.3	2.5	12	50	2.4	6	4	0.033	332	●
2.5	0.3	2.5	16	50	2.4	6	4	0.033	334	●
3	0.3	3	8	50	2.85	6	4	0.042	336	●
3	0.3	3	10	50	2.85	6	4	0.042	338	●
3	0.3	3	12	50	2.85	6	4	0.042	340	●
3	0.3	3	16	60	2.85	6	4	0.042	342	●
3	0.3	3	20	60	2.85	6	4	0.042	344	●
4	0.5	4	10	60	3.85	6	4	0.052	346	●
4	0.5	4	15	60	3.85	6	4	0.052	348	○
4	0.5	4	20	60	3.85	6	4	0.052	350	●
4	0.5	4	25	75	3.85	6	4	0.049	352	○

Prod. Gr. 1HK

ATORN SC torus milling cutter

4 cutting edges, RockTec 65-coated

Application:
Torus milling cutter for processing materials up to 65 HRC, e.g. for die and mould making.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in line with DIN 6535
- With clearance

- Type H
- Chip angle -5° -7°
- RockTec 65-coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- Best chip removal and temperature resistance
- RockTec 65 coating for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			180															140	120

Type							H	
Surface							RockTec 65	
Tool holding device							HA parallel shank	
Tolerance of cutting edge Ø							e8	
Tolerance of shank Ø							h6	
mm	R mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16976... Ident. No.	
3	0.3	9	50	6	4	0.027	100	●
3	0.5	9	50	6	4	0.027	101	●
4	0.3	12	50	6	4	0.036	102	●
4	0.5	12	50	6	4	0.036	103	●
4	1	12	50	6	4	0.036	104	●
5	0.5	15	50	6	4	0.045	105	●
5	1	15	50	6	4	0.045	106	●
5	0.3	15	50	6	4	0.045	126	●
6	0.3	20	60	6	4	0.055	107	●
6	0.5	20	60	6	4	0.055	108	●
6	1	20	60	6	4	0.055	109	●

						Type	H	
						Surface	RockTec 65	
						Tool holding device	HA parallel shank	
						Tolerance of cutting edge Ø	e8	
						Tolerance of shank Ø	h6	
mm	R mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16976... Ident. No.	
8	0.5	20	64	8	4	0.07	110	●
8	1	20	64	8	4	0.07	111	●
8	1.5	20	64	8	4	0.07	112	●
8	2	20	64	8	4	0.07	113	●
10	0.5	22	75	10	4	0.08	114	●
10	1.5	22	75	10	4	0.08	115	●
10	2	22	75	10	4	0.08	116	●
10	1	22	75	10	4	0.08	127	●
12	1	25	75	12	4	0.09	117	●
12	2	25	75	12	4	0.09	118	●
12	3	25	75	12	4	0.09	119	●
16	1	32	90	16	4	0.11	120	●
16	2	32	90	16	4	0.11	121	●
16	3	32	90	16	4	0.11	122	●
20	1	38	100	20	4	0.14	123	○
20	2	38	100	20	4	0.14	124	○
20	3	38	100	20	4	0.14	125	○

Prod. Gr. 1HJ

ATORN SC torus milling cutter

4 cutting edges, RockTec 65-coated

Application:
Torus milling cutter with short blade for processing materials up to 65 HRC, e.g. for die and mould making.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in line with DIN 6535

- With clearance
- Type H
- Chip angle -5° -7°
- RockTec 65-coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- Best chip removal and temperature resistance
- RockTec 65 coating for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			180															140	120

							Type	H		
							Surface	RockTec 65		
							Tool holding device	HA parallel shank		
							Tolerance of cutting edge Ø	e8		
							Tolerance of shank Ø	h6		
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16976... Ident. No.	
3	0.3	4	14	60	2.8	6	4	0.027	130	●
3	0.5	4	14	60	2.8	6	4	0.027	131	●
4	0.3	5	16	60	3.7	6	4	0.036	132	●
4	0.5	5	16	60	3.7	6	4	0.036	133	●
5	0.3	6	18	60	4.6	6	4	0.045	134	●
5	0.5	6	18	60	4.6	6	4	0.045	135	●
6	0.5	7	20	60	5.5	6	4	0.055	136	●
6	1	7	20	60	5.5	6	4	0.055	137	●
8	0.5	9	26	64	7.4	8	4	0.07	138	●
8	1	9	26	64	7.4	8	4	0.07	139	●
10	1	11	31	70	9.2	10	4	0.08	140	●
10	2	11	31	70	9.2	10	4	0.08	141	●
12	1	13	37	75	11	12	4	0.09	142	●
12	2	13	37	75	11	12	4	0.09	143	●
16	1	17	43	90	15	16	4	0.11	144	●
16	2	17	43	90	15	16	4	0.11	145	○

Prod. Gr. 1HJ

ATORN SC torus milling cutter

4 cutting edges, RockTec 65-coated

Application:
Torus milling cutter, long, with short blade for processing materials up to 65 HRC, e.g. for die and mould making.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in line with DIN 6535
- With clearance
- Type H
- Chip angle -5° -7°
- RockTec 65-coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- Best chip removal and temperature resistance
- RockTec 65 coating for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			160															125	110

								Type		H	
								Surface		RockTec 65	
								Tool holding device		HA parallel shank	
								Tolerance of cutting edge Ø		e8	
								Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16976... Ident. No.		
3	0.3	5	30	75	2.8	6	4	0.025	150	●
3	0.5	5	30	75	2.8	6	4	0.025	151	○
4	0.3	8	32	75	3.7	6	4	0.03	152	●
4	0.5	8	32	75	3.7	6	4	0.03	153	●
5	0.3	9	32	75	4.6	6	4	0.04	154	●
5	0.5	9	32	75	4.6	6	4	0.04	155	●
6	0.5	10	40	75	5.5	6	4	0.05	156	●
6	1	10	40	75	5.5	6	4	0.05	157	●
8	0.5	12	40	75	7.4	8	4	0.06	158	●
8	1	12	40	75	7.4	8	4	0.06	159	●
10	1	14	60	100	9.2	10	4	0.07	160	●
10	2	14	60	100	9.2	10	4	0.07	161	●
12	1	16	60	100	11	12	4	0.08	162	●
12	2	16	60	100	11	12	4	0.08	163	●
16	1	22	85	125	15	16	4	0.1	164	○
16	2	22	85	125	15	16	4	0.1	165	○

Prod. Gr. 1HJ

ATORN SC torus milling cutter

4 cutting edges, RockTec 65-coated

Application:
Torus milling cutter, extra-long, with short blade for processing materials up to 65 HRC, e.g. for die and mould making.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in line with DIN 6535
- With clearance
- Type H
- Chip angle -5° -7°
- RockTec 65-coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- Best chip removal and temperature resistance
- RockTec 65 coating for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			155															120	100

								Type		H	
								Surface		RockTec 65	
								Tool holding device		HA parallel shank	
								Tolerance of cutting edge Ø		e8	
								Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16976... Ident. No.		
3	0.3	5	60	100	2.8	6	4	0.02	170	○
3	0.5	5	60	100	2.8	6	4	0.02	171	○
4	0.3	8	60	100	3.7	6	4	0.025	172	●
4	0.5	8	60	100	3.7	6	4	0.025	173	●
5	0.3	9	60	100	4.6	6	4	0.035	174	●

							Type		H	
							Surface		RockTec 65	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16976... Ident. No.	
5	0.5	9	60	100	4.6	6	4	0.035	175	●
6	0.5	10	60	100	5.5	6	4	0.04	176	●
6	1	10	60	100	5.5	6	4	0.04	177	●
8	0.5	12	60	100	7.4	8	4	0.05	178	●
8	1	12	60	100	7.4	8	4	0.05	179	●
10	1	14	85	125	9.2	10	4	0.06	180	●
10	2	14	85	125	9.2	10	4	0.06	181	●
12	1	16	110	150	11	12	4	0.07	182	●
12	2	16	110	150	11	12	4	0.07	183	●
16	1	22	110	150	15	16	4	0.09	184	○
16	2	22	110	150	15	16	4	0.09	185	○

Prod. Gr. 1HJ

ATORN Solid carbide HSC high-feed milling cutter

4-6 cutting edges, RockTec 65-coated

VHM | RockTec 65 | Typ H | Z 4 | Z 6 | 25° | HA | HSC

Application:
Torus milling cutter (HSC) with a short cutting edge for processing materials up to 65 HRC. For use in die and mould making and general mechanical engineering.

Execution:
- Solid carbide ultra-fine grain
- HA shaft in line with DIN 6535
- cutting edge finish
- Clearance
- Type H
- 0° chip angle
- RockTec 65 coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- High material removal rate, high surface quality
- Good dimensional and geometric accuracy
- RockTec 65 coating for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			100															70	80

							Type		H	
							Surface		RockTec 65	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16976... Ident. No.	
2	0.3	2	10	60	1.9	6	4	0.075	400	○
2	0.5	2	20	60	1.9	6	4	0.075	402	●
3	0.3	3	21	60	2.8	6	4	0.12	404	●
3	0.5	3	21	60	2.8	6	4	0.12	406	●
4	0.3	4	12	60	3.7	6	4	0.2	408	●
4	0.5	4	12	60	3.7	6	4	0.2	410	●
6	0.3	6	20	60	5.5	6	4	0.23	412	●
6	0.5	6	20	60	5.5	6	4	0.23	414	●
6	1	6	20	60	5.5	6	4	0.23	416	●
8	0.3	8	24	64	7.4	8	6	0.37	418	○
8	0.5	8	24	64	7.4	8	6	0.37	420	●
8	1	8	24	64	7.4	8	6	0.37	422	●
8	2	8	24	64	7.4	8	6	0.37	424	●
10	0.3	10	30	75	9.2	10	6	0.41	426	●
10	0.5	10	30	75	9.2	10	6	0.41	428	●
10	1	10	30	75	9.2	10	6	0.41	430	●
10	2	10	30	75	9.2	10	6	0.41	432	●
12	0.3	12	30	75	11	12	6	0.44	434	●
12	0.5	12	30	75	11	12	6	0.44	436	●
12	1	12	30	75	11	12	6	0.44	438	●
12	2	12	30	75	11	12	6	0.44	440	●

Prod. Gr. 1HJ

ATORN Solid carbide HSC high-feed milling cutter

4-6 cutting edges, RockTec 65-coated

VHM | RockTec 65 | Typ H | Z 4 | Z 6 | 25° | HA | HSC

Application:
Long torus milling cutter (HSC) with a short cutting edge for processing materials up to 65 HRC. For use in die and mould making and general mechanical engineering.

Execution:
- Solid carbide ultra-fine grain
- HA shaft in line with DIN 6535
- cutting edge finish
- Clearance
- Type H
- 0° chip angle
- RockTec 65 coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- High material removal rate, high surface quality
- Good dimensional and geometric accuracy
- RockTec 65 coating for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			100															70	80

								Type	H	
								Surface	RockTec 65	
								Tool holding device	HA parallel shank	
								Tolerance of cutting edge Ø	e8	
								Tolerance of shank Ø	h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16976... Ident. No.	
2	0.3	2	35	75	1.9	6	4	0.075	500	●
2	0.5	2	35	75	1.9	6	4	0.075	502	●
3	0.3	3	30	75	2.8	6	4	0.12	504	●
3	0.5	3	30	75	2.8	6	4	0.12	506	●
4	0.3	4	32	75	3.7	6	4	0.2	508	●
4	0.5	4	32	75	3.7	6	4	0.2	510	●
6	0.3	6	40	75	5.5	6	4	0.23	512	●
6	0.5	6	40	75	5.5	6	4	0.23	514	●
6	1	6	40	75	5.5	6	4	0.23	516	●
8	0.3	8	60	100	7.4	8	6	0.37	518	●
8	0.5	8	60	100	7.4	8	6	0.37	520	●
8	1	8	60	100	7.4	8	6	0.37	522	●
8	2	8	60	100	7.4	8	6	0.37	524	●
10	0.3	10	60	100	9.2	10	6	0.41	526	●
10	0.5	10	60	100	9.2	10	6	0.41	528	●
10	1	10	60	100	9.2	10	6	0.41	530	●
10	2	10	60	100	9.2	10	6	0.41	532	●
12	0.3	12	60	100	11	12	6	0.44	534	●
12	0.5	12	60	100	11	12	6	0.44	536	●
12	1	12	60	100	11	12	6	0.44	538	●
12	2	12	60	100	11	12	6	0.44	540	●

Prod. Gr. 1HJ

ATORN Solid carbide HSC high-feed milling cutter

4 cutting edges, RockTec 65-coated

VHM | RockTec 65 | Typ H | Z 4 | Z 6 | 3° | HA | HSC

Application:
High-feed milling cutter (HSC) with short blade for processing materials up to 65 HRC. Applications in die and mould making and general mechanical engineering.

Execution:
- Solid carbide ultra-fine grain
- HA shank in line with DIN 6535
- Cutting edge finish
- Centre cutting
- Type H
- Chip angle -1°
- Twist angle 3°
- RockTec 65-coated

Advantage:
- High material removal rate, high surface quality
- High feeds of 0.2-0.5 mm per tooth possible
- Good dimensional and geometric accuracy
- RockTec 65 coating for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			160															90	120

							Type		H	
							Surface		RockTec 65	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16976... Ident. No.	
4	0.4	1.5	8	57	3.7	6	4	0.13	190	●
4	0.4	1.5	15	57	3.7	6	4	0.13	191	●
5	0.5	2	10	57	4.6	6	4	0.17	192	○
5	0.5	2	21	57	4.6	6	4	0.17	193	●
6	0.6	2.5	12	57	5.5	6	4	0.2	194	●
6	0.6	2.5	26	57	5.5	6	4	0.2	195	●
8	0.8	3	16	63	7.4	8	6	0.24	196	●
8	0.8	3	31	63	7.4	8	6	0.24	197	●
10	1	3.5	20	72	9.2	10	6	0.34	198	●
10	1	3.5	36	72	9.2	10	6	0.34	199	●
12	1.2	4	24	83	11	12	6	0.42	200	●
12	1.2	4	41	83	11	12	6	0.42	201	●

Prod. Gr. 1HJ

ORION® Solid carbide HPC torus multi-flute end mills

4-6 cutting edges, TiAlN coated

Ident. No. 003–030, 036–051

Application:
Torus milling cutter for processing materials up to 68 HRC, e.g. for die and mould making.

Execution:
- solid carbide ultra-fine grain
- TiSiN-coated
- HA shank in line with DIN 6535
- type H
- 0° chip angle
- cutting edge finish
- centre cutting
- Radius tolerance = +/- 0.005 mm

Advantage:
- optimum chip removal and temperature resistance
- Maximum service life deu to TiSiN coating

Notes:
At >60 HRC: ae = 0.07xD. Face cut from Z6 is only possible to a limited extent.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			200															170	110

							Type		H	
							Surface		TiSiN	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	R mm	Z (PCS)	fz hard 65 HRC ● (mm)	16932... Ident. No.	
3	4	14	50	2.7	3	0.3	4	0.019	003	●
3	4	14	50	2.7	3	0.5	4	0.019	006	●
4	5	16	50	3.7	4	0.4	4	0.019	009	●
4	5	16	50	3.7	4	0.5	4	0.019	012	●
5	6	18	54	4.6	5	0.5	4	0.048	015	●
6	7	21	58	5.5	6	0.5	6	0.048	018	●
6	7	21	58	5.5	6	1	6	0.048	021	●
8	9	27	64	7.4	8	0.5	6	0.06	024	●
8	9	27	64	7.4	8	1	6	0.06	027	●
10	11	32	73	9.2	10	0.5	6	0.07	030	●
10	11	32	73	9.2	10	1	6	0.07	033	●
10	11	32	73	9.2	10	2	6	0.07	036	●
12	12	38	84	11	12	0.5	6	0.08	039	●
12	12	38	84	11	12	1	6	0.08	042	●
12	12	38	84	11	12	2	6	0.08	045	●
16	16	44	93	15	16	1	6	0.09	048	●
16	16	44	93	15	16	2	6	0.09	051	●

Prod. Gr. 1FQ

ORION® Solid carbide HPC torus multi-flute end mills

6-8 cutting edges, TiAlN coated

VHM | TiSiN | Typ H | Z 6 | Z 8 | 45° | HA | HPC

Ident. No. 100–112, 118–127

Application:
Torus milling cutter for processing materials up to 68 HRC, e.g. for die and mould making.

Execution:
- solid carbide ultra-fine grain
- TiSiN-coated
- Unequal twist angle
- HA shaft in line with DIN 6535
- type H
- 0° chip angle

- cutting edge finish
- centre cutting
- Radius tolerance = +/- 0.005 mm

Advantage:
- optimum chip removal and temperature resistance
- Maximum service life deu to TiSiN coating

Notes:
At >60 HRC: ae = 0.07xD. Face cut from Z6 is only possible to a limited extent.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			160															160	90

							Type	H	
							Surface	TiSiN	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	e8	
							Tolerance of shank Ø	h6	
mm	mm	mm	mm	R mm	Z (PCS)	fz hard 65 HRC ● (mm)	16932... Ident. No.		
6	16	58	6	0.5	6	0.015	100	●	
6	16	58	6	1	6	0.015	103	●	
8	22	70	8	0.5	6	0.018	106	●	
8	22	70	8	1	6	0.018	109	●	
10	25	73	10	0.5	6	0.019	112	●	
10	25	73	10	1.5	6	0.019	115	●	
12	28	84	12	0.5	6	0.023	118	●	
12	28	84	12	1.5	6	0.023	121	●	
16	35	93	16	1	8	0.025	124	●	
16	35	93	16	2	8	0.025	127	●	

Prod. Gr. 1FQ

ORION® Solid carbide HPC torus multi-flute end mills

6-8 cutting edges, TiAlN coated

VHM | TiSiN | Typ H | Z 6 | Z 8 | 45° | HA | HPC

Ident. No. 160–163, 169–175

Application:
Torus milling cutter for processing materials up to 68 HRC, e.g. for die and mould making.

Execution:
- solid carbide ultra-fine grain
- TiSiN-coated
- Unequal twist angle
- HA shaft in line with DIN 6535
- type H
- 0° chip angle

- cutting edge finish
- centre cutting
- Radius tolerance = +/- 0.005 mm

Advantage:
- optimum chip removal and temperature resistance
- Maximum service life deu to TiSiN coating

Notes:
At >60 HRC: ae = 0.07xD. Face cut from Z6 is only possible to a limited extent.

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			160															160	90

							Type	H	
							Surface	TiSiN	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	e8	
							Tolerance of shank Ø	h6	
mm	mm	mm	mm	R mm	Z (PCS)	fz hard 65 HRC ● (mm)	16932... Ident. No.		
6	21	65	6	0.5	6	0.015	160	●	
8	28	75	8	0.5	6	0.018	163	●	
10	35	85	10	0.5	6	0.019	166	●	
12	45	100	12	0.5	6	0.023	169	●	
16	50	110	16	1	8	0.025	172	●	
16	65	125	16	1	8	0.025	175	●	

Prod. Gr. 1FQ

ORION® Solid carbide HSC torus milling cutter

4 cutting edges, TiAlN-coated

VHM | TiAlN | Typ H | Z 4 | 30° | HA | HSC

Ident. No. 001–028
Standard version

Ident. No. 050–077

Application:
HSC torus milling cutter with a short cutter for machining steels up to 1300 N/mm² and for hard milling.

Execution:
- Solid carbide ultra-fine grain
- Straight shank in accordance with DIN 6535 HA
- TiAlN-coated
- With clearance
- Edge radius
- Standard design

Advantage:
- specially developed coating for hard machining
- Optimised cutting geometry for plunge milling

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		130	**110**															100	90

							Type		H	
							Surface		TiAlN	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		f8	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16942... Ident. No.	
3	0.3	6	14	50	2.7	3	4	0.03	001	●
3	0.5	6	14	50	2.7	3	4	0.03	002	●
3	1	6	14	50	2.7	3	4	0.03	003	●
3	0.3	6	32	75	2.7	3	4	0.025	050	●
3	0.5	6	32	75	2.7	3	4	0.025	051	●
3	1	6	32	75	2.7	3	4	0.025	052	●
4	0.4	7	16	50	3.7	4	4	0.04	004	●
4	0.5	7	16	50	3.7	4	4	0.04	005	●
4	1	7	16	50	3.7	4	4	0.04	006	●
4	0.4	7	36	75	3.7	4	4	0.035	053	●
4	0.5	7	36	75	3.7	4	4	0.035	054	●
4	1	7	36	75	3.7	4	4	0.035	055	●
5	0.5	8	18	54	4.6	5	4	0.045	007	●
5	1	8	18	54	4.6	5	4	0.045	008	●
5	1.5	8	18	54	4.6	5	4	0.045	009	○
5	2	8	18	54	4.6	5	4	0.045	010	●
5	0.5	8	40	75	4.6	5	4	0.04	056	●
5	1	8	40	75	4.6	5	4	0.04	057	●
5	1.5	8	40	75	4.6	5	4	0.04	058	●
5	2	8	40	75	4.6	5	4	0.04	059	●
6	0.5	10	21	57	5.5	6	4	0.06	011	●
6	1	10	21	57	5.5	6	4	0.06	012	●
6	1.5	10	21	57	5.5	6	4	0.06	013	●
6	2	10	21	57	5.5	6	4	0.06	014	●
6	0.5	10	44	80	5.5	6	4	0.05	060	●
6	1	10	44	80	5.5	6	4	0.05	061	●
6	1.5	10	44	80	5.5	6	4	0.05	062	●
6	2	10	44	80	5.5	6	4	0.05	063	●
8	0.5	12	27	63	7.4	8	4	0.07	015	●
8	1	12	27	63	7.4	8	4	0.07	016	●
8	1.5	12	27	63	7.4	8	4	0.07	017	○
8	2	12	27	63	7.4	8	4	0.07	018	●
8	0.5	12	63	100	7.4	8	4	0.06	064	●
8	1	12	63	100	7.4	8	4	0.06	065	●
8	1.5	12	63	100	7.4	8	4	0.06	066	●
8	2	12	63	100	7.4	8	4	0.06	067	●
10	0.5	13	32	72	9.2	10	4	0.08	019	●
10	1	13	32	72	9.2	10	4	0.08	020	●
10	1.5	13	32	72	9.2	10	4	0.08	021	●
10	2	13	32	72	9.2	10	4	0.08	022	●
10	0.5	13	72	100	9.2	10	4	0.07	068	●
10	1	13	72	100	9.2	10	4	0.07	069	●
10	1.5	13	72	100	9.2	10	4	0.07	070	○
10	2	13	72	100	9.2	10	4	0.07	071	○
12	0.5	16	38	83	11	12	4	0.09	023	●
12	1	16	38	83	11	12	4	0.09	024	●
12	1.5	16	38	83	11	12	4	0.09	025	●
12	2	16	38	83	11	12	4	0.09	026	○
12	0.5	16	83	120	11	12	4	0.08	072	●
12	1	16	83	120	11	12	4	0.08	073	●
12	1.5	16	83	120	11	12	4	0.08	074	○
12	2	16	83	120	11	12	4	0.08	075	●
16	1	20	44	92	15	16	4	0.11	027	●
16	2	20	44	92	15	16	4	0.11	028	●

							Type		H	
							Surface		TiAlN	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		f8	
							Tolerance of shank Ø		h6	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16942... Ident. No.	
16	1	20	92	150	15	16	4	0.1	076	●
16	2	20	92	150	15	16	4	0.1	077	○

Prod. Gr. 148

ATORN Solid carbide ball nose end mill

2 cutting edges, RockTec 65-coated

VHM | RockTec 65 | Typ H | Z 2 | 30° | HA

Application:
Radius cutter in standard design for machining materials up to 65 HRC, e.g. in die and mould making.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in accordance with DIN 6535
- With clearance

- Type H
- Chip angle -10°
- RockTec 65-coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- Optimum chip removal and temperature resistance
- Maximum service life thanks to RockTec 65 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		220	**200**	155													105	155	130

							Type		H	
							Surface		RockTec 65	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		e8	
							Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16977... Ident. No.		
2	4	8	40	1.85	4	2	0.025	200	●
2.5	4	10	40	2.35	4	2	0.03	201	●
3	5	14	50	2.8	4	2	0.035	202	●
4	8	20	50	3.7	4	2	0.035	203	●
5	9	20	50	4.6	6	2	0.04	204	●
6	10	20	50	5.5	6	2	0.05	205	●
8	12	30	64	7.4	8	2	0.07	206	●
10	14	32	70	9.2	10	2	0.08	207	●
12	16	38	75	11	12	2	0.09	208	●
16	32	46	90	15	16	2	0.1	209	●
20	38	58	100	19	20	2	0.12	210	○

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

2 cutting edges, RockTec 65-coated

VHM | RockTec 65 | Typ H | Z 2 | 30° | HA

Application:
Radius cutter in long design for machining materials up to 65 HRC, e.g. in die and mould making.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in accordance with DIN 6535
- With clearance

- Type H
- Chip angle -10°
- RockTec 65-coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- Optimum chip removal and temperature resistance
- Maximum service life thanks to RockTec 65 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		200	**180**	140													95	140	120

						Type		H	
						Surface		RockTec 65	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		e8	
						Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16977... Ident. No.	
2	4	14	75	1.85	6	2	0.02	220	●
2.5	4	18	75	2.35	6	2	0.025	221	○
3	5	21	75	2.8	6	2	0.03	222	●
4	8	28	75	3.7	6	2	0.03	223	●
5	9	32	75	4.6	6	2	0.035	224	●
6	10	40	75	5.5	6	2	0.04	225	●
8	12	40	75	7.4	8	2	0.06	226	●
10	14	60	100	9.2	10	2	0.07	227	●
12	16	60	100	11	12	2	0.08	228	●
16	32	80	125	15	16	2	0.09	229	●
20	38	80	125	19	20	2	0.1	230	○

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

2 cutting edges, RockTec 65-coated

VHM | RockTec 65 | Typ H | Z 2 | 30° | HA

Application:
Radius cutter in extra-long design for machining materials up to 65 HRC, e.g. in die and mould making.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in accordance with DIN 6535
- With clearance

- Type H
- Chip angle -10°
- RockTec 65-coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- Optimum chip removal and temperature resistance
- Maximum service life thanks to RockTec 65 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		190	**170**	130													90	130	110

						Type		H	
						Surface		RockTec 65	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		e8	
						Tolerance of shank Ø		h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 52 HRC ● (mm)	16977... Ident. No.	
2	4	20	100	1.85	6	2	0.01	240	○
2.5	4	25	100	2.35	6	2	0.02	241	○
3	5	30	100	2.8	6	2	0.025	242	●
4	8	40	100	3.7	6	2	0.025	243	●
5	9	50	100	4.6	6	2	0.03	244	●
6	10	60	150	5.5	6	2	0.035	245	●
8	12	80	150	7.4	8	2	0.05	246	●
10	14	100	150	9.2	10	2	0.06	247	●
12	16	110	150	11	12	2	0.07	248	●
16	32	150	200	15	16	2	0.08	249	○
20	38	150	200	19	20	2	0.09	250	○

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

4 cutting edges, RockTec 65-coated

VHM | RockTec 65 | Typ H | Z 4 | 30° | HA

Application:
Radius milling cutter, standard design, for machining materials up to 65 HRC, e.g. in dip cutting and mould construction.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in accordance with DIN 6535
- With clearance

- Type H
- Chip angle -10°
- RockTec 65-coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- Excellent chip removal and temperature resistance
- Maximum service life thanks to RockTec 65 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		220	**200**	155													105	155	130

							Type	H	
							Surface	RockTec 65	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	e8	
							Tolerance of shank Ø	h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16977... Ident. No.	
3	5	14	50	2.8	6	4	0.025	**260**	●
4	8	20	50	3.7	6	4	0.035	**261**	●
5	9	20	50	4.6	6	4	0.04	**262**	●
6	10	20	50	5.5	6	4	0.05	**263**	●
8	12	30	64	7.4	8	4	0.07	**264**	●
10	14	32	70	9.2	10	4	0.08	**265**	●
12	16	38	75	11	12	4	0.09	**266**	●
16	32	46	90	15	16	4	0.1	**267**	●
20	38	58	100	19	20	4	0.12	**268**	○

Prod. Gr. 1HJ

ATORN Solid carbide ball nose end mill

4 cutting edges, RockTec 65-coated

Application:
Radius milling cutter, long design, for machining materials up to 65 HRC, e.g. in dip cutting and mould construction.

Execution:
- Solid carbide ultra-fine grain
- Cutting edge finish
- HA shank in accordance with DIN 6535
- With clearance

- Type H
- Chip angle -10°
- RockTec 65-coated
- Radius tolerance = 0/-0.010 mm

Advantage:
- Excellent chip removal and temperature resistance
- Maximum service life thanks to RockTec 65 coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
		200	**180**	140													95	140	120

							Type	H	
							Surface	RockTec 65	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	e8	
							Tolerance of shank Ø	h6	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16977... Ident. No.	
3	5	21	75	2.8	6	4	0.02	**270**	●
4	8	28	75	3.7	6	4	0.03	**271**	●
5	9	32	75	4.6	6	4	0.035	**272**	●
6	10	40	75	5.5	6	4	0.04	**273**	●
8	12	40	75	7.4	8	4	0.06	**274**	●
10	14	60	100	9.2	10	4	0.07	**275**	●
12	16	60	100	11	12	4	0.08	**276**	●
16	32	80	125	15	16	4	0.09	**277**	●
20	38	80	125	19	20	4	0.1	**278**	○

Prod. Gr. 1HJ

ORION® Solid carbide ball nose end mill

2 cutting edges, TiSiN-coated

Ident. No. 003–018, 024–027

Application:
Radius cutter in standard design for machining materials up to 68 HRC, e.g. in die and mould making.

Execution:
- solid carbide ultra-fine grain
- cutting edge finish
- HA shank in line with DIN 6535

- type H
- 0° chip angle
- TiSiN-coated
- Radius tolerance = +/- 0.005 mm

Advantage:
- optimum chip removal and temperature resistance
- Maximum service life deu to TiSiN coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			200															170	140

					Type	H	
					Surface	TiSiN	
					Tool holding device	HA parallel shank	
					Tolerance of cutting edge Ø	f8	
					Tolerance of shank Ø	h6	
mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16933... Ident. No.	
1	2	54	6	2	0.005	003	●
2	4	54	6	2	0.005	006	●
3	6	54	6	2	0.019	009	●
4	7	54	6	2	0.019	012	●
6	10	54	6	2	0.048	015	●
8	12	59	8	2	0.06	018	●
10	14	67	10	2	0.07	021	●
12	16	74	12	2	0.08	024	●
16	20	83	16	2	0.09	027	●

Prod. Gr. 1FQ

ORION® Solid carbide ball nose end mill

2 cutting edges, TiSiN-coated

Ident. No. 050–065, 071–074

Application:
Radius cutter in long design for machining materials up to 68 HRC, e.g. in die and mould making.

Execution:
- solid carbide ultra-fine grain
- cutting edge finish
- HA shank in line with DIN 6535

- type H
- 0° chip angle
- TiSiN-coated
- Radius tolerance = +/- 0.005 mm

Advantage:
- optimum chip removal and temperature resistance
- Maximum service life deu to TiSiN coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			200															170	140

					Type	H	
					Surface	TiSiN	
					Tool holding device	HA parallel shank	
					Tolerance of cutting edge Ø	f8	
					Tolerance of shank Ø	h6	
mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16933... Ident. No.	
1	3	75	3	2	0.005	050	●
2	6	80	6	2	0.005	053	●
3	10	80	6	2	0.019	056	●
4	13	80	6	2	0.019	059	●
6	16	100	6	2	0.048	062	●
8	22	100	8	2	0.06	065	●
10	25	100	10	2	0.07	068	●
12	26	100	12	2	0.08	071	●
16	30	150	16	2	0.09	074	●

Prod. Gr. 1FQ

ORION® Solid carbide ball nose end mill

4 cutting edges, TiSiN-coated

Ident. No. 103–121, 127–130

Application:
Radius cutter in standard design for machining materials up to 68 HRC, e.g. in die and mould making.

Execution:
- solid carbide ultra-fine grain
- cutting edge finish
- HA shank in line with DIN 6535

- type H
- 0° chip angle
- TiSiN-coated
- Radius tolerance = +/- 0.005 mm

Advantage:
- optimum chip removal and temperature resistance
- Maximum service life deu to TiSiN coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			200															170	140

						Type	H
						Surface	TiSiN
						Tool holding device	HA parallel shank
						Tolerance of cutting edge Ø	f8
						Tolerance of shank Ø	h6
mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16933... Ident. No.	
2	4	54	6	4	0.005	103	●
3	5	54	6	4	0.019	109	●
4	8	54	6	4	0.019	115	●
6	10	54	6	4	0.048	118	●
8	12	59	8	4	0.06	121	●
10	14	67	10	4	0.07	124	●
12	16	74	12	4	0.08	127	●
16	22	83	16	4	0.09	130	●

Prod. Gr. 1FQ

ORION® Solid carbide ball nose end mill

4 cutting edges, TiSiN-coated

Ident. No. 150–162, 168–171

Application:
Radius cutter in long design for machining materials up to 68 HRC, e.g. in die and mould making.

Execution:
- solid carbide ultra-fine grain
- cutting edge finish
- HA shank in line with DIN 6535

- type H
- 0° chip angle
- TiSiN-coated
- Radius tolerance = +/- 0.005 mm

Advantage:
- optimum chip removal and temperature resistance
- Maximum service life deu to TiSiN coating

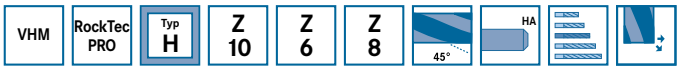
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			200															170	140

						Type	H
						Surface	TiSiN
						Tool holding device	HA parallel shank
						Tolerance of cutting edge Ø	f8
						Tolerance of shank Ø	h6
mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16933... Ident. No.	
2	4	80	6	4	0.005	150	●
3	5	80	6	4	0.019	153	●
4	8	80	6	4	0.019	156	●
6	10	100	6	4	0.048	159	●
8	12	100	8	4	0.06	162	●
10	14	100	10	4	0.07	165	●
12	16	100	12	4	0.08	168	●
16	22	150	16	4	0.09	171	●

Prod. Gr. 1FQ

ATORN SC multi-flute end mills

6-10 cutting edges, TiAlSiN coated



Application:
Multi-tooth mills for circumferential, ultra-fine finish cutting and semi-rough cutting in materials up to 65 HRC.

Execution:
- Short cutters
- Cutting material, Ultra Micro fine grain
- Centre cutting
- HA shaft in line with DIN 6535

- Clearance
- type H
- With RockTec PRO coating

Advantage:
- optimum chip removal and temperature resistance
- Optimised geometry for machining hard materials
- maximum service life thanks to RockTec PRO coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			130															145	200

						Type		H	
						Surface		RockTec PRO	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		f8	
						Tolerance of shank Ø		h5	
						Coolant supply		External	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16950... Ident. No.	
3	4	12	57	2.9	6	6	0.024	500	●
4	5	14	57	3.8	6	6	0.035	502	●
5	6	16	57	4.7	6	6	0.04	504	●
6	7	20	57	5.6	6	6	0.047	506	●
8	9	26	63	7.6	8	6	0.057	508	●
10	11	32	72	9.4	10	6	0.062	510	●
12	12	38	83	11.4	12	6	0.075	512	●
16	16	44	92	15.4	16	8	0.088	514	●
20	20	52	104	19.4	20	10	0.095	516	●

Prod. Gr. 152

ATORN SC multi-flute end mills

6-10 cutting edges, TiAlSiN coated

VHM | RockTec PRO | Typ H | Z 10 | Z 6 | Z 8 | 45° | HA

Application:
Multi-tooth mills for circumferential, ultra-fine finish cutting and semi-rough cutting in materials up to 65 HRC.

Execution:
- Standard version
- Cutting material, Ultra Micro fine grain
- Centre cutting
- HA shaft in line with DIN 6535
- Clearance
- type H
- With RockTec PRO coating

Advantage:
- optimum chip removal and temperature resistance
- Optimised geometry for machining hard materials
- maximum service life thanks to RockTec PRO coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			130															145	200

						Type		H	
						Surface		RockTec PRO	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		f8	
						Tolerance of shank Ø		h5	
						Coolant supply		External	
mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16950... Ident. No.	
3	9	57	6	6	0.024	550	●
4	11	57	6	6	0.035	552	●
5	13	57	6	6	0.04	554	●
6	15	57	6	6	0.047	556	●
8	19	63	8	6	0.057	558	●
10	24	72	10	6	0.062	560	●
12	28	83	12	6	0.075	562	●
16	36	92	16	8	0.088	564	●
20	44	104	20	10	0.095	566	●

Prod. Gr. 152

ATORN SC multi-flute end mills

6-10 cutting edges, TiAlSiN coated

VHM | RockTec PRO | Typ H | Z 10 | Z 6 | Z 8 | 45° | HA

Application:
Multi-tooth mills for circumferential, ultra-fine finish cutting and semi-rough cutting in materials up to 65 HRC.

Execution:
- long version
- Cutting material, Ultra Micro fine grain
- Centre cutting
- HA shaft in line with DIN 6535
- Clearance
- type H
- With RockTec PRO coating

Advantage:
- optimum chip removal and temperature resistance
- Optimised geometry for machining hard materials
- maximum service life thanks to RockTec PRO coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			130															145	200

						Type	H
						Surface	RockTec PRO
						Tool holding device	HA parallel shank
						Tolerance of cutting edge Ø	f8
						Tolerance of shank Ø	h5
						Coolant supply	External
mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16950... Ident. No.	
3	9	65	6	6	0.024	600	●
4	12	65	6	6	0.035	602	●
5	15	65	6	6	0.04	604	●
6	18	65	6	6	0.047	606	●
8	24	70	8	6	0.057	608	●
10	30	85	10	6	0.062	610	●
12	36	93	12	6	0.075	612	●
16	48	110	16	8	0.088	614	●
20	60	126	20	10	0.095	616	●

Prod. Gr. 152

ATORN SC torus milling cutter

4 cutting edges, TiAlSiN coating

VHM | RockTec PRO | Typ H | Z 4 | 30° | HA

Application:
Torus milling cutter for processing materials up to 65 HRC, e.g. for die and mould making.

Execution:
- Cutting material, Ultra Micro fine grain
- cutting edge finish
- HA shaft in line with DIN 6535
- Clearance
- type H
- With RockTec PRO coating
- Radius tolerance = +/- 0.005 mm

Advantage:
- optimum chip removal and temperature resistance
- Optimised geometry for machining hard materials
- maximum service life thanks to RockTec PRO coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			130															145	200

								Type	H	
								Surface	RockTec PRO	
								Tool holding device	HA parallel shank	
								Tolerance of cutting edge Ø	f8	
								Tolerance of shank Ø	h5	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16952... Ident. No.	
1	0.1	1.5	10	57	0.95	6	4	0.011	200	●
1	0.2	1.5	10	57	0.95	6	4	0.011	202	●
2	0.1	2.5	12	57	1.85	6	4	0.019	204	●
2	0.3	2.5	12	57	1.85	6	4	0.019	206	●
2	0.5	2.5	12	57	1.85	6	4	0.019	208	●
3	0.1	3.5	12	57	2.9	6	4	0.024	210	●
3	0.3	3.5	12	57	2.9	6	4	0.024	212	●
3	0.5	3.5	12	57	2.9	6	4	0.024	214	●
3	1	3.5	12	57	2.9	6	4	0.024	216	●
4	0.1	4.5	14	57	3.8	6	4	0.035	218	●
4	0.3	4.5	14	57	3.8	6	4	0.035	220	●
4	0.5	4.5	14	57	3.8	6	4	0.035	222	●
4	1	4.5	14	57	3.8	6	4	0.035	224	●
5	0.1	5.5	16	57	4.7	6	4	0.04	226	●
5	0.3	5.5	16	57	4.7	6	4	0.04	228	●
5	0.5	5.5	16	57	4.7	6	4	0.04	230	●
5	1	5.5	16	57	4.7	6	4	0.04	232	●
6	0.1	7	20	57	5.7	6	4	0.047	234	●
6	0.3	7	20	57	5.7	6	4	0.047	236	●
6	0.5	7	20	57	5.7	6	4	0.047	238	●
6	1	7	20	57	5.7	6	4	0.047	240	●
6	1.5	7	20	57	5.7	6	4	0.047	242	●
6	2	7	20	57	5.7	6	4	0.047	244	●
8	0.1	9	26	63	7.6	8	4	0.057	246	●
8	0.3	9	26	63	7.6	8	4	0.057	248	●
8	0.5	9	26	63	7.6	8	4	0.057	250	●
8	1	9	26	63	7.6	8	4	0.057	252	●
8	2	9	26	63	7.6	8	4	0.057	254	●

							Type		H	
							Surface		RockTec PRO	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		f8	
							Tolerance of shank Ø		h5	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16952... Ident. No.	
8	3	9	26	63	7.6	8	4	0.057	256	●
10	0.1	12	32	72	9.6	10	4	0.062	258	●
10	0.3	12	32	72	9.6	10	4	0.062	260	●
10	0.5	12	32	72	9.6	10	4	0.062	262	●
10	1	12	32	72	9.6	10	4	0.062	264	●
10	2	12	32	72	9.6	10	4	0.062	266	●
10	3	12	32	72	9.6	10	4	0.062	268	●
12	0.5	14	38	83	11.6	12	4	0.075	270	●
12	1	14	38	83	11.6	12	4	0.075	272	●
12	2	14	38	83	11.6	12	4	0.075	274	●
12	3	14	38	83	11.6	12	4	0.075	276	●
16	1	18	44	92	15.4	16	4	0.088	278	●
16	2	18	44	92	15.4	16	4	0.088	280	●
16	3	18	44	92	15.4	16	4	0.088	282	●

Prod. Gr. 152

ATORN SC torus milling cutter

4 cutting edges, TiAlSiN coating

Application:
Torus milling cutter in long design for machining materials up to 65 HRC, e.g. in die and mould making.

Execution:
- Cutting material, Ultra Micro fine grain
- cutting edge finish
- HA shaft in line with DIN 6535
- Clearance
- type H
- With RockTec PRO coating
- Radius tolerance = +/- 0.005 mm

Advantage:
- optimum chip removal and temperature resistance
- Optimised geometry for machining hard materials
- maximum service life thanks to RockTec PRO coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			130															145	200

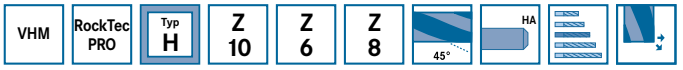
							Type		H	
							Surface		RockTec PRO	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		f8	
							Tolerance of shank Ø		h5	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16952... Ident. No.	
1	0.1	1.5	20	65	0.95	6	4	0.011	300	●
1	0.2	1.5	20	65	0.95	6	4	0.011	302	●
2	0.1	2.5	25	70	1.85	6	4	0.019	304	●
2	0.3	2.5	25	70	1.85	6	4	0.019	306	●
2	0.5	2.5	25	70	1.85	6	4	0.019	308	●
3	0.1	3.5	32	75	2.9	6	4	0.024	310	●
3	0.3	3.5	32	75	2.9	6	4	0.024	312	●
3	0.5	3.5	32	75	2.9	6	4	0.024	314	●
3	1	3.5	32	75	2.9	6	4	0.024	316	●
4	0.1	4.5	32	80	3.8	6	4	0.035	318	●
4	0.3	4.5	36	80	3.8	6	4	0.035	320	●
4	0.5	4.5	36	80	3.8	6	4	0.035	322	●
4	1	4.5	36	80	3.8	6	4	0.035	324	●
5	0.1	5.5	40	80	4.7	6	4	0.04	326	●
5	0.3	5.5	40	80	4.7	6	4	0.04	328	●
5	0.5	5.5	40	80	4.7	6	4	0.04	330	●
5	1	5.5	40	80	4.7	6	4	0.04	332	●
6	0.1	7	44	80	5.7	6	4	0.047	334	●
6	0.3	7	44	80	5.7	6	4	0.047	336	●
6	0.5	7	44	80	5.7	6	4	0.047	338	●
6	1	7	44	80	5.7	6	4	0.047	340	●
6	1.5	7	44	80	5.7	6	4	0.047	342	●
6	2	7	44	80	5.7	6	4	0.047	344	●
8	0.1	9	54	100	7.6	8	4	0.057	346	●
8	0.3	9	54	100	7.6	8	4	0.057	348	●
8	0.5	9	54	100	7.6	8	4	0.057	350	●
8	1	9	54	100	7.6	8	4	0.057	352	●
8	2	9	54	100	7.6	8	4	0.057	354	●
8	3	9	54	100	7.6	8	4	0.057	356	●

							Type		H	
							Surface		RockTec PRO	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		f8	
							Tolerance of shank Ø		h5	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16952... Ident. No.	
10	0.1	12	60	100	9.6	10	4	0.062	358	●
10	0.3	12	60	100	9.6	10	4	0.062	360	●
10	0.5	12	60	100	9.6	10	4	0.062	362	●
10	1	12	60	100	9.6	10	4	0.062	364	●
10	2	12	60	100	9.6	10	4	0.062	366	●
10	3	12	60	100	9.6	10	4	0.062	368	●
12	0.5	14	75	120	11.6	12	4	0.075	370	●
12	1	14	75	120	11.6	12	4	0.075	372	●
12	2	14	75	120	11.6	12	4	0.075	374	●
12	3	14	75	120	11.6	12	4	0.075	376	●
16	1	18	92	150	15.4	16	4	0.088	378	●
16	2	18	92	150	15.4	16	4	0.088	380	●
16	3	18	92	150	15.4	16	4	0.088	382	●

Prod. Gr. 152

ATORN SC torus multi-flute end mills

6-10 cutting edges, TiAlSiN-coated



Application:
Torus multi-tooth mills in short design for machining materials up to 65 HRC, e.g. in die and mould making.

Execution:
- Cutting material, Ultra Micro fine grain
- cutting edge finish
- HA shaft in line with DIN 6535
- with clearance
- type H
- With RockTec PRO coating
- Radius tolerance = +/- 0.005 mm

Advantage:
- optimum chip removal and temperature resistance
- Optimised geometry for machining hard materials
- maximum service life thanks to RockTec PRO coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			130															145	200

							Type		H	
							Surface		RockTec PRO	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		f8	
							Tolerance of shank Ø		h5	
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16952... Ident. No.	
3	0.1	4	12	57	2.9	6	6	0.024	500	●
3	0.5	4	12	57	2.9	6	6	0.024	502	●
4	0.1	5	14	57	3.8	6	6	0.035	504	●
4	0.5	5	14	57	3.8	6	6	0.035	506	●
4	1	5	14	57	3.8	6	6	0.035	508	●
5	0.1	6	16	57	4.7	6	6	0.04	510	●
5	0.5	6	16	57	4.7	6	6	0.04	512	●
5	1	6	16	57	4.7	6	6	0.04	514	●
6	0.1	7	20	57	5.6	6	6	0.047	516	●
6	0.5	7	20	57	5.6	6	6	0.047	518	●
6	0.8	7	20	57	5.6	6	6	0.047	520	●
6	1	7	20	57	5.6	6	6	0.047	522	●
6	1.5	7	20	57	5.6	6	6	0.047	524	●
8	0.1	9	26	63	7.6	8	6	0.057	526	●
8	0.5	9	26	63	7.6	8	6	0.057	528	●
8	0.8	9	26	63	7.6	8	6	0.057	530	●
8	1	9	26	63	7.6	8	6	0.057	532	●
8	1.5	9	26	63	7.6	8	6	0.057	534	●
8	2	9	26	63	7.6	8	6	0.057	536	●
10	0.1	11	32	72	9.4	10	6	0.062	538	●
10	0.5	11	32	72	9.4	10	6	0.062	540	●
10	0.8	11	32	72	9.4	10	6	0.062	542	●
10	1	11	32	72	9.4	10	6	0.062	544	●
10	1.5	11	32	72	9.4	10	6	0.062	546	●
10	2	11	32	72	9.4	10	6	0.062	548	●
12	0.1	12	38	83	11.4	12	6	0.075	550	●
12	0.5	12	38	83	11.4	12	6	0.075	552	●
12	1	12	38	83	11.4	12	6	0.075	554	●
12	1.5	12	38	83	11.4	12	6	0.075	556	●

							Type	H		
							Surface	RockTec PRO		
							Tool holding device	HA parallel shank		
							Tolerance of cutting edge Ø	f8		
							Tolerance of shank Ø	h5		
mm	R mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16952... Ident. No.	
12	2	12	38	83	11.4	12	6	0.075	558	●
16	0.5	16	44	92	15.4	16	8	0.088	560	●
16	1	16	44	92	15.4	16	8	0.088	562	●
16	2	16	44	92	15.4	16	8	0.088	564	●
16	3	16	44	92	15.4	16	8	0.088	566	●
20	1	20	52	104	19.4	20	10	0.095	568	●

Prod. Gr. 152

ATORN SC torus multi-flute end mills

6-10 cutting edges, TiAlSiN-coated

VHM | RockTec PRO | Typ H | Z 10 | Z 6 | Z 8 | 45° | HA

Application:

Torus multi-tooth mills in standard design for machining materials up to 65 HRC, e.g. in die and mould making.

Execution:

- Cutting material, Ultra Micro fine grain
- cutting edge finish
- HA shaft in line with DIN 6535
- with clearance
- type H
- With RockTec PRO coating
- Radius tolerance = +/- 0.005 mm

Advantage:

- optimum chip removal and temperature resistance
- Optimised geometry for machining hard materials
- maximum service life thanks to RockTec PRO coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			130															145	200

							Type	H	
							Surface	RockTec PRO	
							Tool holding device	HA parallel shank	
							Tolerance of cutting edge Ø	f8	
							Tolerance of shank Ø	h5	
mm	R mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16952... Ident. No.		
3	0.1	9	57	6	6	0.024	600	●	
3	0.5	9	57	6	6	0.024	602	●	
4	0.1	11	57	6	6	0.035	604	●	
4	0.5	11	57	6	6	0.035	606	●	
4	1	11	57	6	6	0.035	608	●	
5	0.1	13	57	6	6	0.04	610	●	
5	0.5	13	57	6	6	0.04	612	●	
5	1	13	57	6	6	0.04	614	●	
6	0.1	15	57	6	6	0.047	616	●	
6	0.5	15	57	6	6	0.047	618	●	
6	1	15	57	6	6	0.047	620	●	
8	0.1	19	63	8	6	0.057	622	●	
8	0.5	19	63	8	6	0.057	624	●	
8	1	19	63	8	6	0.057	626	●	
10	0.1	24	72	10	6	0.062	628	●	
10	0.5	24	72	10	6	0.062	630	●	
10	1	24	72	10	6	0.062	632	●	
10	1.5	24	72	10	6	0.062	634	●	
12	0.1	28	83	12	6	0.075	636	●	
12	0.5	28	83	12	6	0.075	638	●	
12	1	28	83	12	6	0.075	640	●	
12	1.5	28	83	12	6	0.075	642	●	
16	0.5	36	92	16	8	0.088	644	●	
16	1	36	92	16	8	0.088	646	●	
20	1	44	104	20	10	0.095	648	●	

Prod. Gr. 152

ATORN SC torus multi-flute end mills

6-10 cutting edges, TiAlSiN-coated

VHM | RockTec PRO | Typ H | Z 10 | Z 6 | Z 8 | 45° | HA

Application:
Torus multi-tooth mills in long design for machining materials up to 65 HRC, e.g. in die and mould making.

Execution:
- Cutting material, Ultra Micro fine grain
- cutting edge finish
- HA shaft in line with DIN 6535
- Clearance
- type H
- With RockTec PRO coating
- Radius tolerance = +/- 0.005 mm

Advantage:
- optimum chip removal and temperature resistance
- Optimised geometry for machining hard materials
- maximum service life thanks to RockTec PRO coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			130															145	200

									Type	H
									Surface	RockTec PRO
									Tool holding device	HA parallel shank
									Tolerance of cutting edge Ø	f8
									Tolerance of shank Ø	h5
mm	R mm	mm	mm	mm					Z (PCS)	fz hard 65 HRC ● (mm)	16952... Ident. No.	
3	0.1	9	65	6					6	0.024	700	●
3	0.5	9	65	6					6	0.024	702	●
4	0.1	12	65	6					6	0.035	704	●
4	0.5	12	65	6					6	0.035	706	●
4	1	12	65	6					6	0.035	708	●
5	0.1	15	65	6					6	0.04	710	●
5	0.5	15	65	6					6	0.04	712	●
5	1	15	65	6					6	0.04	714	●
6	0.1	18	65	6					6	0.047	716	●
6	0.5	18	65	6					6	0.047	718	●
6	1	18	65	6					6	0.047	720	●
8	0.1	24	70	8					6	0.057	722	●
8	0.5	24	70	8					6	0.057	724	●
8	1	24	70	8					6	0.057	726	●
10	0.1	30	85	10					6	0.062	728	●
10	0.5	30	85	10					6	0.062	730	●
10	1	30	85	10					6	0.062	732	●
10	1.5	30	85	10					6	0.062	734	●
12	0.1	36	93	12					6	0.075	736	●
12	0.5	36	93	12					6	0.075	738	●
12	1	36	93	12					6	0.075	740	●
16	0.5	48	110	16					8	0.088	742	●
16	1	48	110	16					8	0.088	744	●
20	1	60	126	20					10	0.095	746	●

Prod. Gr. 152

ATORN Solid carbide ball nose end mill

2 cutting edges, TiAlSiN coated

VHM | RockTec PRO | Typ H | Z 2 | 30° | HA

Application:
Radius cutter in short design for machining materials up to 65 HRC, e.g. in die and mould making.

Execution:
- Cutting material, Ultra Micro fine grain
- cutting edge finish
- HA shaft in line with DIN 6535
- Clearance
- type H
- With RockTec PRO coating
- Radius tolerance = +/- 0.005 mm

Advantage:
- optimum chip removal and temperature resistance
- Optimised geometry for machining hard materials
- maximum service life thanks to RockTec PRO coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			130															145	200

						Type		H	
						Surface		RockTec PRO	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		f8	
						Tolerance of shank Ø		h5	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16954... Ident. No.	
1	1.5	3.5	57	0.96	6	2	0.011	200	●
1.5	2	4	57	1.44	6	2	0.015	202	●
2	2.5	4.5	57	1.95	6	2	0.019	204	●
2.5	3	-	57	-	6	2	0.021	206	●
3	3.5	-	57	-	6	2	0.024	208	●
4	4.5	-	57	-	6	2	0.035	210	●
5	5.5	-	57	-	6	2	0.04	212	●
6	7	-	57	-	6	2	0.047	214	●
8	9	-	70	-	8	2	0.057	216	●
10	12	-	72	-	10	2	0.062	218	●
12	14	-	83	-	12	2	0.075	220	●
16	18	-	92	-	16	2	0.088	222	●
20	22	-	104	-	20	2	0.095	224	●

Prod. Gr. 152

ATORN Solid carbide ball nose end mill

2 cutting edges, TiAlSiN coated

Application:
Radius milling cutter, standard design, for machining materials up to 65 HRC, e.g. in dip cutting and mould construction.

Execution:
- Cutting material, Ultra Micro fine grain
- cutting edge finish
- HA shaft in line with DIN 6535
- Clearance
- type H
- With RockTec PRO coating
- Radius tolerance = +/- 0.005 mm

Advantage:
- optimum chip removal and temperature resistance
- Optimised geometry for machining hard materials
- maximum service life thanks to RockTec PRO coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			130															145	200

						Type		H	
						Surface		RockTec PRO	
						Tool holding device		HA parallel shank	
						Tolerance of cutting edge Ø		f8	
						Tolerance of shank Ø		h5	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16954... Ident. No.	
1	1.5	3.5	65	0.96	6	2	0.011	250	●
1.5	2	4	65	1.44	6	2	0.015	252	●
2	2.5	4.5	65	1.95	6	2	0.019	254	●
2.5	3	-	65	-	6	2	0.021	256	●
3	3.5	-	65	-	6	2	0.024	258	●
4	4.5	-	65	-	6	2	0.035	260	●
5	5.5	-	65	-	6	2	0.04	262	●
6	7	-	65	-	6	2	0.047	264	●
8	9	-	85	-	8	2	0.057	266	●
10	12	-	85	-	10	2	0.062	268	●
12	14	-	93	-	12	2	0.075	270	●
16	18	-	110	-	16	2	0.088	272	●
20	22	-	126	-	20	2	0.095	274	●

Prod. Gr. 152

ATORN Solid carbide ball nose end mill

2 cutting edges, TiAlSiN coated

Application:
Radius milling cutter, long design, for machining materials up to 65 HRC, e.g. in dip cutting and mould construction.

Execution:
- Cutting material, Ultra Micro fine grain
- cutting edge finish
- HA shaft in line with DIN 6535
- Clearance
- type H
- With RockTec PRO coating
- Radius tolerance = +/- 0.005 mm

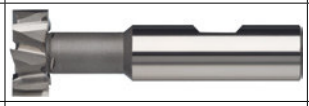
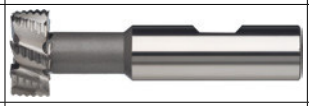
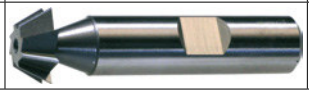
Advantage:
- optimum chip removal and temperature resistance
- Optimised geometry for machining hard materials
- maximum service life thanks to RockTec PRO coating

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
			130															145	200

							Type		H	
							Surface		RockTec PRO	
							Tool holding device		HA parallel shank	
							Tolerance of cutting edge Ø		f8	
							Tolerance of shank Ø		h5	
mm	mm	mm	mm	mm	mm	Z (PCS)	fz hard 65 HRC ● (mm)	16954... Ident. No.		
1	1.5	3.5	80	0.96	6	2	0.011	300	●	
1.5	2	4	80	1.44	6	2	0.015	302	●	
2	2.5	4.5	80	1.95	6	2	0.019	304	●	
2.5	3	-	80	-	6	2	0.021	306	●	
3	3.5	-	80	-	6	2	0.024	308	●	
4	4.5	-	80	-	6	2	0.035	310	●	
5	5.5	-	80	-	6	2	0.04	312	●	
6	7	-	100	-	6	2	0.047	314	●	
8	9	-	100	-	8	2	0.057	316	●	
10	12	-	100	-	10	2	0.062	318	●	
12	14	-	100	-	12	2	0.075	320	●	
16	18	-	150	-	16	2	0.088	322	●	
20	22	-	150	-	20	2	0.095	324	●	

Prod. Gr. 152

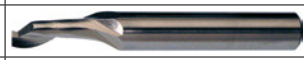
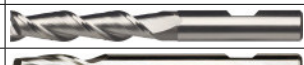
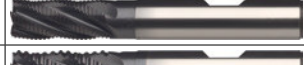
HSS/HSSE profiling and disc milling cutter

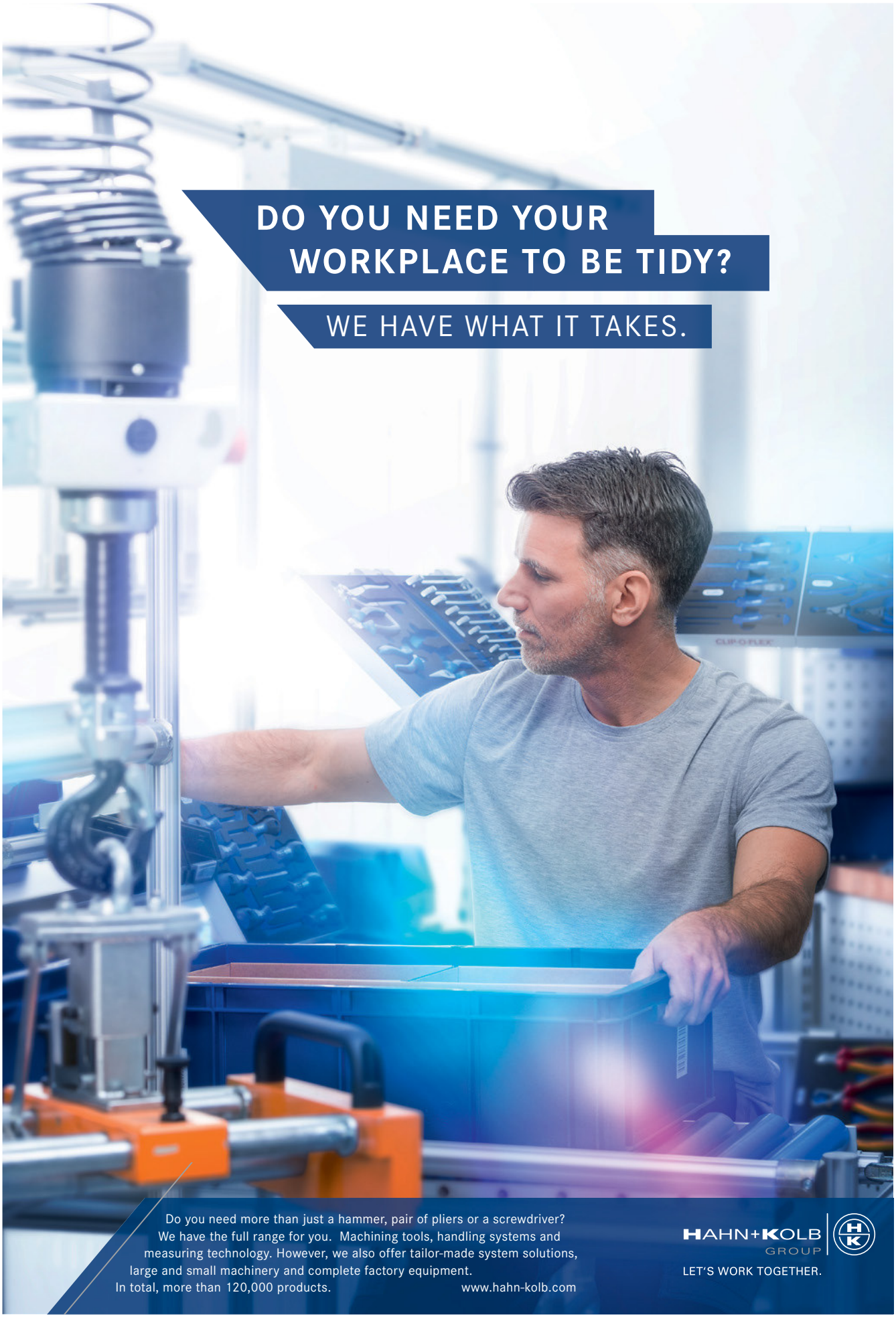
		Ø	Cutting material	Z	Type	Surface	P	M	N	K	S	H		page
15461010-080	Quarter circle milling cutter HSSE Co 5 Concave	1.0-8 mm		4 PCS	N	Uncoated	●	○	●	○	○			522
15792	T-slot milling cutter HSSE Co 5	12.5-45 mm	HSSE Co5	6 PCS	N	Uncoated	●	○	●	○	○			523
15794	T-slot milling cutter HSSE Co 5	16-45 mm	HSSE Co5	10 PCS	NF	Uncoated	●	○	●	○	○			523
15800	Keyway cutter HSSE Co 5	1-6 mm	HSSE Co5	6 PCS	H	Uncoated	●		●	○	●			523
15804	Keyway cutter HSSE Co 5	1-10 mm	HSSE Co5	14 PCS	N	Uncoated	●		●	○				524
15806	Keyway cutter HSSE Co 5	4-10 mm	HSSE Co5	8 PCS	N	Uncoated	●		●	○				524
15814120-155	Angular milling cutter HSSE Co 5	16-32 mm	HSSE Co5	12 PCS	N	Uncoated	●	○	○	○				524
15815015-055	Angular milling cutter HSSE Co 5	16-32 mm	HSSE Co5	10 PCS	N	Uncoated	●	○	○	○				524

HSSE/HSSE PM shell end mill

	Ø	Cutting material	Z	Type	Surface	P	M	N	K	S	H		page
14164	30-60 mm		6 PCS	N	Uncoated	●	○	●	○				525
14169	40-60 mm		6 PCS	NF	Uncoated	●	○	●	○				525
14168	40-60 mm		8 PCS	NR	Uncoated	●	○	●	○				525
14193	40-80 mm		6 PCS	N	Uncoated	●	○	●	○				525-526
14195	40-80 mm		6 PCS	W	Uncoated	●	○	●	○				525-526

HSSE/HSSE PM angular milling cutter and radius cutter

	Ø	Z	Type	Surface	Tool holding device	P	M	N	K	S	H		page
15007	3-10 mm	1 PCS	W	Uncoated	HA parallel shank			●					526
15020020-360	2-36 mm	2 PCS	N	Uncoated	HB parallel shank	●	○	○	●	○			526-527
15023010-015	1-1.5 mm	2 PCS	N	TiAlN	HB parallel shank	●	○	○	●	○			526-527
15061	2-20 mm	2 PCS	W	Uncoated	HB parallel shank	●	○	●		○			527-528
15063	2-20 mm	2 PCS	W	Uncoated	HB parallel shank	●	○	●		○			527-528
15053	2-25 mm	2 PCS	N	Uncoated	HB parallel shank	●	○	○	●	○			528
15055	2-20 mm	2 PCS	N	TiAlN	HB parallel shank	●	○	○	●	○			528
15102	2-32 mm	3 PCS	N	Uncoated	HB parallel shank	●	○	○	○	○	○		529
15105	2-20 mm	3 PCS	N	TiAlN	HB parallel shank	●	○	○	○	○	○		529
15112	2.8-25 mm	3 PCS	N	Uncoated	HB parallel shank	●	○	○	○	○			529-530
15118	2.8-25 mm	3 PCS	N	TiAlN	HB parallel shank	●	○	○	○	○			529-530
15116	6-20 mm	3 PCS	NR	Uncoated	HB parallel shank	●	○	○	○	○			529-530
15119	6-20 mm	3 PCS	NR	TiAlN	HB parallel shank	●	○	○	○	○			529-530
15124	3-25 mm	3 PCS	N	Uncoated	HB parallel shank	●	○	○	○	○			530
15176	2-40 mm	3 PCS	N	Uncoated	HB parallel shank	●	○	○	○	○			531
15178	2-40 mm	6 PCS	N	TiAlN	HB parallel shank	●	○	○	○	○			531
15193	3-32 mm	4 PCS	N	Uncoated	HB parallel shank	●	○	○	○	○			532
15195	3-32 mm	6 PCS	N	TiAlN	HB parallel shank	●	○	○	○	○			532
15904	6-20 mm	4 PCS	N	TiAlN	HB parallel shank	●	○	○	○	○			532
15324	10-32 mm	6 PCS	N	Uncoated	HB parallel shank	●	○	○	○	○			532-533
15325	14-32 mm	4 PCS	NR	Uncoated	HB parallel shank	●	○	○	○	○			532-533
15914	6-20 mm	5 PCS	N	TiAlN	HB parallel shank	●	●	○	○	●			533
15188	2-32 mm	4 PCS	N	TiAlN	HB parallel shank	●	○	○	○	○			533-534
15261	6-32 mm	4 PCS	NR	Uncoated	HB parallel shank	●	○	○	○	○			534-535
15290	6-30 mm	4 PCS	HR	TiCN	HB parallel shank	●	○	○	○	●			535
15300	6-30 mm	6 PCS	HR	TiCN	HB parallel shank	●	○	○	○	●			535-536
15269	6-32 mm	4 PCS	NRF	TiAlN	HB parallel shank	●	○	○	○	○			536
15905	6-20 mm	5 PCS	NR	TiAlN	HB parallel shank	●	○	○	○	○			536
15907	6-20 mm	4 PCS	NF	TiAlN	HB parallel shank	●	○	○	○	○			536
15319	6-32 mm	4 PCS	HR	TiAlN	HB parallel shank	●	○	○	○	●			537
15361	2-25 mm	2 PCS	N	Uncoated	HB parallel shank	●	○	○	○	○			537-538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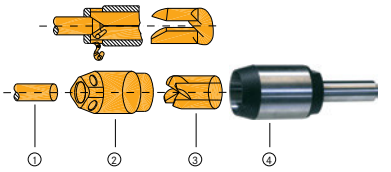
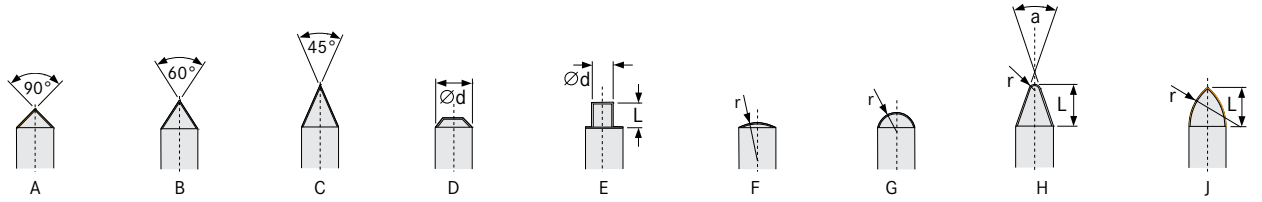
Milling tool for wire and rod ends

Application:
For centred rounding, pointing, levelling and chamfering of wire and rod ends and mass-produced parts with cylindrical or polygonal cross-sections. The HSS milling blade and workpiece centring discs are replaceable. The end-milling tools are used in an advantageous rotary motion.



Overview - blade shapes:



Prices on request.

ORION® HSSE Co 5 quarter circle milling cutter (Milling cutter design standard DIN 6518)

Concave

Typ N | Z 4 | HB

Application:
Quarter circle milling cutter for machining complex forms, e.g. bore radii in materials up to 1000 N/mm².

Execution:
- Finishing teeth
- 5° cutting angle

- Up to 5 mm radius - backed off radially and axially
- From 5.5 mm radius - ground chamfers
- Up to 8 mm radius - combination shank in accordance with DIN 1835 B and D
- From 8.5 mm radius - straight shank in accordance with DIN 1835 B
- For mounting in self-clamping chucks, e. g. Clarkson, Bahnmüller

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	34	**27**	20	18	15	**70**	175	70	**70**	45	**45**	60		30	15	15	15		

Radius (mm)	Min. cutting edge Ø (mm)	Max. cutting edge Ø (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 700 ● (mm)	15461... Ident. No.	
1	6	8	60	10	4	0.01	010	●
1.5	6	9	60	10	4	0.01	015	●
2	6	10	60	10	4	0.01	020	●
2.5	6	11	60	10	4	0.01	025	●
3	6	12	60	12	4	0.01	030	●
3.5	6	13	60	12	4	0.01	035	●
4	6	14	60	12	4	0.01	040	●
4.5	6	15	60	12	4	0.01	045	●
5	6	16	60	12	4	0.01	050	●
5.5	8	19	67	16	4	0.02	055	●
6	8	20	67	16	4	0.02	060	●
6.5	8	21	71	16	4	0.02	065	●
7	8	22	71	16	4	0.02	070	●
8	8	24	71	16	4	0.02	080	●
8.5	8	25	85	25	4	0.02	085	●
9	8	26	85	25	4	0.02	090	●
10	8	28	85	25	4	0.02	100	●
11	10	32	90	25	4	0.04	110	●
12	10	34	90	25	4	0.04	120	●
13	16	42	100	25	4	0.06	130	●
14	16	44	100	25	4	0.06	140	●
15	16	46	100	25	4	0.06	150	●
16	16	48	100	25	4	0.06	160	●
18	16	52	112	32	4	0.06	180	●
20	16	56	112	32	4	0.06	200	●

Prod. Gr. 106

ORION® HSSE Co 5 T-slot milling cutter (Milling cutter design standard DIN 851)

Type N / NF

HSSE Co5 | Typ N | Typ NF | Z 10 | Z 6 | Z 8 | HB

Application:
for cutting T-slots conforming to DIN 650

Execution:
- straight shank in accordance with DIN 1835 B
- in accordance with DIN 650
- **No. 15792:**
  - type N
  - finishing teeth
  - cross-cut teeth
- **No. 15794:**
  - type NF
  - rough machining-finishing teeth
  - right-hand twist, approx. 25°

No. 15792

No. 15794

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
15792	34	27	20	18	15	70	175	70	70	45	45	60		30	15	15	15		
15794	34	27	20	15	18	70	175	45	45	70	70	60		30	15	15	15		

							Type	N		NF	
Cutting edge Ø (mm)	Width of cutting edge (mm)	Suitable for T-groove (mm)	Length (mm)	Neck Ø (mm)	Shank Ø (mm)	Z (PCS)	fz steel 700 ● (mm)	15792... Ident. No.		15794... Ident. No.	
12.5	6	6	57	5	10	6	0.03	060	●	-	-
16	8	8	62	7	10	6	0.04	080	●	080	●
18	8	10	70	8	12	6	0.04	090	●	090	●
19	9	10	71	8	12	6	0.04	100	●	100	●
21	9	12	74	10	12	8	0.06	110	●	110	●
22	10	12	75	10	12	8	0.06	120	●	120	●
25	11	14	82	12	16	8	0.06	140	●	140	●
28	12	16	85	13	16	8	0.06	160	●	160	●
32	14	18	90	15	16	8	0.07	180	●	180	●
36	16	20	103	17	25	8	0.08	200	●	-	-
36	16	20	103	17	25	10	0.08	-	-	200	●
40	18	22	108	19	25	8	0.09	220	●	-	-
40	18	22	108	19	25	10	0.09	-	-	220	●
45	20	24	113	21	25	10	0.1	240	●	240	●

Prod. Gr. 106

ORION® HSSE Co 5 keyway cutter (Milling cutter design standard DIN 850)

Type H

HSSE Co5 | Typ H | Z 10 | Z 12 | Z 14 | Z 6 | Z 8 | HB

Application:
For making grooves (P9) according to DIN 6888.

Execution:
- HSSE Co 5
- Straight-toothed
- Laterally hollow-ground
- Straight shank according to DIN 1835 B

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	34	27	20	15		70			70		45			30	15	15	15		

Cutting edge Ø (mm)	Width of cutting edge (mm)	Suitable for wood-ruff key	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 700 ● (mm)	15800... Ident. No.	
4.5	1	1 x 1.4 mm	50	6	6	0.03	010	●
7.5	1.5	1.5 x 2.6 mm	50	6	8	0.03	020	●
7.5	2	2 x 2.6 mm	50	6	8	0.03	030	●
10.5	2	2 x 3.7 mm	50	6	10	0.03	040	●
10.5	2.5	2.5 x 3.7 mm	50	6	10	0.03	050	●
10.5	3	3 x 3.7 mm	50	6	10	0.03	060	●
13.5	3	3 x 5 mm	56	10	10	0.04	070	●
13.5	4	4 x 5 mm	56	10	10	0.04	090	●
16.5	3	3 x 6.5 mm	56	10	10	0.04	080	●
16.5	4	4 x 6.5 mm	56	10	10	0.04	100	●
16.5	5	5 x 6.5 mm	56	10	10	0.04	120	●
19.5	4	4 x 7.5 mm	63	10	12	0.05	110	●
19.5	5	5 x 7.5 mm	63	10	12	0.05	130	●
19.5	6	6 x 7.5 mm	63	10	12	0.05	150	●
22.5	5	5 x 9 mm	63	10	12	0.06	140	●
22.5	6	6 x 9 mm	63	10	12	0.06	160	●
25.5	6	6 x 10 mm	63	10	14	0.07	170	●
28.5	6	6 x 11 mm	63	10	14	0.07	180	●

Prod. Gr. 106

ORION® HSSE Co 5 keyway cutter (Milling cutter design standard DIN 850)

Type N

HSSE Co5 | Typ N | Z 10 | Z 12 | Z 14 | Z 6 | Z 8 | HB

Application:
For making grooves (P9) according to DIN 6888.

Execution:
- HSSE Co 5
- Cross-toothed
- Straight shank according to DIN 1835 B.
- **No. 15804:** Laterally hollow-ground
- **No. 15806:** Cuts on 3 sides

No. 15804

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
15804	34	16				70	175	70	70	45	45	60		30					
15806	34	16				70	175	45	45	70	70	60		30					

Cutting edge Ø (mm)	Width of cutting edge (mm)	Suitable for woodruff key	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 700 ● (mm)	15804... Ident. No.		15806... Ident. No.	
4.5	1	1 x 1.4 mm	50	6	6	0.02	010	●	-	-
7.5	1.5	1.5 x 2.6 mm	50	6	6	0.02	020	●	-	-
7.5	2	2 x 2.6 mm	50	6	6	0.02	030	●	-	-
10.5	2	2 x 3.7 mm	50	6	8	0.02	040	●	-	-
10.5	2.5	2.5 x 3.7 mm	50	6	8	0.02	050	●	-	-
10.5	3	3 x 3.7 mm	50	6	8	0.02	060	●	-	-
13.5	3	3 x 5 mm	56	10	8	0.03	070	●	-	-
13.5	4	4 x 5 mm	56	10	8	0.03	090	●	-	-
16.5	3	3 x 6.5 mm	56	10	8	0.03	080	●	-	-
16.5	4	4 x 6.5 mm	56	10	8	0.03	100	●	100	●
16.5	5	5 x 6.5 mm	56	10	8	0.03	120	●	120	●
19.5	4	4 x 7.5 mm	63	10	10	0.04	110	●	110	●
19.5	5	5 x 7.5 mm	63	10	10	0.04	130	●	130	●
19.5	6	6 x 7.5 mm	63	10	10	0.04	150	●	150	●
22.5	5	5 x 9 mm	63	10	10	0.05	140	●	140	●
22.5	6	6 x 9 mm	63	10	10	0.05	160	●	160	●
22.5	8	8 x 9 mm	63	10	10	0.05	190	●	190	●
25.5	6	6 x 10 mm	63	10	10	0.05	170	●	170	●
28.5	6	6 x 11 mm	63	10	10	0.05	180	●	180	●
28.5	8	8 x 11 mm	63	10	10	0.05	200	●	200	●
32.5	8	8 x 13 mm	71	12	12	0.07	210	●	210	●
32.5	10	10 x 13 mm	71	12	12	0.07	230	●	230	●
45.5	10	10 x 16 mm	71	12	14	0.09	240	●	240	●

Prod. Gr. 106

ORION® 45° and 60° HSSE Co 5 angle milling cutter

Type H

HSSE Co5 | Typ N | Z 10 | Z 12 | HB

Application:
For milling ducts and other angular geometries in tool and mechanical engineering.

Execution:
- Straight-grooved
- Finely toothed
- Straight shank according to DIN 1835 B.
- **No. 15814:** For cutting on periphery and end face
- **No. 15815:** For cutting on periphery

No. 15814

No. 15815

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
15814015-055; 15814120-155	34	27	20	18	15	70	175	70	70	45	45	60		30					
15815015-055; 15815120-155	34	27	20	15	18	70	175	45	45	70	70	60		30					

							Form	C		D	
Chamfer angle (Degree)	Cutting edge Ø (mm)	Width of cutting edge (mm)	Immersion depth (mm)	Length (mm)	Shank Ø (mm)	Z (PCS)	fz steel 700 ● (mm)	15814... Ident. No.		15815... Ident. No.	
45	16	4	15	60	12	10	0.04	015	●	015	●
45	20	5	18	63	12	10	0.05	025	●	025	●
45	25	6.3	22	67	12	10	0.06	040	●	040	●
45	32	8	23	71	16	12	0.08	055	●	055	●
60	16	6.3	15	60	12	10	0.04	120	●	120	●
60	20	8	18	63	12	10	0.05	130	●	130	●
60	25	10	22	67	12	10	0.06	140	●	140	●
60	32	12.5	23	71	16	12	0.08	155	●	155	●

Prod. Gr. 106

ORION® HSSE Co 5 shell end mill (Milling cutter design standard DIN 841)

Typ N | Typ NF | Typ NR | Z 6 | Z 8 | 30°

Execution:

- Hole with longitudinal and lateral slot in line with DIN 138
- Cuts on periphery and end face

No. 14164
Type N

No. 14168
Type NR

No. 14169
Type NF

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	31	**26**	20	21	17	**66**	180	57	**44**	36	**36**	75		33					

				Type	N		NR		NF	
				Design of cutting edges	Smoothing		Roughing		Rough finishing	
				Twist angle	30°		30°		30°	
				Surface	Uncoated		Uncoated		Uncoated	
Cutting edge Ø (mm)	Height (mm)	Bore Ø (mm)	Z (PCS)	fz steel 700 ● (mm)	14164... Ident. No.		14168... Ident. No.		14169... Ident. No.	
30	30	13	6	0.05	030	●	-	-	-	-
35	35	16	6	0.05	035	●	-	-	-	-
40	40	16	8	0.08	045	●	045	●	-	-
40	40	16	6	0.08	-	-	-	-	045	●
50	50	22	6	0.09	055	●	055	●	055	●
60	60	27	8	0.09	065	●	065	●	065	●

Prod. Gr. 1HH

ORION® HSSE Co 5 shell end mill (Milling cutter design standard DIN 1880)

Typ N | Typ W | Z 10 | Z 4 | Z 5 | Z 6 | Z 8 | 30° | 40°

Execution:

- Hole with longitudinal and lateral slot in line with DIN 138
- Cuts on periphery and end face

No. 14193
Type N

No. 14195
Type W

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
14193	**31**	**26**	20	21	17	**66**	180	57	**44**	36	**36**	75		33					
14195	**31**					**66**	**180**	**57**	**44**	**36**	**36**	**75**							

			Type	N		W	
			Design of cutting edges	Smoothing		Smoothing	
			Twist angle	30°		40°	
			Surface	Uncoated		Uncoated	
Cutting edge Ø (mm)	Bore Ø (mm)	Z (PCS)	fz steel 700 ● (mm)	14193... Ident. No.		14195... Ident. No.	
40	16	6	0.08	140	●	-	-
40	16	4	0.08	-	-	140	●
50	22	8	0.09	150	●	-	-

			Type	N		W	
			Design of cutting edges	Smoothing		Smoothing	
			Twist angle	30°		40°	
			Surface	Uncoated		Uncoated	
Cutting edge Ø (mm)	Bore Ø (mm)	Z (PCS)	fz steel 700 ● (mm)	14193... Ident. No.		14195... Ident. No.	
50	22	4	0.09	-	-	150	●
63	27	8	0.09	163	●	-	-
63	27	5	0.09	-	-	163	●
80	27	10	0.1	180	●	-	-
80	27	6	0.1	-	-	180	●

Prod. Gr. 1HH

ORION® HSSE Co 5 1-flute end mill

1 cutting edge, uncoated

Application:
For milling, plunging and contour milling NF metals and plastics.

Execution:
- HSSE Co 5
- Straight shank pursuant to DIN 6535 HA
- Sharp-edged
- Uncoated

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
						60	186	30	35	25	32	77	30						

					Type	W	
					Surface	Uncoated	
					Tool holding device	HA parallel shank	
mm	mm	mm	mm	Z (PCS)	fz alu ● (mm)	15007... Ident. No.	
3	12	60	8	1	0.005	030	●
4	12	60	8	1	0.006	040	●
5	13	60	8	1	0.009	050	●
6	14	60	8	1	0.012	060	●
7	14	60	8	1	0.015	070	●
8	14	80	8	1	0.018	080	●
9	14	80	9	1	0.02	090	●
10	14	80	10	1	0.021	100	●

Prod. Gr. 106

ORION® HSSE Co 8 end mill (Milling cutter design standard DIN 327 B/D)

2 cutting edges, uncoated/TiAlN coated

No. 15013

No. 15020

No. 15023

Application:
No. 15013: Suitable for universal plunge, groove and clearance milling.
No. 15020–15023: Suitable for universal plunge milling, groove milling and tolerance milling.

Execution:
- HSSE Co 8
- **No. 15013:**
  - Finishing teeth
  - Centre cutting
  - Uncoated
  - Short version
- **No. 15020:** uncoated
- **No. 15020–15023:**
  - finishing teeth
  - centre cutting
  - short version
- **No. 15023:** TiAlN coating for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
15013; 15020010-015; 15020020-360	28	23		13	17	60	186	30	35	25	32	77		28	11	11	11		
15023010-015; 15023020-360	40	32		19	24	85	265	35	45	43	50	110		40	15	15	15		

					Type	N		N		N	
					Surface	Uncoated		TiAlN		Uncoated	
					Tool holding device	HB parallel shank		HB parallel shank		HA parallel shank	
mm	mm	mm	mm	Z (PCS)	fz steel 700 ● (mm)	15020... Ident. No.		15023... Ident. No.		15013... Ident. No.	
1	2.6	47	6	2	0.005	010	●	010	●	-	-
1.5	3	47	6	2	0.006	015	●	015	●	-	-

					Type	N		N		N	
					Surface	Uncoated		TiAlN		Uncoated	
					Tool holding device	HB parallel shank		HB parallel shank		HA parallel shank	
mm	mm	mm	mm	Z (PCS)	fz steel 700 ● (mm)	15020... Ident. No.		15023... Ident. No.		15013... Ident. No.	
2	4	48	6	2	0.008	020	●	020	●	020	●
2.5	5	49	6	2	0.009	025	●	025	●	-	-
3	5	49	6	2	0.01	030	●	030	●	030	●
3.5	6	50	6	2	0.01	035	●	035	●	-	-
4	7	51	6	2	0.01	040	●	040	●	040	●
4.5	7	51	6	2	0.014	045	●	045	●	-	-
4.8	8	52	6	2	0.016	048	●	048	●	-	-
5	8	52	6	2	0.017	050	●	050	●	050	●
5.5	8	52	6	2	0.021	055	●	055	●	-	-
5.75	8	52	6	2	0.022	057	●	-	-	-	-
6	8	52	6	2	0.024	060	●	060	●	060	●
6.5	10	60	10	2	0.027	065	●	065	●	-	-
7	10	60	10	2	0.03	070	●	070	●	070	●
7.5	10	60	10	2	0.033	075	●	075	●	-	-
7.75	11	61	10	2	0.034	077	●	077	●	-	-
8	11	61	10	2	0.036	080	●	080	●	080	●
8.5	11	61	10	2	0.038	085	●	085	●	-	-
9	11	61	10	2	0.039	090	●	090	●	090	●
9.5	11	61	10	2	0.041	095	●	-	-	-	-
9.7	13	63	10	2	0.041	097	●	-	-	-	-
10	13	63	10	2	0.042	100	●	100	●	100	●
10.5	13	70	12	2	0.044	105	●	-	-	-	-
11	13	70	12	2	0.045	110	●	-	-	110	●
11.7	16	73	12	2	0.047	117	●	117	●	-	-
12	16	73	12	2	0.048	120	●	120	●	120	●
13	16	73	12	2	0.05	130	●	-	-	130	●
14	16	73	12	2	0.052	140	●	140	●	140	●
15	16	73	12	2	0.054	150	●	-	-	150	●
16	19	79	16	2	0.056	160	●	160	●	160	●
17	19	79	16	2	0.058	170	●	170	●	-	-
18	19	79	16	2	0.06	180	●	180	●	180	●
19	19	79	16	2	0.062	190	●	190	●	-	-
20	22	88	20	2	0.064	200	●	200	●	200	●
22	22	88	20	2	0.065	220	●	220	●	220	●
24	26	102	25	2	0.067	240	●	240	●	-	-
25	26	102	25	2	0.067	250	●	250	●	250	●
28	26	102	25	2	0.069	280	●	280	●	280	●
30	26	102	25	2	0.071	300	●	300	●	300	●
32	32	112	32	2	0.072	320	●	320	●	-	-
36	36	112	32	2	0.076	360	●	-	-	-	-
36	32	112	32	2	0.076	-	-	360	○	-	-

Prod. Gr. 106

ORION® HSSE Co 8 end mill

2 cutting edges, uncoated

No. 15061

No. 15063

Application:
Suitable for universal plunge milling, groove milling and tolerance milling in non-ferrous metals.

Execution:
- HSSE Co 8
- finishing teeth
- centre cutting
- straight shank in accordance with DIN 1835 B
- **No. 15061:**
  - DIN 844 K
  - standard design
- **No. 15063:**
  - DIN 844 L
  - long version

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	28			13	17	60	186	30	35	25	32	77			11				

					Type	W		W	
					Surface	Uncoated		Uncoated	
					Tool holding device	HB parallel shank		HB parallel shank	
mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	15061... Ident. No.		15063... Ident. No.	
2	7	51	6	0.05	2	0.008	020	●	-	-
2	10	54	6	0.05	2	0.008	-	-	020	●
3	8	52	6	0.05	2	0.01	030	●	-	-
3	12	56	6	0.05	2	0.01	-	-	030	●
4	11	55	6	0.1	2	0.01	040	●	-	-
4	19	63	6	0.1	2	0.01	-	-	040	●
5	13	57	6	0.1	2	0.017	050	●	-	-

						Type	W		W	
						Surface	Uncoated		Uncoated	
						Tool holding device	HB parallel shank		HB parallel shank	
mm	mm	mm	mm	F mm	Z (PCS)	fz alu ● (mm)	15061... Ident. No.		15063... Ident. No.	
5	24	68	6	0.1	2	0.017	-	-	050	●
6	13	57	6	0.1	2	0.024	060	●	-	-
6	24	68	6	0.1	2	0.024	-	-	060	●
7	30	80	10	0.1	2	0.03	-	-	070	●
8	19	69	10	0.1	2	0.036	080	●	-	-
8	38	88	10	0.1	2	0.036	-	-	080	●
9	38	88	10	0.1	2	0.039	-	-	090	●
10	22	72	10	0.2	2	0.042	100	●	-	-
10	45	95	10	0.2	2	0.042	-	-	100	●
11	22	79	12	0.2	2	0.045	110	●	-	-
11	45	102	12	0.2	2	0.045	-	-	110	●
12	26	83	12	0.2	2	0.048	120	●	-	-
12	53	110	12	0.2	2	0.048	-	-	120	●
13	26	83	12	0.2	2	0.05	130	●	-	-
13	53	110	12	0.2	2	0.05	-	-	130	●
14	26	83	12	0.2	2	0.052	140	●	-	-
14	53	110	12	0.2	2	0.052	-	-	140	●
15	53	110	12	0.2	2	0.054	-	-	150	●
16	32	92	16	0.2	2	0.056	160	●	-	-
16	63	123	16	0.2	2	0.056	-	-	160	●
18	32	92	16	0.2	2	0.06	180	●	-	-
18	63	123	16	0.2	2	0.06	-	-	180	●
20	38	104	20	0.2	2	0.064	200	●	-	-
20	75	141	20	0.2	2	0.064	-	-	200	●

Prod. Gr. 143

ORION® HSSE Co 8 end mill (Milling cutter design standard DIN 844 L)

2 cutting edges, uncoated/TiAlN coated

HSSE Co8 | TiAlN | Typ N | Z 2 | 30° | HB

No. 15053

No. 15055

Application:
Suitable for universal plunge milling, groove milling and tolerance milling.

Execution:
- HSSE Co 8
- finishing teeth
- centre cutting
- straight shank in accordance with DIN 1835 B
- long version
- **No. 15053:** uncoated
- **No. 15055:** TiAlN coating for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
15053	28	23		13	17	60	186	30	35	25	32	77		28	11	11	11		
15055	40	32		19	24	85	265	35	45	43	50	110		40					

					Type	N		N	
					Surface	Uncoated		TiAlN	
					Tool holding device	HB parallel shank		HB parallel shank	
mm	mm	mm	mm	Z (PCS)	fz steel 700 ● (mm)	15053... Ident. No.		15055... Ident. No.	
2	7	54	6	2	0.008	020	●	020	●
3	8	56	6	2	0.01	030	●	030	●
4	11	63	6	2	0.01	040	●	040	●
5	13	68	6	2	0.017	050	●	050	●
6	13	68	6	2	0.024	060	●	060	●
7	16	80	10	2	0.03	070	○	070	●
8	19	88	10	2	0.036	080	●	080	●
9	19	88	10	2	0.039	090	●	090	●
10	22	95	10	2	0.042	100	●	100	●
11	22	102	12	2	0.045	110	●	110	●
12	26	110	12	2	0.048	120	●	120	●
14	26	110	12	2	0.052	140	●	140	●
15	26	110	12	2	0.054	150	●	150	●
16	32	123	16	2	0.056	160	●	160	●
18	32	123	16	2	0.06	180	●	180	●
20	38	141	20	2	0.064	200	●	200	●
25	45	166	25	2	0.067	250	●	-	-

Prod. Gr. 106

ORION® HSSE Co 8 end mill (Milling cutter design standard DIN 327 B/D)

3 cutting edges, uncoated/TiAlN coated

HSSE Co8 | TiAlN | Typ N | Z 3 | 30° | 45° | HB

No. 15102

No. 15105

Application:
End mill for universal use when plunge milling, groove milling and keyway cutting as well as face milling and peripheral milling.

Execution:
- HSSE Co 8
- finishing teeth
- centre cutting
- straight shank in accordance with DIN 1835 B
- without edge protection chamfer
- **No. 15102:** uncoated
- **No. 15105:** TiAlN coating for maximum service life

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
15102	28	23		13	17	60	186	30	35	25	32	77		28	11	11	11		
15105	40	32		19	24	85	265	35	45	43	50	110		40	15	15	15		

							Type	N		N	
							Surface	Uncoated		TiAlN	
							Tool holding device	HB parallel shank		HB parallel shank	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 700 ● (mm)		15102... Ident. No.		15105... Ident. No.	
2	4	48	6	0.1	3	0.015		020	●	020	●
3	5	49	6	0.1	3	0.018		030	●	030	●
3.5	6	50	6	0.1	3	0.019		035	●	035	●
4	7	51	6	0.1	3	0.02		040	●	040	●
4.5	7	51	6	0.1	3	0.027		045	●	-	-
5	8	52	6	0.1	3	0.032		050	●	050	●
5.5	8	52	6	0.1	3	0.038		055	●	055	●
6	8	52	6	0.1	3	0.043		060	●	060	●
6.5	10	60	10	0.1	3	0.049		065	●	-	-
7	10	60	10	0.1	3	0.055		070	●	070	●
7.5	10	60	10	0.1	3	0.06		075	●	-	-
8	11	61	10	0.1	3	0.067		080	●	080	●
9	11	61	10	0.1	3	0.071		090	●	090	●
9.5	11	61	10	0.1	3	0.074		095	●	-	-
10	13	63	10	0.2	3	0.077		100	●	100	●
11	13	70	12	0.2	3	0.084		110	●	110	●
12	16	73	12	0.2	3	0.088		120	●	120	●
13	16	73	12	0.2	3	0.09		130	●	130	●
14	16	73	12	0.2	3	0.1		140	●	140	●
15	16	73	12	0.2	3	0.1		150	●	150	●
16	19	79	16	0.2	3	0.1		160	●	160	●
18	19	79	16	0.2	3	0.11		180	●	180	●
20	22	88	20	0.2	3	0.12		200	●	200	●
22	22	88	20	0.2	3	0.12		220	●	-	-
25	26	102	25	0.2	3	0.12		250	●	-	-
28	26	102	25	0.2	3	0.13		280	●	-	-
30	26	102	25	0.2	3	0.13		300	●	-	-
32	32	112	32	0.2	3	0.13		320	●	-	-

Prod. Gr. 106

ORION® HSSE Co 5/Co 8 end mill (Milling cutter design standard DIN 844 K)

3 cutting edges, uncoated/TiAlN coated

HSSE Co5 | HSSE Co8 | TiAlN | Typ N | Typ NR | Z 3 | 30° | 45° | HB

No. 15112

No. 15116

No. 15118

No. 15119

Application:
No. 15112 028–15112 250, 15118 028–15118 250: End mill for universal use when plunge milling, groove milling and keyway cutting as well as face milling and peripheral milling.
No. 15116 060–15116 200, 15119 060–15119 200: End mill for universal use in plunge milling, groove milling and keyway cutting, as well as front milling and peripheral milling.

Execution:
- **No. 15112:** uncoated
- **No. 15112 028–15112 250, 15118 028–15118 250:**
  - HSSE Co 8
- centre cutting
- type N
- finishing teeth
- straight shank in accordance with DIN 1835 B
- **No. 15116:** Uncoated
- **No. 15116 060–15116 200, 15119 060–15119 200:**
  - HSSE Co 5
  - Centre cutting
  - Type NR
  - Roughing teeth
  - Straight shank in accordance with DIN 1835 B
- **No. 15118:** TiAlN coating for maximum service life
- **No. 15119:** TiAlN coating for maximum service life

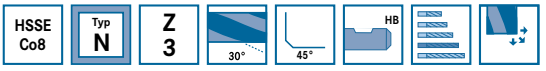
Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
15112; 15116	28	23		13	17	60	186	30	35	25	32	77		28	11	11	11		
15118; 15119	40	32		19	24	85	265	35	45	43	50	110		40	15	15	15		

							Type	N		NR		N		NR	
							Surface	Uncoated		Uncoated		TiAlN		TiAlN	
							Tool holding device	HB parallel shank		HB parallel shank		HB parallel shank		HB parallel shank	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 700 ● (mm)		15112... Ident. No.		15116... Ident. No.		15118... Ident. No.		15119... Ident. No.	
2.8	8	52	6	0.1	3	0.014	028	●	-	-	028	●	-	-	
3	8	52	6	0.1	3	0.014	030	●	-	-	030	●	-	-	
3.8	11	55	6	0.1	3	0.016	038	●	-	-	038	●	-	-	
4	11	55	6	0.1	3	0.017	040	●	-	-	040	●	-	-	
4.8	13	57	6	0.1	3	0.024	048	●	-	-	048	●	-	-	
5	13	57	6	0.1	3	0.026	050	●	-	-	050	●	-	-	
5.75	13	57	6	0.1	3	0.033	057	●	-	-	057	●	-	-	
6	13	57	6	0.1	3	0.035	060	●	060	●	060	●	060	●	
6.75	16	66	10	0.1	3	0.042	067	●	-	-	067	●	-	-	
7	16	66	10	0.1	3	0.045	070	●	-	-	070	●	-	-	
7.75	19	69	10	0.1	3	0.052	077	●	-	-	077	●	-	-	
8	19	69	10	0.1	3	0.054	080	●	080	●	080	●	080	●	
9.7	22	72	10	0.1	3	0.062	097	●	-	-	097	●	-	-	
10	22	72	10	0.1	3	0.063	100	●	100	●	100	●	100	●	
12	26	83	12	0.2	3	0.072	120	●	120	●	120	●	120	●	
14	26	83	12	0.2	3	0.078	140	●	140	●	140	●	140	●	
16	32	92	16	0.2	3	0.084	160	●	160	●	160	●	160	●	
18	32	92	16	0.2	3	0.09	180	●	180	●	180	●	180	●	
20	38	104	20	0.2	3	0.096	200	●	200	●	200	●	200	●	
25	45	121	25	0.2	3	0.101	250	●	-	-	250	●	-	-	

Prod. Gr. 106

ORION® HSSE Co 8 end mill (Milling cutter design standard DIN 844 L)

3 cutting edges, uncoated



Application:
End mill for universal use when plunge milling, groove milling and keyway cutting as well as face milling and peripheral milling.

Execution:
- HSSE Co 8
- finishing teeth
- centre cutting
- straight shank in accordance with DIN 1835 B

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	28	23		17	13	60	186	30	35	25	32	77		28	11	11	11		

						Type	N	
						Surface	Uncoated	
						Tool holding device	HB parallel shank	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 700 ● (mm)	15124... Ident. No.	
3	12	56	6	0.1	3	0.014	030	●
4	19	63	6	0.1	3	0.017	040	●
5	24	68	6	0.1	3	0.026	050	●
6	24	68	6	0.1	3	0.035	060	●
7	30	80	10	0.1	3	0.045	070	●
8	38	88	10	0.1	3	0.054	080	●
9	38	88	10	0.1	3	0.059	090	●
10	45	95	10	0.1	3	0.063	100	●
12	53	110	12	0.2	3	0.072	120	●
14	53	110	12	0.2	3	0.078	140	●
16	63	123	16	0.2	3	0.084	160	●
18	63	123	16	0.2	3	0.09	180	●
20	75	141	20	0.2	3	0.096	200	●
22	75	141	20	0.2	3	0.098	220	●
25	90	166	25	0.2	3	0.101	250	●

Prod. Gr. 106

ORION® HSSE Co 8 end mill (Milling cutter design standard DIN 844 K)

4-6 cutting edges, uncoated/TiAlN coated

HSSE Co8 | TiAlN | Typ N | Z 3 | Z 4 | Z 5 | Z 6 | 30° | HA | HB

Application:
End mill for universal machining in a wide range of materials.

Execution:
- HSSE Co 8
- finishing teeth
- centre cutting
- without edge protection chamfer
- **No. 15170:** straight shank in accordance with DIN 1835 A
- **No. 15170–15176:** uncoated
- **No. 15176–15178:** straight shank in accordance with DIN 1835 B
- **No. 15178:** TiAlN coating for maximum service life

No. 15170

No. 15176

No. 15178

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
15170; 15176	28	23	12	17	17	60	186	30	32	25	35	77		28	11	11	11		
15178	40	32	18	19	24	85	265	35	45	43	50	110		40	15	15	15		

						Type	N		N		N	
						Surface	Uncoated		Uncoated		TiAlN	
						Tool holding device	HA parallel shank		HB parallel shank		HB parallel shank	
mm	mm	mm	mm	Z (PCS)	fz steel 700 ● (mm)		15170... Ident. No.		15176... Ident. No.		15178... Ident. No.	
2	7	51	6	3	0.012		020	●	020	●	020	●
2.5	8	52	6	3	0.014		025	●	025	●	025	●
3	8	52	6	4	0.014		030	●	030	●	030	●
3.5	10	54	6	4	0.016		-	-	035	●	035	●
4	11	55	6	4	0.017		040	●	040	●	040	●
4.5	11	55	6	4	0.022		-	-	045	●	045	●
5	13	57	6	4	0.026		050	●	050	●	050	●
5.5	13	57	6	4	0.031		-	-	055	●	055	●
6	13	57	6	4	0.035		060	●	060	●	060	●
6.5	16	66	10	4	0.04		-	-	065	●	065	●
7	16	66	10	4	0.045		070	●	070	●	070	●
7.5	16	66	10	4	0.05		-	-	075	●	075	●
8	19	69	10	4	0.054		080	●	080	●	080	●
8.5	19	69	10	4	0.056		-	-	085	●	085	●
9	19	69	10	4	0.059		090	●	090	●	090	●
9.5	19	69	10	4	0.061		-	-	095	●	095	●
10	22	72	10	4	0.063		100	●	100	●	100	●
11	22	79	12	4	0.068		110	●	110	●	110	●
12	26	83	12	4	0.072		120	●	120	●	120	●
13	26	83	12	4	0.075		130	●	130	●	130	●
14	26	83	12	4	0.078		140	●	140	●	140	●
15	26	83	12	4	0.081		150	●	150	●	150	●
16	32	92	16	4	0.086		160	●	160	●	160	●
17	32	92	16	4	0.086		170	●	170	●	170	●
18	32	92	16	4	0.09		180	●	180	●	180	●
20	38	104	20	4	0.1		200	●	200	●	200	●
22	38	104	20	5	0.12		220	●	220	●	220	●
24	45	121	25	5	0.12		-	-	240	●	240	●
25	45	121	25	5	0.13		250	●	250	●	250	●
28	45	121	25	5	0.13		280	●	280	●	280	●
30	45	121	25	5	0.13		300	●	300	●	300	●
32	53	133	32	6	0.17		320	●	320	●	320	●
35	53	133	32	6	0.17		-	-	350	●	350	●
36	53	133	32	6	0.17		-	-	360	●	360	●
40	63	143	32	6	0.18		-	-	400	●	-	-
40	63	155	40	6	0.18		-	-	-	-	400	●

Prod. Gr. 106

ORION® HSSE Co 8/HSSE PM end mill (Milling cutter design standard DIN 844 L)

4-6 cutting edges, uncoated/TiAlN coated

HSSE-PM | HSSE Co8 | TiAlN | Typ N | Z 5 | Z 6 | Z 4 | 40° | 30° | 45° | HB

No. 15193

No. 15195

No. 15904

Application:
End mill for universal machining in a wide range of materials.

Execution:
- **No. 15193:** uncoated
- **No. 15193–15195:**
  - HSSE Co 8
  - finishing teeth
  - centre cutting
  - straight shank DIN 1835 B
- 40° twist angle
- **No. 15195:** TiAlN coating for maximum service life
- **No. 15904:**
  - HSSE PM - optimised cutting material for unstable clamping conditions and increased service life
  - Finishing teeth
  - Centre cutting
  - TiAlN-coating for maximum service life
  - Straight shank DIN 1835 B
  - Twist angle 30°

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
15193	28	23	12	17	13	60	186	30	35	25	32	77		28	11	11	11		
15195	40	32	18	19	24	85	265	35	45	43	50	110		40	15	15	15		
15904	78	51	35	43	37	130	325	110	85	70	70	140		75	23	23	20		

							Type	N		N		N	
							Surface	Uncoated		TiAlN		TiAlN	
							Tool holding device	HB parallel shank		HB parallel shank		HB parallel shank	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 700 ● (mm)		15193... Ident. No.		15195... Ident. No.		15904... Ident. No.	
3	12	56	6	0.1	4	0.013		030	●	030	●	-	-
4	19	63	6	0.1	4	0.015		040	●	040	●	-	-
5	24	68	6	0.1	4	0.025		050	●	050	●	-	-
6	24	68	6	0.1	4	0.033		060	●	060	●	-	-
8	38	88	10	0.1	4	0.05		080	●	080	●	-	-
10	45	95	10	0.1	4	0.059		100	●	100	●	-	-
12	53	110	12	0.2	4	0.067		120	●	120	●	-	-
14	53	110	12	0.2	4	0.073		140	●	140	●	-	-
16	63	123	16	0.2	4	0.081		160	●	160	●	-	-
18	63	123	16	0.2	4	0.084		180	●	180	●	-	-
20	75	141	20	0.2	4	0.09		200	●	200	●	-	-
22	75	141	20	0.2	5	0.11		220	●	220	●	-	-
25	90	166	25	0.2	5	0.12		250	●	250	●	-	-
28	90	166	25	0.2	5	0.12		280	●	280	●	-	-
30	90	166	25	0.2	5	0.12		300	●	300	●	-	-
32	106	186	32	0.2	6	0.15		320	●	320	●	-	-
6	24	68	6	0.1	4	0.053		-	-	-	-	060	●
8	38	88	10	0.1	4	0.073		-	-	-	-	080	●
10	45	95	10	0.1	4	0.088		-	-	-	-	100	●
12	53	110	12	0.2	4	0.1		-	-	-	-	120	●
16	63	123	16	0.2	4	0.11		-	-	-	-	160	●
20	75	141	20	0.2	4	0.13		-	-	-	-	200	●

Prod. Gr. 106

ORION® HSSE Co 5 end mill

4-6 cutting edges, uncoated

HSSE Co5 | Typ N | Typ NR | Z 4 | Z 5 | Z 6 | 45° | 45° | HB

No. 15324

No. 15325

Application:
No. 15324: End mill for universal machining in diverse materials.
No. 15325: End mill for universal machining in a wide range of materials.

Execution:
- HSSE Co 5
- **No. 15324:**
  - Straight shank in accordance with DIN 1835 B
  - Type N
  - Finishing teeth
- **No. 15325:**
  - straight shank in accordance with DIN 1835 B
  - type NR
  - roughing teeth

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
15324	28	23	12	17	13	60	186	30	35	25	32	77		28	11	11	11		
15325	28	23	12	13	17	60	186	25	32	30	35	77		28	11	11	11		

					Type	N		NR	
					Surface	Uncoated		Uncoated	
					Tool holding device	HB parallel shank		HB parallel shank	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 700 ● (mm)	15324... Ident. No.		15325... Ident. No.	
10	60	110	10	0.1	4	0.06	100	●	-	-
12	80	137	12	0.2	4	0.067	120	●	-	-
14	80	137	12	0.2	4	0.074	140	●	140	●
16	100	160	16	0.2	4	0.081	160	●	160	●
18	100	160	16	0.2	5	0.11	180	●	-	-
18	100	160	16	0.2	4	0.11	-	-	180	●
20	125	191	20	0.2	5	0.11	200	●	-	-
20	125	191	20	0.2	4	0.11	-	-	200	●
22	110	180	20	0.2	5	0.12	220	●	220	●
25	140	216	25	0.2	6	0.13	250	●	-	-
25	140	216	25	0.2	5	0.13	-	-	250	●
28	140	205	25	0.2	6	0.13	280	●	-	-
28	140	205	25	0.2	5	0.13	-	-	280	●
30	140	205	25	0.2	6	0.14	300	●	-	-
30	140	205	25	0.2	5	0.14	-	-	300	●
32	180	260	32	0.2	6	0.14	320	●	320	●

Prod. Gr. 106

ATORN HPC HSSE PM end mill (Milling cutter design standard DIN 844 K)

4 cutting edges, TiAlN-coated

Application:
HPC end mill with an uneven twist for universal roughing and finishing in a wide range of materials. Optimized cutting material for unstable clamping conditions and increased service life.

Execution:
- HSSE PM
- Pursuant to DIN 844 K
- Straight shank according to DIN 1835 B
- TiAlN coating optimized for longer service life
- Centre cutting
- Edge protection chamfer
- Twist angle 35°/30-42°

Advantage:
- Extremely smooth running
- Reduces vibrations
- Ideal for machining in unstable clamping conditions
- Up to 30% increase in feed rate
- Enables greater surface quality

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	32	18	24	19	85	265	43	50	40	45	110		40	15	15	15		

					Type	N		
					Surface	TiAlN		
					Tool holding device	HB parallel shank		
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 700 ● (mm)	15914... Ident. No.	
6	13	57	6	0.1	4	0.047	060	●
8	19	69	10	0.1	4	0.072	080	●
10	22	72	10	0.1	4	0.084	100	●
12	26	83	12	0.2	4	0.096	120	●
16	32	92	16	0.2	5	0.115	160	●
18	32	92	16	0.2	5	0.12	180	●
20	38	104	20	0.2	5	0.13	200	●

Prod. Gr. 118

ORION ATORN HSSE PM end mill (Milling cutter design standard DIN 844 K)

4-6 cutting edges, TiAlN coated

No. 15188

No. 15902

Application:
End mill for universal machining in various materials. Optimised cutting material for unstable clamping conditions and increased service life.

Version:
- HSSE PM
- Finishing teeth
- Centre cutting
- TiAlN coating for maximum service life
- Straight shank in accordance with DIN 1835 B
- also for dry milling using compressed air

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
15188	78	51	35	43	38	130	325	110	85	70	70	140		75	23	23	20		
15902	78	51	35	43	43	130	325	70	70	110	85	140		75	23	23	20		

							ATORN		ORION	
						Type	N		N	
						Surface	TiAlN		TiAlN	
						Tool holding device	HB parallel shank		HB parallel shank	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 700 ● (mm)	15188... Ident. No.		15902... Ident. No.	
2	7	51	6	0.1	4	0.011	020	●	-	-
3	8	52	6	0.1	4	0.022	030	●	-	-
4	11	55	6	0.1	4	0.034	040	●	-	-
5	13	57	6	0.1	4	0.043	050	●	-	-
6	13	57	6	0.1	4	0.053	060	●	060	●
7	16	66	10	0.1	4	0.063	070	●	-	-
8	19	69	10	0.1	4	0.073	080	●	080	●
10	22	72	10	0.1	4	0.09	100	●	100	●
12	26	83	12	0.2	4	0.1	120	●	120	●
14	26	83	12	0.2	4	0.11	140	●	-	-
16	32	92	16	0.2	4	0.11	160	●	160	●
18	32	92	16	0.2	4	0.12	180	●	-	-
20	38	104	20	0.2	4	0.13	200	●	200	●
25	45	121	25	0.2	6	0.15	250	●	-	-
32	53	133	32	0.2	6	0.16	320	●	-	-

ORION = Prod. Gr. 106
ATORN = Prod. Gr. 118

ATORN End mill, HSSE-PM (Milling cutter design standard DIN 844 K)

4 cutting edges, TiAlN-coated

HSSE-PM | TiAlN | Typ N | 30° | 45° | HB

Application:
End mill for universal processing in a wide range of materials. Optimised flute material for delicate clamping situations and increased service life.

Execution:
- HSSE PM
- Finishing teeth
- Centre cutting

- TiAlN coating for outstanding service life
- Straight shank according to DIN 1835 B
- Also for dry milling with compressed air

Delivery:
10 mills in a case made of 15188

Notes:
Set in a case consisting of Ø 4/5/6/8/10/12/14/16/18/20 mm

Included in delivery		4/5/6/8/10/12/14/16/18/20 mm
Number of pieces in assortment/set (PCS)		10
Type		N
15188...	Ident. No.	500 ●

Prod. Gr. 118

ORION HSSE Co 5 roughing cutter (Milling cutter design standard DIN 844 K)

4-6 cutting edges, uncoated/TiAlN coated

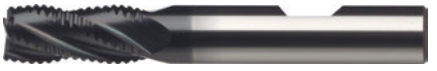
HSSE Co5 | TiAlN | Typ NR | Z 4 | Z 5 | 30° | 45° | HB

Application:
No. 15261: Roughing cutter for universal machining in diverse materials.
No. 15263: Roughing cutter for universal machining.

Execution:
- HSSE Co 5

- Roughing teeth
- Centre cutting
- Straight shank in accordance with DIN 1835 B
- **No. 15261:** Uncoated
- **No. 15263:** TiAlN coating for maximum service life

No. 15261



No. 15263

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
15261	28	23	12	17	13	60	186	30	35	25	32	77		28	11	11	11		
15263	40	32	18	19	24	85	265	35	45	43	50	110		40	15	15	15		

						Type	NR		NR	
						Surface	Uncoated		TiAlN	
						Tool holding device	HB parallel shank		HB parallel shank	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 700 ● (mm)	15261... Ident. No.		15263... Ident. No.	
6	13	57	6	0.1	4	0.033	060	●	060	●
7	16	66	10	0.1	4	0.042	070	●	070	●
8	19	69	10	0.1	4	0.05	080	●	080	●
9	19	69	10	0.1	4	0.055	090	●	090	●

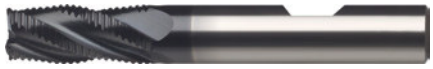
						Type	NR		NR	
						Surface	Uncoated		TiAlN	
						Tool holding device	HB parallel shank		HB parallel shank	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 700 ● (mm)	15261... Ident. No.		15263... Ident. No.	
10	22	72	10	0.1	4	0.059	100	●	100	●
11	22	79	12	0.2	4	0.063	110	●	110	●
12	26	83	12	0.2	4	0.067	120	●	120	●
14	26	83	12	0.2	4	0.073	140	●	140	●
16	32	92	16	0.2	4	0.081	160	●	160	●
18	32	92	16	0.2	4	0.084	180	●	180	●
20	38	104	20	0.2	4	0.09	200	●	200	●
22	38	104	20	0.2	4	0.09	220	●	220	●
25	45	121	25	0.2	4	0.09	250	●	250	●
28	45	121	25	0.2	5	0.12	280	●	280	●
30	45	121	25	0.2	5	0.12	300	●	300	●

Prod. Gr. 106

ORION® HSSE Co 8 roughing cutter (Milling cutter design standard DIN 844 K)

4 cutting edges, TiCN-coated

HSSE Co8 | TiCN | Typ HR | Z 4 | Z 5 | Z 6 | 30° | 45° | HB



Application:
Roughing cutter for universal machining.

Execution:
- HSSE Co 8
- fine roughing teeth
- centre cutting (over dia. 20 mm without centre cutting)
- TiCN coating for maximum service life requirements
- straight shank in accordance with DIN 1835 B

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	32	**18**	**24**	19	85		50		45				40	15	**15**	**15**		

						Type	HR	
						Surface	TiCN	
						Tool holding device	HB parallel shank	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1300 ● (mm)	15290... Ident. No.	
6	13	57	6	0.1	4	0.038	060	●
7	16	66	10	0.1	4	0.048	070	●
8	19	69	10	0.1	4	0.058	080	●
9	19	69	10	0.1	4	0.062	090	●
10	22	72	10	0.1	4	0.068	100	●
11	22	79	12	0.2	4	0.072	110	●
12	26	83	12	0.2	4	0.076	120	●
13	26	83	12	0.2	4	0.08	130	●
14	26	83	12	0.2	4	0.084	140	●
15	26	83	12	0.2	4	0.088	150	●
16	32	92	16	0.2	4	0.09	160	●
17	32	92	16	0.2	4	0.09	170	●
18	32	92	16	0.2	4	0.1	180	●
20	38	104	20	0.2	4	0.1	200	●
22	38	104	20	0.2	4	0.1	220	●
25	45	121	25	0.2	5	0.12	250	●
30	45	121	25	0.2	6	0.14	300	●

Prod. Gr. 106

ORION® HSSE Co 8 roughing cutter (Milling cutter design standard DIN 844 L)

4 cutting edges, TiCN-coated

HSSE Co8 | TiCN | Typ HR | Z 3 | Z 4 | Z 5 | Z 6 | 30° | 45° | HB

Application:
End mill for universal use when plunge milling, groove milling and keyway cutting as well as face milling and peripheral milling.

Execution:
- HSSE Co 8
- fine roughing teeth
- centre cutting (over diameter 20 mm without centre cutting)
- TiCN coating for long service life
- straight shank in accordance with DIN 1835 B

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	40	32	18	24	19	85		50		45				40	15	15	15		

							Type	HR	
							Surface	TiCN	
							Tool holding device	HB parallel shank	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 1300 ● (mm)		15300... Ident. No.	
6	24	68	6	0.1	3	0.025		060	●
7	30	80	10	0.1	3	0.031		070	●
8	38	88	10	0.1	3	0.038		080	●
9	38	88	10	0.1	3	0.04		090	●
10	45	95	10	0.1	4	0.06		100	●
11	45	102	12	0.2	4	0.063		110	●
12	53	110	12	0.2	4	0.067		120	●
13	53	110	12	0.2	4	0.07		130	●
14	53	110	12	0.2	4	0.074		140	●
15	53	110	12	0.2	4	0.077		150	●
16	63	123	16	0.2	4	0.081		160	●
17	63	123	16	0.2	4	0.081		170	●
18	63	123	16	0.2	4	0.084		180	●
20	75	141	20	0.2	4	0.09		200	●
22	75	141	20	0.2	5	0.12		220	●
24	90	166	25	0.2	5	0.12		240	●
25	90	166	25	0.2	5	0.12		250	●
26	90	166	25	0.2	6	0.11		260	●
28	90	166	25	0.2	6	0.12		280	●
30	90	166	25	0.2	6	0.13		300	●

Prod. Gr. 106

ORION ATORN HSSE PM roughing cutter (Milling cutter design standard DIN 844 K)

4-6 cutting edges, TiAlN coated

HSSE-PM | TiAlN | Typ NF | Typ NR | Typ NRF | Z 4 | Z 5 | Z 6 | 30° | 45° | HB

Application:
Roughing cutter for universal machining in a wide range of materials.

Execution:
- HSSE PM
- TiAlN-coating for maximum service life
- Straight shank according to DIN 1835 B
- **No. 15269:**
  - Type NRF
  - Fine roughing teeth
- **No. 15905:**
  - Type NR
  - Roughing teeth
- **No. 15907:**
  - Type NF
  - Roughing and finishing teeth

No. 15269

No. 15905

No. 15907

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plas-tics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
15269	78	51	35	43	37	130	325	110	85	70	70	140		75	23	23	20		
15905; 15907	78	51	35	43	43	130	325	70	70	110	85	140		75	23	23	20		

								ATORN		ORION		
							Type	NRF		NR		NF
							Surface	TiAlN		TiAlN		TiAlN
							Tool holding device	HB parallel shank		HB parallel shank		HB parallel shank
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 700 ● (mm)		15269... Ident. No.		15905... Ident. No.		15907... Ident. No.
6	13	57	6	0.1	4	0.038		060	●	060	●	060	●
8	19	69	10	0.1	4	0.052		080	●	080	●	080	●
10	22	72	10	0.1	5	0.078		100	●	100	●	100	●
12	26	83	12	0.2	5	0.09		120	●	120	●	120	●
14	26	83	12	0.2	5	0.1		140	●	-	-	-	-
16	32	92	16	0.2	5	0.1		160	●	160	●	160	●
18	32	92	16	0.2	5	0.11		180	●	-	-	-	-
20	38	104	20	0.2	5	0.12		200	●	200	●	200	●
25	45	121	25	0.2	5	0.13		250	●	-	-	-	-
32	53	133	32	0.2	6	0.18		320	●	-	-	-	-

ORION = Prod. Gr. 106
ATORN = Prod. Gr. 118

ATORN HSSE PM end mill (Milling cutter design standard DIN 844 K)

Type NRF

Application:
Roughing cutter for universal processing in a wide range of materials. Optimised flute material for delicate clamping situations and increased service life.

Execution:
- Roughing teeth, fine
- Type NRF
- TiAlN coating for increased service life
- Straight shank according to DIN 1835 B

Delivery:
8 mills in a case made of 15269

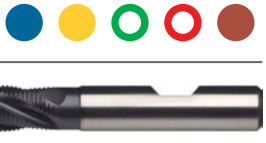
Notes:
Set in a case consisting of Ø 6/8/10/12/14/16/18/20 mm

Included in delivery		6/8/10/12/14/16/18/20 mm
Number of pieces in assortment/set (PCS)		8
Type		NRF
15269...	Ident. No.	500 ●

Prod. Gr. 118

ATORN HSSE PM roughing cutter (Milling cutter design standard DIN 844 L)

4-6 cutting edges, TiAlN coated



Application:
Roughing cutter for universal machining.

Execution:
- HSSE PM
- Roughing teeth
- Centre cutting
- TiAlN-coating for maximum service life
- Straight shank according to DIN 1835 B

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	78	51	**35**	**43**	37	130			85		70	140		75	**23**	23	20		

							Type	HR	
							Surface	TiAlN	
							Tool holding device	HB parallel shank	
mm	mm	mm	mm	F mm	Z (PCS)	fz steel 700 ● (mm)	15319... Ident. No.		
6	24	68	6	0.1	4	0.049	060	●	
8	38	88	10	0.1	4	0.068	080	●	
10	45	95	10	0.1	4	0.081	100	●	
12	53	110	12	0.2	4	0.094	120	●	
14	53	110	12	0.2	4	0.1	140	●	
16	63	123	16	0.2	4	0.1	160	●	
18	63	123	16	0.2	4	0.11	180	●	
20	75	141	20	0.2	4	0.12	200	●	
25	90	166	25	0.2	5	0.13	250	●	
32	106	186	32	0.2	6	0.15	320	●	

Prod. Gr. 118

ORION HSSE Co 8 ball nose end mill (Milling cutter design standard DIN 844 K)

2 cutting edges, uncoated

Application:
Radius milling cutter, standard design, for universal use.

Execution:
- HSSE Co 8
- Finishing teeth
- Centre cutting
- Straight shank according to DIN 1835 B
- Uncoated
- Standard design

Application	Steel (N/mm²)			Stainless steel		Alu		Brass		Bronze		Plastics	Graphite G(C)FK	GG(G) GjMW	Titan-alloy	Nickel-alloy	Super-alloy	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
	28	**23**	12	17	13	60	186	30	35	25	32	77		28	11	11	11		

				Type	N	
				Surface	Uncoated	
				Tool holding device	HB parallel shank	
mm	mm	mm	mm	fz steel 700 ● (mm)	15361... Ident. No.	
2	4	48	6	0.015	020	●
3	5	49	6	0.018	030	●
4	7	51	6	0.021	040	●
5	8	52	6	0.033	050	●
6	8	52	6	0.044	060	●
7	10	60	10	0.056	070	●
8	11	61	10	0.068	080	●
9	11	61	10	0.074	090	●
10	13	63	10	0.079	100	●
12	16	73	12	0.09	120	●
13	16	73	12	0.09	130	●
14	16	73	12	0.1	140	●
15	16	73	12	0.1	150	●
16	19	79	16	0.11	160	●
18	19	79	16	0.11	180	●
20	22	88	20	0.12	200	●
22	22	88	20	0.12	220	●
24	26	102	25	0.12	240	●
25	26	102	25	0.13	250	●

Prod. Gr. 106

LET‘S WORK TOGETHER.
Do you need more than just a hammer, pair of pliers or a screwdriver?
We have the full range for you. Machining tools, handling systems and
measuring technology. However, we also offer tailor-made system solutions,
large and small machinery and complete factory equipment.
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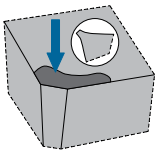
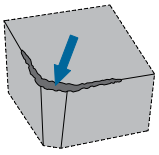
GROUP
LET‘S WORK TOGETHER.

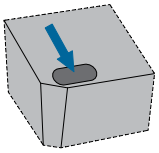
Indexable inserts - Types of wear and solution proposals



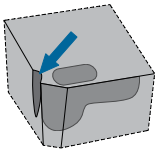
Built-up edges
- Select cutting material types with less friction resistance
- Increase the cutting speed
- Increase the feed
- Do not use water-soluble coolant
- Check coolant use
- Check indexable insert classification
- Check chip breaker selection
- Increase clearance angle
- Reduce chamfer and rounding of cutting edge



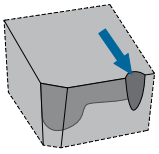
Brittle damage to the cutting edge
- Use tougher cemented carbide type
- Select less intensive cutting conditions
- Apply different cutting edge geometry
- Reduce feed when inserting into opening



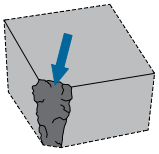
Scour wear
- Select harder cutting material
- Reduce cutting speed
- Reduce feed
- Reduce cutting depth
- Check coolant use
- Check chip breaker selection
- Increase clearance angle



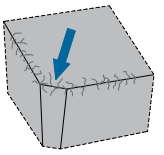
Oxidation gouging on secondary cutting edge
- Apply coated or wear-resistant cemented carbide types, if possible apply coated indexable inserts with Al2O3 content.
- Apply cooling emulsion or Increase cooling intensity
- Reduce cutting speed



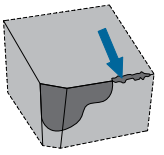
Notch wear on main cutting edge
- Apply coated or wear-resistant cemented carbide type, if possible apply coated indexable inserts with Al2O3 content.
- Use tool with a smaller adjustment angle
- Distribute chip unevenly



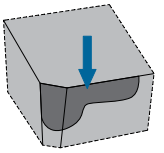
Breaking of cutting edge
- Select tougher cutting material
- Select cutting material type less sensitive to temperature fluctuations
- Reduce feed
- Reduce cutting depth
- Check chip breaker selection
- Increase size of chamfer and rounding of cutting edge
- Select machine with higher performance and rigidity



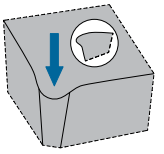
Ridge cracking at the cutting edge
- Select cutting material type less sensitive to temperature fluctuations
- Reduce cutting speed
- Reduce feed
- Reduce cutting depth
- Do not use water-soluble coolant
- Check coolant use
- Check chip breaker selection
- Increase clearance
- Reduce chamfer and rounding of cutting edge



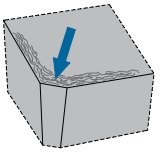
Damage to the cutting edge (outside opening)
- Change feed
- Select tool with different adjustment angle
- Apply different cutting edge geometry
- (different chip former)
- Use tougher cemented carbide type



Breaking of cutting edge
- Select tougher cutting material
- Select cutting material type less sensitive to temperature fluctuations
- Reduce feed
- Reduce cutting depth
- Check chip breaker selection
- Increase size of chamfer and rounding of cutting edge
- Select machine with higher performance and rigidity



Plastic deformation
- Apply wear-resistant cemented carbide type
- Reduce cutting speed
- Reduce feed
- Apply cooling emulsion or Increase cooling intensity
- Apply indexable inserts with a larger rounding radius of the tip
- Apply indexable inserts with larger tip angle



Fatigue crack along the open space
- Select tougher cemented carbide type
- Change retracting and extending of tool
- Change contact conditions
- Apply different cutting edge geometry or Indexable inserts with a different design of cutting edge
- Change feed

Cutting data on packaging

The HK ISO range of indexable inserts is always delivered with cutting data on the packaging. This provides the user with a high degree of safety and good handling.

Cemented carbide key - explanation

*HC 7620

① H = Cemented carbide
② C = Coated / W = uncoated
③ 7 = Generation of cemented carbide quality
④ ISO group 6 = P / 5 = M / 4 = K / 3 = N / 2 = S
⑤ Depending on the ISO group P10 / P20 / P30

ACP 25 T-6

① Brand: A = ATORN/O = ORION
② C = Cemented carbide CVD coated
P = Cemented carbide PVD coated
W = Uncoated
K = Ceramic/B = CBN/A = PKD
③ ISO group 6 = P/5 = M/4 = K/3 = N/2 = S
U = General processing
④ Code for the respective ISO group: P25
⑤ Processing type: T = Turning
⑥ Additional letter: Generation or additive for coating

***Note:** ORION cemented carbide grades follow the same pattern, with the difference that an O is placed in front, e.g. OHC 7625

ATORN High-performance 45° face milling cutters with Weldon shank

for indexable milling inserts HN.J 0805...

Application:
Excellent face milling cutter programme when it comes to high productivity, soft cuts with smooth running properties and excellent surface quality. With 12 effective cutting edges per indexable insert and an optimised design, this tool is ideal for universal use in roughing and finishing.

Execution:
- 45° setting angle
- Normal and fine pitch
- nickel-plated support
- With internal cooling
- Clamping screw tightening torque (indexable insert) 3.5 Nm
- with weld-on shank

Advantage:
- State-of-the-art technology with 12 effective cutting edges
- Low cost per cutting edge, high productivity
- available in geometries and varieties for almost all kinds of machining tasks

								High-performance 45° face milling cutters with Weldon shank		Clamping screw for indexable inserts	
D (mm)	D1 max (mm)	L2 (mm)	L (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	**16001...** Ident. No.		**16108...** Ident. No.	
32	41.8	21.4	97	25	3.9	3	HN.J 0805...	**200**	●	**330**	●
40	49.8	50	107	25	3.9	4	HN.J 0805...	**202**	●	**330**	●

Prod. Gr. 108

ATORN High-performance 45° face milling cutters

for indexable milling inserts HN.J 0805...

IK

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							High-performance 45° face milling cutters		Clamping screw for indexable inserts	
D (mm)	D1 max (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	**16001...** Ident. No.		**16108...** Ident. No.	
40	49.5	40	22	3.9	4	HN.J 0805...	**300**	●	**330**	●
50	59.85	40	22	3.9	4	HN.J 0805...	**305**	●	**330**	●

D (mm)	D1 max (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	High-performance 45° face milling cutters 16001... Ident. No.		Clamping screw for indexable inserts 16108... Ident. No.	
50	59.85	40	22	3.9	5	HN.J 0805...	310	●	330	●
63	72.8	40	22	3.9	4	HN.J 0805...	315	●	330	●
63	72.8	40	22	3.9	6	HN.J 0805...	320	●	330	●
80	89.8	50	27	3.9	5	HN.J 0805...	325	●	330	●
80	89.8	50	27	3.9	8	HN.J 0805...	330	●	330	●
100	109.8	50	32	3.9	6	HN.J 0805...	335	●	330	●
100	109.8	50	32	3.9	9	HN.J 0805...	340	●	330	●
125	134.9	63	40	3.9	8	HN.J 0805...	345	●	330	●
125	134.9	63	40	3.9	12	HN.J 0805...	350	●	330	●

Prod. Gr. 108

ATORN Indexable milling insert HNGJ/HNPJ

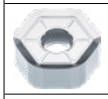
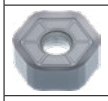
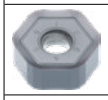
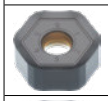
for high-performance 45° face milling cutters

Execution:

- **Ident. No. 700:** Geometry HNGJ-F - aluminium machining
- **Ident. No. 705:** Geometry HNGJ-F - light machining
- **Ident. No. 715:** Geometry HNPJ-M - general machining

Delivery:

Ident. No. 700–705, 715: Packing unit: 10 pieces
Ident. No. 710, 720–730: Packaging unit: 10 pieces

						Surface	Uncoated		Coated		Coated		Coated		Coated	
						Carbide type	HW4410		HC4625		HC4540		HC4415		HC4640	
						Material to be processed	Non-ferrous metal		Steel | Stainless steel | Cast metal | Special alloy | Hardened material		Steel | Stainless steel | Special alloy		Cast metal		Steel | Stainless steel | Special alloy	
						Suitable for material group P			●		●				●	
						Suitable for material group M			●		●				●	
						Suitable for material group N	●									
						Suitable for material group K			○				●			
						Suitable for material group S			●		●				○	
						Suitable for material group H			○							
	ISO name	Type	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)	16113... Ident. No.		16113... Ident. No.		16113... Ident. No.		16113... Ident. No.		16113... Ident. No.	
	HNGJ 0805 ANFN-F	Rough machining, smoothing	7.8	3.9	1.2	700	●	-	-	-	-	-	-	-	-
	HNGJ 0805 ANEN-F	Rough machining, smoothing	7.8	3.9	1.2	-	-	705	●	-	-	-	-	-	-
	HNGJ 0805 ANEN-F	Rough machining, smoothing	7.8	3.9	1.2	-	-	-	-	710	●	-	-	-	-
	HNPJ 0805 ANSN-M	Rough machining, smoothing	7.8	3.9	1.2	-	-	715	●	-	-	-	-	-	-
	HNPJ 0805 ANSN-M	Rough machining, smoothing	7.8	3.9	1.2	-	-	-	-	-	-	720	●	-	-
	HNPJ 0805 ANSN-M	Rough machining, smoothing	7.8	3.9	1.2	-	-	-	-	-	-	-	-	725	●
	HNPJ 0805 ANSN-M	Rough machining, smoothing	7.8	3.9	1.2	-	-	-	-	730	●	-	-	-	-

Prod. Gr. 156

ATORN Face milling cutter 45°

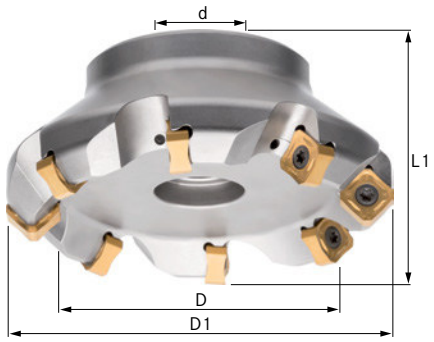
For indexable milling inserts SN.X 1206 / SNMU 1206 / ONMU 1205

IK

Application:
The indexable milling cutter allows economical face milling at medium cutting depths and rough machining of many materials including steel, VA, cast materials and aluminium. The robust reversible tip with eight cutting edges is particularly economical and has impressive universal possible applications. 6.35 mm insert thickness improves process reliability enormously and protects the support body.

Execution:
- For milling plates SN.X 1206, SNMU 1206 and ONMU 1205
- Wear-resistant, nickel-plated version
- Normal and fine pitch

Advantage:
- Double-sided indexable insert with large chip angle and eight cutting edges
- Outstanding surface finish
- Very wide range of applications
- Approx. max. 5.5 mm
- Easy cutting with low cutting force



							Face milling cutter 45°		Clamping screw for indexable inserts	
D (mm)	D1 max (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16023... Ident. No.		16108... Ident. No.	
50	63	40	22	5.5	4	SN.X 1206..	050	●	173	●
50	63	40	22	5.5	6	SN.X 1206..	051	●	173	●
63	76	40	22	5.5	6	SN.X 1206..	063	●	173	●
63	76	40	22	5.5	8	SN.X 1206..	064	●	173	●
80	93	50	27	5.5	7	SN.X 1206..	080	●	173	●
80	93	50	27	5.5	10	SN.X 1206..	081	●	173	●
100	113	50	32	5.5	8	SN.X 1206..	100	●	173	●
100	113	50	32	5.5	12	SN.X 1206..	101	○	173	●
125	138	63	40	5.5	10	SN.X 1206..	125	○	173	●
125	138	63	40	5.5	16	SN.X 1206..	126	○	173	●
160	173	63	40	5.5	12	SN.X 1206..	160	○	173	●
160	173	63	40	5.5	20	SN.X 1206..	161	○	173	●
200	213	63	60	5.5	14	SN.X 1206..	200	○	173	●
250	263	63	60	5.5	16	SN.X 1206..	250	○	173	●

Prod. Gr. 108

ATORN Indexable milling insert SN.X 1206..

For face milling cutter no. 16023

Execution:
- For face milling cutters no. 16023

Delivery:
Ident. No. 270, 275–277: Packaging unit: 10 pieces

Ident. No. 274: Box quantity: Pack of 10

					Surface	Uncoated		Coated		Coated		Coated		Coated	
					Carbide type	HW4410		HC4410		HC4535		HC4630		HC4635	
					Material to be processed	Non-ferrous metal		Steel | Cast metal		Steel | Stainless steel		Steel		Steel | Stainless steel | Cast metal	
					Suitable for material group P			○		●		●		●	
					Suitable for material group M					●				○	
					Suitable for material group N	●									
					Suitable for material group K			●						●	
					Suitable for material group S										
					Suitable for material group H										
	ISO name	Knife edge length (mm)	max. ap (mm)	Corner chamfer (mm)	16109... Ident. No.			16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	SNEX 1206 ANN-MA	12.7	5.5	2.36	270	●		-	-	-	-	-	-	-	-
	SNMX 1206 ANN-MM	12.7	5.5	2.36	-	-		275	●	276	●	277	●	-	-
	SNKX 1206 ANN-MM1	12.7	5.5	2.36	-	-		-	-	-	-	-	-	274	●

Prod. Gr. 156

ATORN Indexable milling insert ONMU

For face milling cutter no. 16023

Execution:
- Double-sided, 16 cutting edges

- For face milling cutters no. 16023

Delivery:
Packing unit: 10 pieces

					Surface	Coated		Coated		Coated	
					Carbide type	HC4410		HC4535		HC4630	
					Material to be processed	Steel | Cast metal		Steel | Stainless steel		Steel	
					Suitable for material group P	○		●		●	
					Suitable for material group M			●			
					Suitable for material group N						
					Suitable for material group K	●					
					Suitable for material group S						
					Suitable for material group H						
	ISO name	Knife edge length (mm)	max. ap (mm)	Corner chamfer (mm)		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	ONMU 1205 ANN	4.8	3	2.36		320	○	-	-	-	-
	ONMU 1205 ANN	4.8	3	2.36		-	-	321	●	-	-
	ONMU 1205 ANN	4.8	3	2.36		-	-	-	-	322	●

Prod. Gr. 156

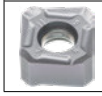
ATORN Indexable milling insert SNMU

For face milling cutter no. 16023

Execution:
- Double-sided, 8 cutting edges

- With chip breaker
- For face milling cutters no. 16023

Delivery:
Packing unit: 10 pieces

					Surface	Coated		Coated		Coated	
					Carbide type	HC4410		HC4535		HC4630	
					Material to be processed	Steel | Cast metal		Steel | Stainless steel		Steel	
					Suitable for material group P	○		●		●	
					Suitable for material group M			●			
					Suitable for material group N						
					Suitable for material group K	●					
					Suitable for material group S						
					Suitable for material group H						
	ISO name	Knife edge length (mm)	max. ap (mm)	Corner chamfer (mm)		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	SNMU 1206 ANER	12.7	5.5	2.36		330	●	-	-	-	-
	SNMU 1206 ANER	12.7	5.5	2.36		-	-	331	●	-	-
	SNMU 1206 ANER	12.7	5.5	2.36		-	-	-	-	332	●

Prod. Gr. 156

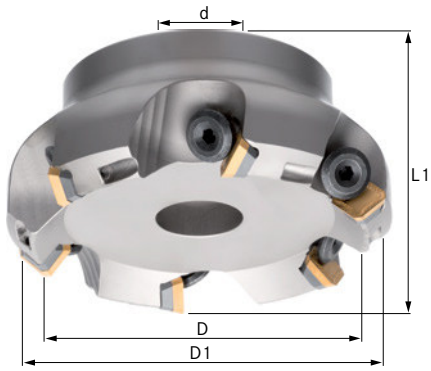
ATORN Face milling cutters 45°

For indexable milling inserts SEEN 1203, SEER 1203

Application:
Universal use in all materials.

Execution:
- Wear-resistant, nickel-plated version
- Indexable milling inserts for clamping using precision supports

Advantage:
- Safe clamping with plate screw
- High cutting performance even in low-powered machines
- Variable pitch for smooth running



							Face milling cutters 45°		Shims		Clamping screw for indexable inserts		Clamping screw for shims	
D (mm)	D1 max (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16022... Ident. No.		16108... Ident. No.		16108... Ident. No.		16108... Ident. No.	
50	63	48	22	6	4	SE.. 1203..	050	●	175	●	176	●	177	●
63	76	40	22	6	5	SE.. 1203..	063	●	175	●	176	●	177	●
80	93	50	27	6	6	SE.. 1203..	080	●	175	●	176	●	177	●
100	113	50	32	6	6	SE.. 1203..	100	○	175	●	176	●	177	●
125	138	63	40	6	7	SE.. 1203..	125	○	175	●	176	●	177	●
160	173	63	40	6	7	SE.. 1203..	160	○	175	●	176	●	177	●
200	213	63	60	6	10	SE.. 1203..	200	○	175	●	176	●	177	●
250	263	63	60	6	13	SE.. 1203..	250	○	175	●	176	●	177	●

Prod. Gr. 108

ATORN Indexable milling insert SE.. 1203..

For face milling cutter no. 16022

Application:
Ident. No. 124, 134: Reversible tip optimised for machining steel

Execution:
- For face milling cutters no. 16022

Delivery:
Packaging unit: 10 pieces

					Surface	Coated		Coated		Coated		Coated	
					Carbide type	HC4410		HC4620		HC4540		HC4626	
					Material to be processed	Steel | Non-ferrous metal | Cast metal		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal		Steel | Cast metal	
					Suitable for material group P	○		●		●		●	
					Suitable for material group M			●		○			
					Suitable for material group N	○							
					Suitable for material group K	●		●		○		●	
					Suitable for material group S			○					
					Suitable for material group H								
	ISO name	Knife edge length (mm)	max. ap (mm)	Corner chamfer (mm)		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	SEEN 1203 AF-SN	12.7	6	1.6		122	●	123	●	124	●	125	●
	SEEN 1203 AF-FN	12.7	6	1.6		-	-	121	●	-	-	-	-
	SEER 1203 AF-EN	12.7	6	1.6		-	-	131	●	-	-	-	-
	SEER 1203 AF-SN	12.7	6	1.6		-	-	133	●	134	●	135	●

Prod. Gr. 156

ATORN Face milling cutters 45°

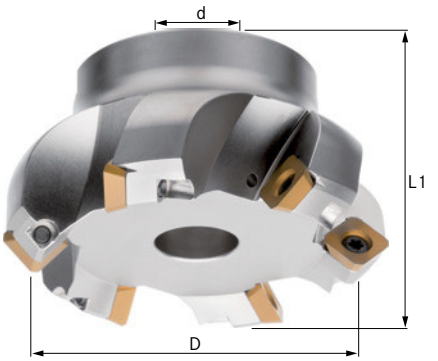
For indexable milling inserts SEET 1204, SEEW 1204

IK

Application:
Universal use in all materials.

Execution:
- Wear-resistant, nickel-plated version

- With robust support design
- Extremely soft cut
- Variable pitch for smooth running
- Clamping screw tightening torque (indexable insert) M5 = 8 Nm



							Face milling cutters 45°		Clamping screw for indexable inserts	
D (mm)	D1 max (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16024... Ident. No.		16108... Ident. No.	
40	53	40	16	6	3	SE.. 1204..	040	●	130	●
50	63	48	22	6	4	SE.. 1204..	050	●	130	●
50	63	48	22	6	5	SE.. 1204..	051	●	130	●
63	76	48	22	6	5	SE.. 1204..	063	●	130	●
63	76	48	22	6	6	SE.. 1204..	064	●	130	●
80	93	50	27	6	6	SE.. 1204..	080	●	130	●
80	93	50	27	6	7	SE.. 1204..	081	●	130	●
100	113	50	32	6	6	SE.. 1204..	100	●	130	●
100	113	50	32	6	8	SE.. 1204..	101	●	130	●
125	138	63	40	6	7	SE.. 1204..	125	●	130	●
125	138	63	40	6	9	SE.. 1204..	126	●	130	●
160	173	63	40	6	8	SE.. 1204..	160	○	130	●
160	173	63	40	6	10	SE.. 1204..	161	○	130	●
200	213	63	60	6	12	SE.. 1204..	200	○	130	●
250	263	63	60	6	16	SE.. 1204..	250	○	130	●

Prod. Gr. 108

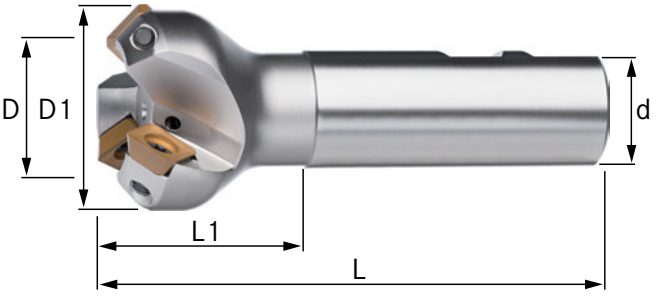
ATORN Face milling cutter 45° with Weldon shank

For indexable milling inserts SEET 1204, SEEW 1204

Application:
Universal use in all materials.

Execution:
- Weldon shank
- Wear-resistant, nickel-plated version

- With robust support design
- Extremely soft cut
- Variable pitch for smooth running
- Clamping screw tightening torque (indexable insert) M5 = 8 Nm



							Face milling cutter 45° with Weldon shank		Clamping screw for indexable inserts	
D (mm)	D1 max (mm)	L (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16024... Ident. No.		16108... Ident. No.	
25	38	100	25	6	2	SE.. 1204..	325	○	130	●
32	45	110	25	6	3	SE.. 1204..	332	●	130	●

Prod. Gr. 108

ORION ATORN Indexable milling insert SE.. 1204..

For face milling cutter no. 16024

Application:
Ident. No. 150: For cutters with indexable inserts 16017/16018
Ident. No. 721: Optimally suited to dry machining

Execution:
- **Ident. No. 151–721:** For face milling cutters no. 16024

Delivery:
Ident. No. 150: Packing unit: 10 pieces
Ident. No. 151–160: Packaging unit: 10 pieces
Ident. No. 713–721: Box quantity: 10 pieces

	Surface				Uncoated		Coated		Coated		Coated		Coated		Coated	
	Carbide type				HW4410		HC4415		HC4640		HC4430		HC4620		OHC4635	
	Material to be processed				Non-ferrous metal		Cast metal | Steel | Hardened material		Steel | Stainless steel | Cast metal		Cast metal | Steel | Hardened material		Steel | Stainless steel | Special alloy		Steel | Cast metal | Stainless steel	
	Suitable for material group P						○		●		○		●		●	
	Suitable for material group M								●				●		●	
	Suitable for material group N				●											
	Suitable for material group K						●		○		●				●	
	Suitable for material group S												○			
	Suitable for material group H						○				○					
	ISO name	Knife edge length (mm)	max. ap (mm)	Corner chamfer (mm)	16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	SEET 1204 AF-FN	12.7	6	1.6	160	●	-	-	-	-	-	-	-	-	-	-
	SEET 1204 AF-SN	12.7	6	1.6	-	-	151	●	152	●	153	●	-	-	-	-
	SEEW 1204 AF-EN	12.7	6	1.6	-	-	-	-	715	●	-	-	719	●	-	-
	SEEW 1204 AF-SN	12.7	6	1.6	-	-	717	●	716	●	721	●	713	●	-	-
	SEET 1204 AF-SN	12.7	-	1.6	-	-	-	-	-	-	-	-	-	-	150	●

ORION = Prod. Gr. 148
ATORN = Prod. Gr. 156

ORION Face milling cutter set with bore 45°, diameter 63 mm

Including 20x SEKT 1204 AFTN OHC4635

Version:
- Face milling cutters with 45° bore
- for indexable milling inserts SEKT..1204..
- Soft cutting owing to the positive installation position of the indexable insert
- for face milling
- Smooth milling behaviour of the tools

Advantage:
- One set for a wide variety of applications
- Axial run-out max. 0.03 mm
- Concentricity max. 0.03 mm

Delivery:
1x carrier 16022001 + 20x indexable inserts 16109150

Note:
Clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm

D (mm)	D1 max (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges	Suitable for indexable inserts	16017... Ident. No.	
63	76	48	22	6	5	SE.. 1204..	044	●

Prod. Gr. 148

Accessories for		16017 044
16109... SE..1204..	Indexable milling insert	Ident. No. 150 ●

ORION® Face milling cutters 45°

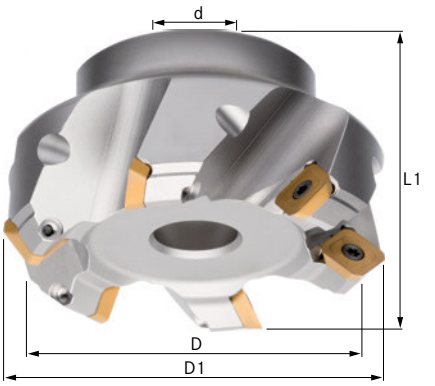
For indexable milling inserts SEET 12T3..

Application:
For universal use in all materials, predestined for cast processing.

Execution:
- Nickel-plated supports
- Long-term tested support design

- Normal and fine pitch
- Clamping screw tightening torque (indexable insert) M3.5 = 3.9 Nm

Advantage:
- Highly positive indexable milling inserts for low-vibration, steady cutting
- Outstanding value for money



							Face milling cutters 45°		Clamping screw for indexable inserts		Shims		Clamping screw for shims	
D (mm)	D1 max (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16003... Ident. No.		16108... Ident. No.		16108... Ident. No.		16108... Ident. No.	
50	61	40	22	6	3	SEET 12T3..	200	●	163	●	-	-	-	-
63	74	40	22	6	4	SEET 12T3..	201	●	163	●	-	-	-	-
63	74	40	22	6	5	SEET 12T3..	206	●	163	●	-	-	-	-
80	91	50	27	6	4	SEET 12T3..	202	●	163	●	-	-	-	-
80	91	50	27	6	6	SEET 12T3..	207	●	163	●	-	-	-	-
100	107	50	32	6	5	SEET 12T3..	203	●	163	●	-	-	-	-
100	107	50	32	6	7	SEET 12T3..	208	●	163	●	-	-	-	-
125	137.5	63	40	6	6	SEET 12T3..	204	○	163	●	-	-	-	-
125	137.5	63	40	6	8	SEET 12T3..	209	●	164	●	165	●	168	●
160	170	63	40	6	10	SEET 12T3..	210	●	164	●	165	●	168	●

Prod. Gr. 148

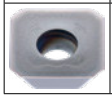
ORION® Indexable insert SEET 12T3..

For face milling cutter no. 16003

Application:
Ident. No. 008: Wide finishing plates for optimised surface qualities

Delivery:
Box quantity: 10 pieces

					Surface	Coated		Uncoated		Coated		Coated		Coated	
					Carbide type	OHC4540		OHW4410		OHC4410		OHC4620		OHC4544	
					Material to be processed	Steel | Stainless steel | Special alloy		Non-ferrous metal		Cast metal		Steel | Stainless steel		Stainless steel | Special alloy	
					Suitable for material group P	●						●			
					Suitable for material group M	●						●		●	
					Suitable for material group N			●							
					Suitable for material group K					●					
					Suitable for material group S	○								○	
					Suitable for material group H										
	ISO name	Type	Knife edge length (mm)	Corner chamfer (mm)	16109... Ident. No.			16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	SEET 12T3-DF..	Smoothing	13	2.6	001	●		-	-	-	-	-	-	-	-
	SEET 12T3-DM..	Medium machining	13	2.6	002	●		-	-	-	-	-	-	-	-
	SEET 12T3-DR..	Rough machining	13	2.6	003	●		-	-	-	-	-	-	-	-
	SEET 12T3-LH..	Smoothing, medium machining	13	2.6	-	-		004	●	-	-	-	-	-	-
	SEET 12T3-CM..	Medium machining	13	2.6	-	-		-	-	005	●	-	-	-	-
	SEET 12T3-CR..	Rough machining	13	2.6	-	-		-	-	007	●	-	-	-	-

	Surface				Coated		Uncoated		Coated		Coated		Coated	
	Carbide type				OHC4540		OHW4410		OHC4410		OHC4620		OHC4544	
	Material to be processed				Steel | Stainless steel | Special alloy		Non-ferrous metal		Cast metal		Steel | Stainless steel		Stainless steel | Special alloy	
	Suitable for material group P				●						●			
	Suitable for material group M				●						●		●	
	Suitable for material group N						●							
	Suitable for material group K								●					
	Suitable for material group S				○								○	
	Suitable for material group H													
	ISO name	Type	Knife edge length (mm)	Corner chamfer (mm)	**16109...** Ident. No.		**16109...** Ident. No.		**16109...** Ident. No.		**16109...** Ident. No.		**16109...** Ident. No.	
	SEET 12T3-W..	Wide finishing	13	2.6	-	-	-	-	-	-	**008**	●	-	-
	SEET 12T3-EM..	Medium machining	13	2.6	-	-	-	-	-	-	-	-	**010**	●

Prod. Gr. 148

ATORN 90° high-performance angular milling cutter

everywhere a straight edge needs to be created in steel, cast iron, stainless steel or non-ferrous materials, ATORN makes precise angular milling cutting possible. the 90° angular milling cutters have excellent machining properties.

the entire spectrum of our new angular milling cutting tools offers basic bodies in 5 versions. the high number of teeth makes it possible to achieve large feeds. the highly positive geometry and uneven pitch ensure soft cutting and smooth operation. extra-long end mills are suitable for working with especially deep projections.

Flexible complete programme
- Dia. range 10-100 mm
- With shank, thread and location hole
- Angular milling cutter and long edge milling cutter
- With tight and wide pitch

Highly positive indexable inserts
- Cutting depth ap max. = up to 16.5 mm
- 2 geometries
- Corner radii of 0.2-4 mm
- 6 carbide grades
- Low power consumption

Exact 90°
- Angular milling cutting in roughing and finishing reduces post-processing efforts

High productivity
- Deep cutting depths
- High feed rates
- High removal rates

ATORN

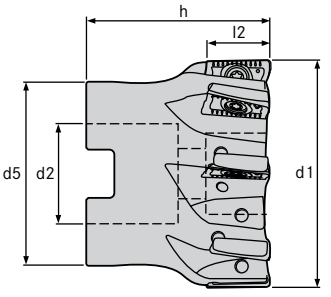
ATORN High-performance shoulder milling cutter 90°

For indexable milling inserts AD.X 0602.. - AD.X 1705..

IK

Execution:
- Wear-resistant, nickel-plated version
- With internal cooling
- **Ident. No. 002–012:** Tightening torque for clamping screw (indexable insert) 2.25 Nm (TX 08)
- **Ident. No. 020–032:** Tightening torque for clamping screw (indexable insert) 3.5 Nm (TX 15)
- **Ident. No. 040–050:** Tightening torque for clamping screw (indexable insert) 1.2 Nm (TX 08)
- **Ident. No. 052–056:** Tightening torque for clamping screw (indexable insert) 0.7 Nm (TX 06)

Advantage:
- Highly positive indexable insert
- Low power consumption
- Precise 90° angular milling



						High-performance shoulder milling cutter 90°		Clamping screw for indexable inserts	
D (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16031... Ident. No.		16108... Ident. No.	
32	40	16	5.5	8	AD.X 0602..	052	○	630	●
40	40	22	5.5	10	AD.X 0602..	054	○	630	●
50	40	22	5.5	11	AD.X 0602..	056	○	630	●
40	40	16	8.5	4	AD.X 0903..	040	●	632	●
40	40	16	8.5	6	AD.X 0903..	042	●	632	●
50	40	22	8.5	5	AD.X 0903..	044	●	632	●
50	40	22	8.5	7	AD.X 0903..	046	●	632	●
63	40	22	8.5	6	AD.X 0903..	048	●	632	●
63	40	22	8.5	9	AD.X 0903..	050	●	632	●
40	40	16	11.5	4	AD.X 1204..	002	●	634	●
40	40	16	11.5	6	AD.X 1204..	004	●	634	●
50	40	22	11.5	5	AD.X 1204..	006	●	634	●
50	40	22	11.5	7	AD.X 1204..	008	●	634	●
63	40	22	11.5	6	AD.X 1204..	010	●	634	●
63	40	22	11.5	9	AD.X 1204..	012	○	634	●
40	36	16	16.5	4	AD.X 1705..	020	●	638	●
50	40	22	16.5	5	AD.X 1705..	022	●	638	●
63	40	22	16.5	6	AD.X 1705..	024	●	638	●
80	50	27	16.5	8	AD.X 1705..	026	●	638	●
100	50	32	16.5	9	AD.X 1705..	028	●	638	●
125	63	40	16.5	9	AD.X 1705..	030	○	638	●
125	63	40	16.5	11	AD.X 1705..	032	○	638	●

Prod. Gr. 108

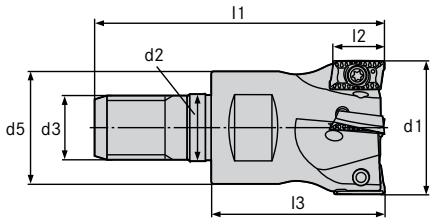
ATORN High-performance shoulder milling cutter 90° with thread

For indexable milling inserts AD.X 0602.. - AD.X 1204..

IK

Execution:
- Wear-resistant, nickel-plated version
- With internal cooling
- **Ident. No. 002–006, 024–028:** Tightening torque for clamping screw (indexable insert) 0.7 Nm (TX 06)
- **Ident. No. 010–014:** Tightening torque for clamping screw (indexable insert) 1.2 Nm (TX 08)
- **Ident. No. 020–022:** Tightening torque for clamping screw (indexable insert) 2.25 Nm (TX 08)

Advantage:
- Highly positive indexable insert
- Low power consumption
- Precise 90° angular milling



							High-performance shoulder milling cutter 90° with thread		Clamping screw for indexable inserts	
D (mm)	L3 (mm)	L1 (mm)	d	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16029... Ident. No.		16108... Ident. No.	
12	28	45	M8	5.5	2	AD.X 0602..	002	●	630	●
16	28	45	M8	5.5	4	AD.X 0602..	024	○	630	●
16	28	45	M8	5.5	3	AD.X 0602..	004	●	630	●
20	30	49	M10	5.5	4	AD.X 0602..	006	○	630	●
20	30	30	M10	5.5	5	AD.X 0602..	026	○	630	●
25	33	33	M10	5.5	7	AD.X 0602..	028	○	630	●
20	30	49	M10	8.5	3	AD.X 0903..	010	●	632	●
25	33	55	M12	8.5	4	AD.X 0903..	012	●	632	●
32	43	67	M16	8.5	6	AD.X 0903..	014	●	632	●
32	43	67	M16	11.5	4	AD.X 1204..	020	●	634	●
40	43	67	M16	11.5	6	AD.X 1204..	022	○	634	●

Prod. Gr. 108

ATORN High-performance shoulder milling cutter 90° with Weldon shaft

For indexable milling inserts AD.X 0602.. - AD.X 1705..

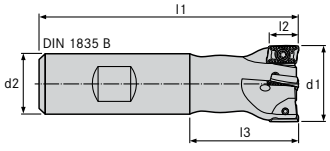
IK

Execution:
- Wear-resistant, nickel-plated version
- With internal cooling
- **Ident. No. 002–010, 072–082:** Tightening torque for clamping screw (indexable insert) 0.7 Nm (TX 06)
- **Ident. No. 020–030:** Tightening torque for clamping screw (indexable insert) 1.2 Nm (TX 08)
- **Ident. No. 040–048:** Tightening torque for clamping screw (indexable insert) 2.25 Nm (TX 08)
- **Ident. No. 060–066:** Tightening torque for clamping screw (indexable insert) 3.5 Nm (TX 15)

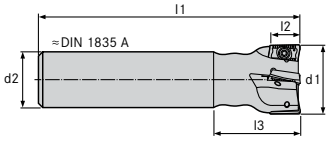
Advantage:
- Highly positive indexable insert
- Low power consumption
- Precise 90° angular milling

Ident. No. 002–064, 072–082

Ident. No. 066



Ident. No. 002–064, 072–082



Ident. No. 066

							High-performance shoulder milling cutter 90° with Weldon shaft		Clamping screw for indexable inserts	
D (mm)	L2 (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16030... Ident. No.		16108... Ident. No.	
10	20	60	10	5.5	1	AD.X 0602..	002	●	630	●
12	25	70	12	5.5	2	AD.X 0602..	004	●	630	●
14	25	70	12	5.5	3	AD.X 0602..	072	○	630	●
16	28	76	16	5.5	3	AD.X 0602..	006	●	630	●
16	28	76	16	5.5	4	AD.X 0602..	074	○	630	●
18	28	76	16	5.5	4	AD.X 0602..	076	○	630	●
20	36	86	20	5.5	4	AD.X 0602..	008	○	630	●
20	36	86	20	5.5	5	AD.X 0602..	078	●	630	●
25	36	86	20	5.5	6	AD.X 0602..	010	●	630	●
25	36	86	20	5.5	7	AD.X 0602..	080	○	630	●
32	40	96	25	5.5	8	AD.X 0602..	082	○	630	●
16	28	76	16	8.5	2	AD.X 0903..	020	●	632	●

							High-performance shoulder milling cutter 90° with Weldon shaft		Clamping screw for indexable inserts	
D (mm)	L2 (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16030... Ident. No.		16108... Ident. No.	
20	36	86	20	8.5	3	AD.X 0903..	022	●	632	●
20	36	86	20	8.5	4	AD.X 0903..	024	●	632	●
25	36	86	20	8.5	4	AD.X 0903..	026	●	632	●
25	36	86	20	8.5	5	AD.X 0903..	028	●	632	●
32	40	86	25	8.5	6	AD.X 0903..	030	○	632	●
20	36	86	20	11.5	2	AD.X 1204..	040	●	634	●
25	36	86	20	11.5	3	AD.X 1204..	042	●	634	●
32	40	96	25	11.5	4	AD.X 1204..	044	○	634	●
32	40	96	25	11.5	5	AD.X 1204..	046	●	634	●
40	50	110	32	11.5	6	AD.X 1204..	048	○	634	●
25	40	96	25	16.5	2	AD.X 1705..	060	○	636	●
32	50	110	32	16.5	3	AD.X 1705..	062	○	638	●
40	50	110	32	16.5	4	AD.X 1705..	064	○	638	●
25	40	200	25	16.5	2	AD.X 1705..	066	○	636	●

Prod. Gr. 108

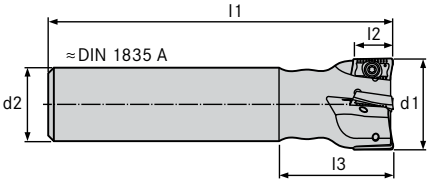
ATORN High-performance shoulder milling cutter 90° with shank

For indexable milling inserts AD.X 1705..

IK

Execution:
- Wear-resistant, nickel-plated version
- With internal cooling
- Tightening torque for clamping screw (indexable insert) 3.5 Nm (TX 15)

Advantage:
- Highly positive indexable insert
- Low power consumption
- Precise 90° angular milling



							High-performance shoulder milling cutter 90° with shank		Clamping screw for indexable inserts	
D (mm)	L2 (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16030... Ident. No.		16108... Ident. No.	
32	50	250	32	16.5	3	AD.X 1705..	068	○	638	●
40	50	250	32	16.5	4	AD.X 1705..	070	●	638	●

Prod. Gr. 108

ATORN High-performance long-edge milling cutter 90°

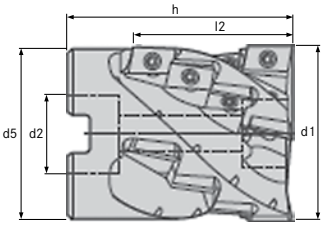
For indexable milling inserts AD.X 1204.. - AD.X 1705..

IK

Execution:
- Wear-resistant, nickel-plated version
- With internal cooling
- **Ident. No. 200–204:** Tightening torque for clamping screw (indexable insert) 2.25 Nm (TX 08)
- **Ident. No. 300–302:** Tightening torque for clamping screw (indexable insert) 3.5 Nm (TX 15)

Advantage:
- Highly positive indexable insert
- Low power consumption

Notes:
Slight recessing cannot be avoided on multi-row milling tools.



							High-performance long-edge milling cutter 90°		Clamping screw for indexable inserts	
D (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Number of indexable inserts (PCS)	Suitable for indexable inserts	16031... Ident. No.		16108... Ident. No.	
40	55	16	34	3	9	AD.X 1204..	200	○	634	●
50	65	22	45	4	16	AD.X 1204..	202	●	634	●
63	70	27	45	5	20	AD.X 1204..	204	○	634	●
63	70	27	48	4	12	AD.X 1705..	300	○	638	●
80	85	32	63	5	20	AD.X 1705..	302	○	638	●

Prod. Gr. 108

ATORN High-performance long-edge milling cutter 90° with Weldon shank

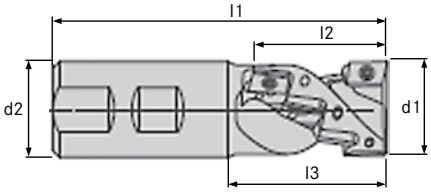
For indexable milling inserts AD.X 0903.. - AD.X 1204..

IK

Execution:
- Wear-resistant, nickel-plated version
- With internal cooling
- **Ident. No. 200–204:** Tightening torque for clamping screw (indexable insert) 1.2 Nm (TX 08)
- **Ident. No. 300–302:** Tightening torque for clamping screw (indexable insert) 2.25 Nm (TX 08)

Advantage:
- Highly positive indexable insert
- Low power consumption

Notes:
Slight recessing cannot be avoided on multi-row milling tools.



								High-performance long-edge milling cutter 90° with Weldon shank		Clamping screw for indexable inserts	
D (mm)	L2 (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Number of indexable inserts (PCS)	Suitable for indexable inserts	16030... Ident. No.		16108... Ident. No.	
20	36	86	20	25	2	6	AD.X 0903..	200	●	632	●
25	44	100	25	33	2	8	AD.X 0903..	202	●	632	●
32	55	115	32	41	3	15	AD.X 0903..	204	●	632	●
32	55	115	32	45	2	8	AD.X 1204..	300	○	634	●
40	70	140	40	55	3	15	AD.X 1204..	302	○	634	●

Prod. Gr. 108

ATORN 90° high-performance angular milling cutter
4 indexable insert sizes – ready for any task

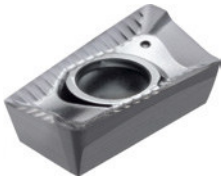
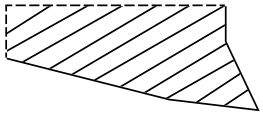
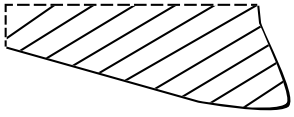
ADKX 0602..

ADKX 0903..

ADKX 1204..

ADKX 1705..

ATORN indexable insert form 90° high-performance angular milling cutter

	chip shape	description
 **ADHX..**	 FR-ALC (sharp edge)	**for aluminium** specially ground indexable inserts geometry with a polished chip surface and sharp cutting edges for machining non-ferrous materials (aluminium, soft copper alloys and plastics)
ADKX..	 SR and SR-TR (chamfered and rounded)	**for universal machining** universal indexable inserts geometry with all-round protection chamfer for machining steel and cast materials as well as stainless steels. version – TR with chip surface topography.

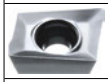
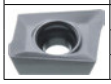
ATORN Indexable milling inserts AD.X 0602..

For shoulder milling cutter 16029-16031

Execution:
- For indexable insert cutters no. 16029/16030/16031

Delivery:
Box quantity: 10 pieces

Notes:
Ident. No. 300, 306, 310: Best suited to non-ferrous metals only with ALC geometry.

					Surface	Uncoated		Coated		Coated	
					Carbide type	HW4410		HC4410		HC4640	
					Material to be processed	Non-ferrous metal		Steel | Non-ferrous metal | Cast metal | Special alloy		Steel | Stainless steel	
					Suitable for material group P			○		●	
					Suitable for material group M					○	
					Suitable for material group N	●		●			
					Suitable for material group K			●			
					Suitable for material group S			○			
					Suitable for material group H						
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)		16113... Ident. No.		16113... Ident. No.		16113... Ident. No.	
	ADHX 060202 FR-ALC	6.35	5.5	0.2		302	●	-	-	-	-
	ADHX 060202 FR-ALC	6.35	5.5	0.2		-	-	300	●	-	-
	ADKX 060202 SR	6.35	5.5	0.2		-	-	306	●	304	●
	ADKX 060204 SR	6.35	5.5	0.4		-	-	310	○	308	●

Prod. Gr. 156

ATORN Indexable milling inserts AD.X 0903..

For shoulder milling cutter 16029-16031

Execution:
- For indexable insert cutters no. 16029/16030/16031

Delivery:
Ident. No. 330–364: Box quantity: 10 pieces

Ident. No. 366–376: Packaging unit: 10 pieces

Notes:
Ident. No. 330, 334, 340, 348, 356, 364: Best suited to non-ferrous metals only with ALC geometry.

Ident. No. 344, 352, 360: Suitable for dry milling
Ident. No. 346, 354, 362: Suitable for wet milling
Ident. No. 366–376: Polished, with a rounded cutting edge

					Surface	Uncoated		Coated		Coated		Coated		Coated	
					Carbide type	HW4410		HC4410		HC4640		HC4540		HC4544	
					Material to be processed	Non-ferrous metal		Steel | Non-ferrous metal | Cast metal | Special alloy		Steel | Stainless steel		Stainless steel | Special alloy		Stainless steel | Special alloy	
					Suitable for material group P			○		●					
					Suitable for material group M					○		●		○	
					Suitable for material group N	●		●							
					Suitable for material group K			●							
					Suitable for material group S			○				○		●	
					Suitable for material group H										
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)		16113... Ident. No.		16113... Ident. No.		16113... Ident. No.		16113... Ident. No.		16113... Ident. No.	
	ADHX 090308 FR-ALC	9.6	8.5	0.8		332	●	-	-	-	-	-	-	-	-
	ADHX 090312 FR-ALC	9.6	8.5	1.2		336	○	-	-	-	-	-	-	-	-
	ADHX 090308 FR-ALC	9.6	8.5	0.8		-	-	330	●	-	-	-	-	-	-
	ADHX 090312 FR-ALC	9.6	8.5	1.2		-	-	334	●	-	-	-	-	-	-
	ADHX 090302 ER	9.6	8.5	0.2		-	-	368	○	366	●	-	-	-	-
	ADHX 090304 ER	9.6	8.5	0.4		-	-	372	●	370	●	-	-	-	-
	ADHX 090308 ER	9.6	8.5	0.8		-	-	376	○	374	●	-	-	-	-
	ADKX 090304 SR-TR	9.6	8.5	0.4		-	-	340	●	338	●	-	-	-	-
	ADKX 090308 SR-TR	9.6	8.5	0.8		-	-	348	●	342	●	344	●	346	●
	ADKX 090312 SR-TR	9.6	8.5	1.2		-	-	356	○	350	●	352	●	354	○
	ADKX 090316 SR-TR	9.6	8.5	1.6		-	-	364	○	358	○	360	○	362	○

Prod. Gr. 156

ATORN Indexable milling inserts AD.X 1204..

For shoulder milling cutter 16029-16031

Execution:
- For indexable insert cutters no. 16029/16030/16031

Delivery:
Ident. No. 380–390, 392, 394–396, 398–420: Box quantity: 10 pieces

Ident. No. 391, 393, 397: Box quantity: Pack of 10
Ident. No. 422–436: Packaging unit: 10 pieces

Notes:
Ident. No. 380, 384, 388, 397–398, 406, 414, 418: Best suited to non-ferrous metals only with ALC geometry.

Ident. No. 394, 402, 410, 434: Suitable for dry milling
Ident. No. 396, 404, 412, 436: Suitable for wet milling
Ident. No. 422–432: Polished, with a rounded cutting edge

					Surface	Uncoated		Coated		Coated		Coated		Coated		Coated	
					Carbide type	HW4410		HC4410		HC4640		HC4540		HC4544		HC4430	
					Material to be processed	Non-ferrous metal		Steel | Non-ferrous metal | Cast metal | Special alloy		Steel | Stainless steel		Steel | Stainless steel | Special alloy		Stainless steel | Special alloy		Steel | Cast metal	
					Suitable for material group P			○		●		○				●	
					Suitable for material group M					○		●		○			
					Suitable for material group N	●		●									
					Suitable for material group K			●								○	
					Suitable for material group S			○				○		●			
					Suitable for material group H												
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)		16113... Ident. No.		16113... Ident. No.		16113... Ident. No.		16113... Ident. No.		16113... Ident. No.		16113... Ident. No.	
	ADHX 120408 FR-ALC	12.7	11.5	0.8		382	●	-	-	-	-	-	-	-	-	-	-
	ADHX 120412 FR-ALC	12.7	11.5	1.2		386	●	-	-	-	-	-	-	-	-	-	-
	ADHX 120416 FR-ALC	12.7	11.5	1.6		390	●	-	-	-	-	-	-	-	-	-	-
	ADHX 120408 FR-ALC	12.7	11.5	0.8		-	-	380	●	-	-	-	-	-	-	-	-
	ADHX 120412 FR-ALC	12.7	11.5	1.2		-	-	384	●	-	-	-	-	-	-	-	-
	ADHX 120416 FR-ALC	12.7	11.5	1.6		-	-	388	○	-	-	-	-	-	-	-	-
	ADHX 120404 ER	12.7	11.5	0.4		-	-	-	-	422	●	-	-	-	-	-	-
	ADHX 120406 ER	12.7	11.5	0.6		-	-	-	-	426	○	-	-	-	-	-	-
	ADHX 120408 ER	12.7	11.5	0.8		-	-	-	-	430	●	-	-	-	-	-	-
	ADHX 120404 ER	12.7	11.5	0.4		-	-	424	○	-	-	-	-	-	-	-	-
	ADHX 120406 ER	12.7	11.5	0.6		-	-	428	○	-	-	-	-	-	-	-	-
	ADHX 120408 ER	12.7	11.5	0.8		-	-	432	○	-	-	-	-	-	-	-	-
	ADKX 120404 SR-TR	12.7	11.5	0.4		-	-	397	●	391	●	-	-	-	-	393	●
	ADKX 120408 SR-TR	12.7	11.5	0.8		-	-	398	●	392	●	394	●	396	●	-	-
	ADKX 120412 SR-TR	12.7	11.5	1.2		-	-	406	○	400	●	402	●	404	●	-	-
	ADKX 120416 SR-TR	12.7	11.5	1.6		-	-	414	○	408	●	410	●	412	●	-	-
	ADKX 120420 SR-TR	12.7	11.5	2		-	-	418	○	416	●	434	○	436	●	-	-
	ADKX 120440 SR-TR	12.7	11.5	4		-	-	-	-	420	○	-	-	-	-	-	-

Prod. Gr. 156

ATORN Indexable milling inserts AD.X 1705..

For shoulder milling cutter 16029-16031

Execution:
- For indexable insert cutters no. 16029/16030/16031

Delivery:
Box quantity: 10 pieces

Notes:
Ident. No. 440, 444, 448, 456, 466, 476, 486: Best suited to non-ferrous metals only with ALC geometry.
Ident. No. 462, 472, 482: Suitable for dry milling
Ident. No. 464, 474, 484: Suitable for wet milling

					Surface	Uncoated		Coated		Coated		Coated		Coated		Coated	
					Carbide type	HW4410		HC4410		HC4640		HC4430		HC4540		HC4544	
					Material to be processed	Non-ferrous metal		Steel | Non-ferrous metal | Cast metal | Special alloy		Steel | Stainless steel		Steel | Non-ferrous metal | Cast metal | Special alloy		Stainless steel | Special alloy		Stainless steel | Special alloy	
					Suitable for material group P			○		●		○					
					Suitable for material group M					○				●		○	
					Suitable for material group N	●		●				●					
					Suitable for material group K			●				●					
					Suitable for material group S			○				○		○		●	
					Suitable for material group H												
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)	16113... Ident. No.			16113... Ident. No.		16113... Ident. No.		16113... Ident. No.		16113... Ident. No.		16113... Ident. No.	
	ADHX 170508 FR-ALC	17.5	16.5	0.8	442	●		-	-	-	-	-	-	-	-	-	-
	ADHX 170512 FR-ALC	17.5	16.5	1.2	446	○		-	-	-	-	-	-	-	-	-	-
	ADHX 170516 FR-ALC	17.5	16.5	1.6	450	●		-	-	-	-	-	-	-	-	-	-
	ADHX 170508 FR-ALC	17.5	16.5	0.8	-	-		440	●	-	-	-	-	-	-	-	-
	ADHX 170512 FR-ALC	17.5	16.5	1.2	-	-		444	●	-	-	-	-	-	-	-	-
	ADHX 170516 FR-ALC	17.5	16.5	1.6	-	-		448	○	-	-	-	-	-	-	-	-
	ADKX 170508 SR-TR	17.5	16.5	0.8	-	-		456	●	452	●	454	●	-	-	-	-
	ADKX 170512 SR-TR	17.5	16.5	1.2	-	-		466	○	458	●	460	●	462	●	464	●
	ADKX 170516 SR-TR	17.5	16.5	1.6	-	-		476	○	468	○	470	○	472	○	474	●
	ADKX 170520 SR-TR	17.5	16.5	2	-	-		486	○	478	●	480	○	482	○	484	●

Prod. Gr. 156

ATORN Shoulder milling cutter 90°

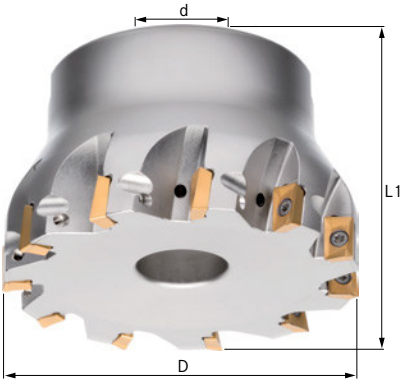
For indexable milling inserts AP.. 0602.. / AP.. 1003.. / AP.. 1604..

IK

Application:
For universal use in all materials.

Execution:
- Wear-resistant, nickel-plated version
- With internal cooling

- **No. 16017 341–16017 400:** Clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm
- **No. 16017 632–16017 650:** Clamping screw tightening torque (indexable insert) M1.8 = 0.7 Nm
- **No. 16019:** Clamping screw tightening torque (indexable insert) M4 = 5.2 Nm



No. 16017 341–16017 400

							Shoulder milling cutter 90°				Clamping screw for indexable inserts	
D (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Indexable insert type	Suitable for indexable inserts	16017... Ident. No.		16019... Ident. No.		16108... Ident. No.	
32	40	16	5.2	8	-	AP.. 0602..	632	○	-	-	-	-
40	40	16	5.2	10	-	AP.. 0602..	640	○	-	-	-	-
50	40	22	5.2	11	-	AP.. 0602..	650	○	-	-	-	-

							Shoulder milling cutter 90°				Clamping screw for indexable inserts	
D (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Indexable insert type	Suitable for indexable inserts	16017... Ident. No.		16019... Ident. No.		16108... Ident. No.	
40	40	16	9.3	6	21 | 22	AP.. 1003..	341	●	-	-	225	●
50	40	22	9.3	7	21 | 22	AP.. 1003..	351	●	-	-	225	●
63	40	22	9.3	8	21 | 22	AP.. 1003..	364	●	-	-	225	●
80	50	27	9.3	11	21 | 22	AP.. 1003..	380	●	-	-	225	●
100	50	32	9.3	12	21 | 22	AP.. 1003..	400	●	-	-	225	●
40	40	16	14.9	4	27 | 28	AP.. 1604..	-	-	020	●	129	●
50	40	22	14.9	5	27 | 28	AP.. 1604..	-	-	021	●	129	●
63	40	22	14.9	6	27 | 28	AP.. 1604..	-	-	022	●	129	●
80	50	27	14.9	7	27 | 28	AP.. 1604..	-	-	023	●	129	●
100	50	32	14.9	8	27 | 28	AP.. 1604..	-	-	024	●	129	●
125	63	40	14.9	9	27 | 28	AP.. 1604..	-	-	025	○	129	●
160	63	40	14.9	10	27 | 28	AP.. 1604..	-	-	026	○	129	●
200	63	60	14.9	13	27 | 28	AP.. 1604..	-	-	027	○	129	●
250	63	60	14.9	16	27 | 28	AP.. 1604..	-	-	028	○	129	●

Prod. Gr. 108

ATORN Shoulder milling cutter, 90°, with thread

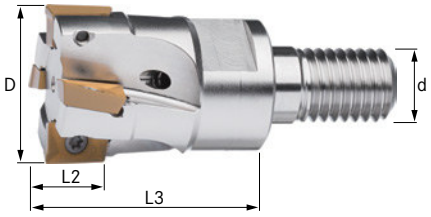
For indexable milling inserts AP.. 0602.. / AP.. 1003.. / AP.. 1604..

IK

Application:
For universal use in all materials.

Execution:
- With screw-in thread
- Wear-resistant, nickel-plated version
- With internal cooling

- **No. 16017 158–16017 163:** Clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm
- **No. 16017 710–16017 725:** Clamping screw tightening torque (indexable insert) M1.8 = 0.7 Nm
- **No. 16019:** Clamping screw tightening torque (indexable insert) M4 = 5.2 Nm



No. 16017 158–16017 163

								Shoulder milling cutter, 90°, with thread				Clamping screw for indexable inserts	
D (mm)	L3 (mm)	L1 (mm)	d	max. ap (mm)	Number of cutting edges (PCS)	Indexable insert type	Suitable for indexable inserts	16017... Ident. No.		16019... Ident. No.		16108... Ident. No.	
10	16	16	M6	5.2	2	-	AP.. 0602..	710	○	-	-	-	-
12	16	16	M6	5.2	3	-	AP.. 0602..	712	○	-	-	-	-
16	21	21	M8	5.2	4	-	AP.. 0602..	716	○	-	-	-	-
20	26	26	M10	5.2	5	-	AP.. 0602..	720	○	-	-	-	-
25	30	30	M12	5.2	7	-	AP.. 0602..	725	○	-	-	-	-
10	20	-	M6	9.3	1	21	AP.. 1003..	158	○	-	-	225	●
12	20	-	M6	9.3	1	21	AP.. 1003..	159	○	-	-	225	●
16	25	-	M8	9.3	2	21	AP.. 1003..	160	○	-	-	225	●
20	30	-	M10	9.3	3	21	AP.. 1003..	161	●	-	-	225	●
25	35	-	M12	9.3	4	21	AP.. 1003..	162	●	-	-	225	●
32	43	-	M16	9.3	5	21	AP.. 1003..	163	●	-	-	225	●
32	46	-	M16	14.9	3	27 | 28	AP.. 1604..	-	-	007	○	129	●
40	46	-	M16	14.9	4	27 | 28	AP.. 1604..	-	-	009	○	129	●

Prod. Gr. 108

ATORN 90° shoulder milling cutter with Weldon shank

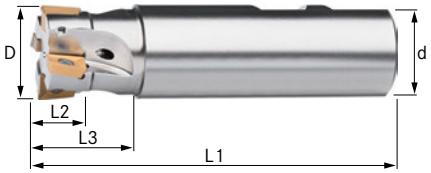
For indexable milling inserts AP.. 0602.. / AP.. 1003.. / AP.. 1604..

IK

Application:
For universal use in all materials.

Execution:
- Wear-resistant, nickel-plated version
- Internal cooling
- **No. 16017 010–16017 253:** Clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm

- **No. 16017 010–16017 253, 16019 001–16019 005:** With Weldon shank
- **No. 16017 510–16017 532:**
  - With straight shank
  - Clamping screw tightening torque (indexable insert) M1.8 = 0.7 Nm
- **No. 16019:** Clamping screw tightening torque (indexable insert) M4 = 5.2 Nm



No. 16017 010–16017 032, 16017 157–16017 253

								90° shoulder milling cutter with Weldon shank				Clamping screw for indexable inserts	
D (mm)	L2 (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Indexable insert type	Suitable for indexable inserts	16017... Ident. No.		16019... Ident. No.		16108... Ident. No.	
10	24	80	16	9.3	1	21 | 22	AP.. 1003..	010	●	-	-	225	●
10	24	150	16	9.3	1	21 | 22	AP.. 1003..	140	●	-	-	225	●
10	28	80	10	5.2	2	-	AP.. 0602..	510	○	-	-	-	-
11	24	80	16	9.3	1	21 | 22	AP.. 1003..	011	○	-	-	225	●

								90° shoulder milling cutter with Weldon shank				Clamping screw for indexable inserts	
D (mm)	L2 (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Indexable insert type	Suitable for indexable inserts	16017... Ident. No.		16019... Ident. No.		16108... Ident. No.	
12	24	80	16	9.3	1	21 | 22	AP.. 1003..	012	●	-	-	225	●
12	24	150	16	9.3	1	21 | 22	AP.. 1003..	141	●	-	-	225	●
12	30	80	12	5.2	3	-	AP.. 0602..	512	○	-	-	-	-
13	24	80	16	9.3	1	21 | 22	AP.. 1003..	013	○	-	-	225	●
14	24	80	16	9.3	1	21 | 22	AP.. 1003..	014	●	-	-	225	●
14	32	85	12	5.2	3	-	AP.. 0602..	514	○	-	-	-	-
15	25	85	16	9.3	2	21 | 22	AP.. 1003..	015	●	-	-	225	●
15.7	25	85	16	9.3	2	21 | 22	AP.. 1003..	157	○	-	-	225	●
16	25	85	16	9.3	2	21 | 22	AP.. 1003..	016	●	-	-	225	●
16	100	150	16	9.3	2	21 | 22	AP.. 1003..	142	●	-	-	225	●
16	35	85	16	5.2	4	-	AP.. 0602..	516	○	-	-	-	-
17	25	85	16	9.3	2	21 | 22	AP.. 1003..	017	○	-	-	225	●
18	25	85	20	9.3	2	21 | 22	AP.. 1003..	018	●	-	-	225	●
18	25	150	16	9.3	2	21 | 22	AP.. 1003..	146	○	-	-	225	●
18	38	90	16	5.2	4	-	AP.. 0602..	518	○	-	-	-	-
19.7	25	90	20	9.3	3	21 | 22	AP.. 1003..	197	○	-	-	225	●
20	25	90	20	9.3	3	21 | 22	AP.. 1003..	020	●	-	-	225	●
20	100	150	20	9.3	3	21 | 22	AP.. 1003..	143	●	-	-	225	●
20	40	90	20	5.2	5	-	AP.. 0602..	520	○	-	-	-	-
22	25	95	25	9.3	3	21 | 22	AP.. 1003..	022	●	-	-	225	●
24.7	25	95	25	9.3	4	21 | 22	AP.. 1003..	247	○	-	-	225	●
25	25	95	25	9.3	3	21 | 22	AP.. 1003..	253	●	-	-	225	●
25	25	95	25	9.3	4	21 | 22	AP.. 1003..	025	●	-	-	225	●
25	25	150	20	9.3	4	21 | 22	AP.. 1003..	144	●	-	-	225	●
25	44	100	25	14.9	2	27 | 28	AP.. 1604..	-	-	001	●	129	●
25	140	200	25	14.9	2	27 | 28	AP.. 1604..	-	-	002	●	129	●
25	50	106	20	5.2	7	-	AP.. 0602..	525	○	-	-	-	-
28	25	95	25	9.3	4	21 | 22	AP.. 1003..	028	●	-	-	225	●
30	25	95	25	9.3	4	21 | 22	AP.. 1003..	030	●	-	-	225	●
32	26	95	25	9.3	5	21 | 22	AP.. 1003..	032	●	-	-	225	●
32	26	150	25	9.3	5	21 | 22	AP.. 1003..	145	●	-	-	225	●
32	50	110	32	14.9	3	27 | 28	AP.. 1604..	-	-	003	●	129	●
32	60	200	32	14.9	3	27 | 28	AP.. 1604..	-	-	004	●	129	●
32	64	124	25	5.2	8	-	AP.. 0602..	532	○	-	-	-	-
40	45	115	32	14.9	4	27 | 28	AP.. 1604..	-	-	005	●	129	●

Prod. Gr. 108

ATORN Bore/counter sink milling cutter 90° with Weldon shank

For indexable milling inserts AP.. 1003.. / AP.. 1604..

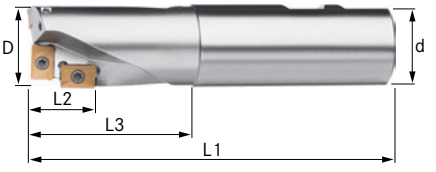
IK

Application:
For drilling/countersinking in all materials.

Execution:
- With Weldon shank
- Wear-resistant, nickel-plated version
- Robust supports

- **No. 16017:** Clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm
- **No. 16019:** Clamping screw tightening torque (indexable insert) M4 = 5.2 Nm

Advantage:
- High cutting performance
- Safe chip removal thanks to positive cutting geometry



No. 16017

No. 16019

								Bore/counter sink milling cutter 90° with Weldon shank				Clamping screw for indexable inserts	
D (mm)	L3 (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Number of indexable inserts (PCS)	Indexable insert type	Suitable for indexable inserts	16017... Ident. No.		16019... Ident. No.		16108... Ident. No.	
20	35	90	20	17	2	3	21	AP.. 1003..	050	●	-	-	225	●
25	50	110	25	19	2	3	21	AP.. 1003..	052	●	-	-	225	●
20	98	150	20	17	2	3	21	AP.. 1003..	051	●	-	-	225	●
25	50	150	25	19	2	3	21	AP.. 1003..	053	●	-	-	225	●
32	50	130	32	30	2	3	27	AP.. 1604..	-	-	010	●	129	●

Prod. Gr. 108

ATORN Long edge milling cutter 90° with Weldon shank

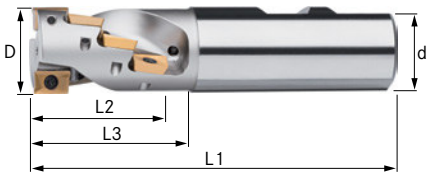
For indexable milling inserts AP.. 0602.. / AP.. 1003..

IK

Application:
For universal use in all materials for rough cutting.

Execution:
- With Weldon shank
- Wear-resistant, nickel-plated version
- With internal cooling
- **No. 16017:** Clamping screw tightening torque (indexable insert) M1.8 = 0.7 Nm
- **No. 16018:** clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm
- **No. 16019:** Clamping screw tightening torque (indexable insert) M4 = 5.2 Nm

Notes:
No. 16017: Slight recessing cannot be avoided on multi-row milling tools.



No. 16018

									Long edge milling cutter 90° with Weldon shank						Clamping screw for indexable inserts	
D (mm)	L2 (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Number of indexable inserts (PCS)	Indexable insert type	Suitable for indexable inserts	16017... Ident. No.		16018... Ident. No.		16019... Ident. No.		16108... Ident. No.	
16	19	80	16	19	2	8	-	AP.. 0602..	816	○	-	-	-	-	-	-
20	24	90	20	24	3	15	-	AP.. 0602..	820	○	-	-	-	-	-	-
25	29	100	25	29	5	30	-	AP.. 0602..	825	○	-	-	-	-	-	-
20	28	87	20	28	1	4	21	AP.. 1003..	-	-	020	○	-	-	225	●
25	37	105	25	36	2	8	21	AP.. 1003..	-	-	025	○	-	-	225	●
32	46	115	32	45	2	10	21	AP.. 1003..	-	-	032	●	-	-	225	●
40	55	130	32	54	3	18	21	AP.. 1003..	-	-	040	●	-	-	225	●
25	29	105	25	29	1	2	27	AP.. 1604..	-	-	-	-	501	○	129	●
32	44	115	32	44	2	6	27	AP.. 1604..	-	-	-	-	502	●	129	●
40	58	130	32	58	2	8	27	AP.. 1604..	-	-	-	-	503	●	129	●

Prod. Gr. 108

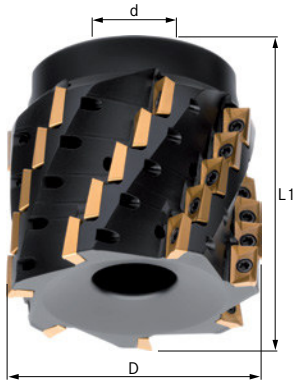
ATORN Long edge milling cutter 90°

For indexable milling inserts AP.. 1003.. / AP.. 1604..

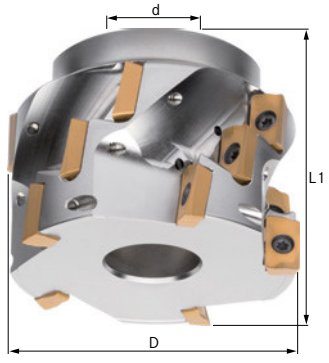
IK

Application:
For universal rough cutting in all materials.

Execution:
- With internal cooling
- **No. 16018:**
  - Robust support design for high-performance milling
- Clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm
- **No. 16019:**
  - Wear-resistant, nickel-plated version
  - Clamping screw tightening torque (indexable insert) M4 = 5.2 Nm



No. 16018



No. 16019

								Long edge milling cutter 90°				Clamping screw for indexable inserts	
D (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Number of indexable inserts (PCS)	Indexable insert type	Suitable for indexable inserts	16018... Ident. No.		16019... Ident. No.		16108... Ident. No.	
40	50	16	37	3	12	21	AP.. 1003..	142	○	-	-	225	●
50	60	22	46	3	15	21	AP.. 1003..	152	●	-	-	225	●
63	60	27	46	4	20	21	AP.. 1003..	162	○	-	-	225	●
50	50	27	30	3	6	27	AP.. 1604..	-	-	510	○	129	●
63	60	27	44	4	12	27	AP.. 1604..	-	-	511	●	129	●
80	60	32	44	5	15	27	AP.. 1604..	-	-	512	○	129	●
100	60	40	44	6	18	27	AP.. 1604..	-	-	513	○	129	●

Prod. Gr. 108

ATORN 15°, 30°, 45°, 60°, 75° and variable x° chamfer mills

For indexable milling inserts AP.. 1003.. / AP.. 1604..

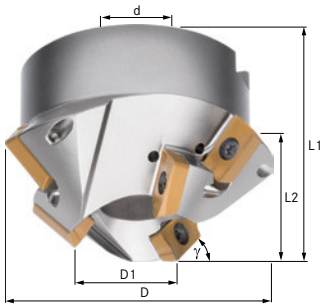
IK

Application:
Universal use for rough cutting of chamfers. Ideal for preliminary machining of welding seams. Recess formation possible thanks to indexable insert tolerances; improved finish can be achieved using APHT indexable inserts.

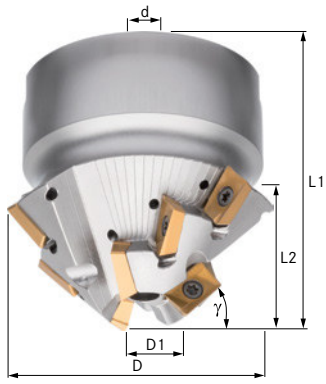
Execution:
- nickel-plated support

- any required chamfer angle is available (minimum acceptance 2 pieces)
- **Ident. No. 015–075:** clamping screw tightening torque (indexable insert) M4 = 5.2 Nm
- **Ident. No. 115–175:** clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm

Delivery:
Supplied with clamping screws and wrench



Ident. No. 015–075



Ident. No. 115–175

												15°, 30°, 45°, 60°, 75° and variable x° chamfer mills		Clamping screw for indexable inserts	
Chamfer angle (Degree)	D (mm)	D1 (mm)	Max. chamfer width (mm)	Max. chamfer height (mm)	Max. chamfer length (mm)	L1 (mm)	d (mm)	Number of cutting edges (PCS)	Number of indexable inserts (PCS)	Indexable insert type	Suitable for indexable inserts	16055... Ident. No.		16108... Ident. No.	
15	70	17	27	7	27.5	50	22	3	9	21	AP.. 1003..	115	○	225	●
30	65	17	24	13	27.5	50	22	3	9	21	AP.. 1003..	130	●	225	●
40	60	17	19	17	27.5	50	22	3	9	21	AP.. 1003..	140	○	225	●
45	56	17	17.8	19	27.5	50	22	3	9	21	AP.. 1003..	145	●	225	●
60	45	17	13	24	27.5	50	16	3	9	21	AP.. 1003..	160	●	225	●
75	33	19	7	27	27.5	60	16	3	9	21	AP.. 1003..	175	○	225	●
15	94	35	29.5	8	30	50	27	3	6	27	AP.. 1604..	015	●	129	●
30	88	35	26.5	15	30	50	27	3	6	27	AP.. 1604..	030	●	129	●
40	84	35	24.5	19	30	50	27	3	6	27	AP.. 1604..	040	○	129	●
45	77.8	35	21.4	21.5	30	50	27	3	6	27	AP.. 1604..	045	●	129	●
60	65	35	15.1	26.5	30	50	27	3	6	27	AP.. 1604..	060	●	129	●
75	50.7	35	8	29.5	30	60	22	3	6	27	AP.. 1604..	075	○	129	●

Prod. Gr. 155

Attention: additional angles for indexable milling inserts AP.. 1003.. / AP.. 1604.. Available on request. For special angle = carrier purchase quantity 2 pieces

ORION® Shoulder milling cutter 90° with shank

For indexable milling inserts APKT..1003..

Version:
- Black oxide finish, with robust carrier design
- Soft cutting owing to the positive installation position of the indexable insert
- For groove milling, circumferential milling and heel milling
- Smooth milling behaviour of the tools

Advantage:
- Axial run-out max. 0.03 mm
- Concentricity max. 0.03 mm
- Precise 90° shoulder milling

Delivery:
1 x holder incl. indexable insert screws, without inserts

Note:
Clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm

D (mm)	L2 (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Number of indexable inserts	Suitable for indexable inserts	16017... Ident. No.	
16	37	85	16	8	2	-	AP.. 1003..	035	●
20	40	90	20	8	3	-	AP.. 1003..	036	●
25	49	105	25	8	4	4	AP.. 1003..	037	●

Prod. Gr. 148

Accessories for		16017 035	16017 036	16017 037
16108... Clamping screw for indexable insert M 2.5, TX 8	Ident. No.	225 ●	225 ●	225 ●

ORION® Shoulder milling cutter 90° with bore

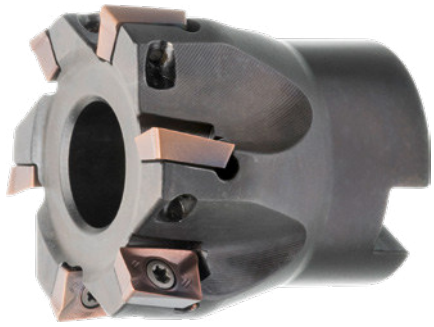
For indexable milling inserts APKT.. 1003..

Execution:
- Bronzed, with robust support design
- Soft cutting owing to the positive installation position of the indexable insert
- clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm
- Smooth milling behaviour of the tools

Advantage:
- Axial run-out max. 0.03 m
- Concentricity max. 0.03 mm
- Precise 90° shoulder milling

Delivery:
1 x holder incl. indexable insert screws, without inserts

Notes:
Clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm



D (mm)		40	50
L1 (mm)		40	40
d (mm)		16	22
Number of cutting edges (PCS)		6	7
Number of indexable inserts (PCS)		6	7
Suitable for indexable inserts		AP.. 1003..	AP.. 1003..
16017...	Ident. No.	410 ●	420 ●

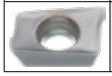
Prod. Gr. 148

ATORN Indexable milling insert AP.. 06..

For indexable milling inserts no. 16017

Execution:
- For indexable insert cutters no. 16017

Delivery:
Packing unit: 10 pieces

	Surface				Coated	
	Carbide type				HC4635	
	Material to be processed				Steel | Stainless steel | Cast metal	
	Suitable for material group P				●	
	Suitable for material group M				●	
	Suitable for material group N					
	Suitable for material group K				●	
	Suitable for material group S					
	Suitable for material group H					
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)	16109... Ident. No.	
	APKT 060204 PDTR-K	6	5.2	0.4	148	●

Prod. Gr. 156

ATORN Indexable milling insert AP.. 10..

For indexable milling inserts no. 16017/16018/16055

Execution:
- For indexable insert cutters no. 16017/16018/16055

Delivery:
Ident. No. 095–108: Box quantity: 10 pieces

Ident. No. 109: Packaging unit: 10 pieces
Ident. No. 280: Box quantity: Pack of 10

	Surface					Uncoated		Coated		Coated		Coated		Coated		Coated		
	Carbide type					HW4415		HC4535		HC4540		HC4615		HC4626		HC4635		
	Material to be processed					Non-ferrous metal		Steel | Stainless steel | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel		Steel | Cast metal | Hardened material		Steel | Cast metal		
	Suitable for material group P							●		●		●		●		●		
	Suitable for material group M							●		●								
	Suitable for material group N					●												
	Suitable for material group K									○				●		○		
	Suitable for material group S							●		●								
	Suitable for material group H													○				
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)	Indexable insert type	16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		
	APHX 100304 FR-ALU	10.5	8	0.4	21	103	●	-	-	-	-	-	-	-	-	-	-	
	APKT 1003 PDFR	10.5	8	0.4	21	280	●	-	-	-	-	-	-	-	-	-	-	
	APKT 1003 PDER-S	10.5	8	0.5	21	-	-	095	●	-	-	097	●	-	-	099	●	
	APKT 1003 PDER-M	11	8	0.5	22	-	-	-	-	108	●	-	-	-	-	-	-	
	APKT 1003 PDER-M	11	8	0.5	22	-	-	-	-	-	-	-	-	109	●	-	-	

Prod. Gr. 156

ORION ATORN Indexable milling insert AP.. 10..

For indexable milling inserts no. 16017/16018/16055

Application:
Ident. No. 145: For cutters with indexable inserts 16017/16018

Execution:
- **Ident. No. 102–107:** For indexable insert cutters no. 16017/16018/16055

Delivery:
Ident. No. 100–101: Packaging unit: 10 pieces
Ident. No. 102–107: Box quantity: 10 pieces
Ident. No. 145: Packing unit: 10 pieces

	Surface					Coated		Coated		Coated		Coated	
	Carbide type					HC4540		HC4410		HC4620		OHC4635	
	Material to be processed					Steel | Stainless steel | Cast metal | Special alloy		Non-ferrous metal | Cast metal		Steel | Cast metal		Steel | Stainless steel | Cast metal | Special alloy	
	Suitable for material group P					●				●		●	
	Suitable for material group M					●						●	
	Suitable for material group N							●					
	Suitable for material group K					○		●		○		●	
	Suitable for material group S					●						○	
	Suitable for material group H												
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)	Indexable insert type	16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	APKT 100308 PDER	11	8	0.8	22	100	●	-	-	-	-	-	-
	APKT 100312 PDER	11	8	1.2	22	101	●	-	-	-	-	-	-
	APKT 100320 PDER	11	8	2	22	102	●	-	-	-	-	-	-
	APKT 1003 PDER-M	11	8	0.5	22	-	-	105	●	-	-	-	-
	APKT 1003 PDER-M	11	8	0.5	22	-	-	-	-	107	●	-	-
	APMT 1003 PDER-M	10.5	-	0.4	-	-	-	-	-	-	-	145	●

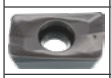
ORION = Prod. Gr. 148
ATORN = Prod. Gr. 156

ATORN Indexable milling insert AP.. 16..

For indexable milling inserts no. 16019/16055

Execution:
- **Ident. No. 110–116, 119–292:** For indexable insert cutters no. 16019/16055

Delivery:
Ident. No. 110–119: Packaging unit: 10 pieces
Ident. No. 290–292: Box quantity: Pack of 10

	Surface					Uncoated		Coated		Coated		Coated	
	Carbide type					HW4415		HC4540		HC4620		HC4626	
	Material to be processed					Non-ferrous metal		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Cast metal	
	Suitable for material group P							●		●		●	
	Suitable for material group M							●		○			
	Suitable for material group N					●							
	Suitable for material group K							○		●		●	
	Suitable for material group S							●		○			
	Suitable for material group H												
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)	Indexable insert type	16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	APHX 160404 FR-ALU	17	14.5	0.4	27	115	●	-	-	-	-	-	-
	APKT 1604 PDFR	17	14.5	0.4	27	290	●	-	-	-	-	-	-
	APKT 1604 PDFR	17	14.5	0.8	27	292	●	-	-	-	-	-	-
	APKT 160408 PDER	17.3	14.5	0.8	28	-	-	111	●	110	●	-	-
	APKT 160404 HM	17.3	14.5	0.4	28	-	-	116	●	-	-	-	-
	APKT 160416 HM	17.3	14.5	1.6	28	-	-	117	●	-	-	-	-
	APKT 160431 HM	17.3	14.5	3.1	28	-	-	118	●	-	-	-	-
	APKT 160408 PDER	17.3	14.5	0.8	28	-	-	-	-	-	-	112	●
	APHT 160408 PDR	17	14.5	0.8	27	-	-	-	-	-	-	119	●

Prod. Gr. 156

Indexable milling insert AP.. 16..

For indexable milling inserts no. 16019/16055

Execution:

- **Ident. No. 127–129:** For indexable insert cutters no. 16019/16055

Delivery:

Packaging unit: 10 pieces

						ATORN						ORION	
	Surface					Coated		Coated		Coated		Coated	
	Carbide type					HC4535		HC4615		HC4635		HC4620	
	Material to be processed					Steel | Stainless steel | Special alloy		Steel		Steel | Cast metal		Steel | Stainless steel	
	Suitable for material group P					●		●		●		●	
	Suitable for material group M					●						○	
	Suitable for material group N												
	Suitable for material group K									○			
	Suitable for material group S					○							
	Suitable for material group H												
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)	Indexable insert type	16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	APKT 1604 PDER-S	17	14.5	0.8	27	128	●	127	●	129	●	-	-
	APKT 160408 PDER	17.88	14.5	0.8	28	-	-	-	-	-	-	140	●

ORION = Prod. Gr. 133
ATORN = Prod. Gr. 156

ORION® Indexable milling insert APKT 11/15

Delivery:
Packaging unit: 10 pieces

	Surface			Coated		Coated		Coated		Coated	
	Carbide type			OHC4410		OHC4620		OHC4626		OHC4540	
	Material to be processed			Steel | Non-ferrous metal | Cast metal		Steel | Stainless steel | Cast metal | Special alloy		Steel | Cast metal		Steel | Stainless steel | Cast metal | Special alloy	
	Suitable for material group P			○		●		●		●	
	Suitable for material group M					○				●	
	Suitable for material group N			○							
	Suitable for material group K			●		●		●		○	
	Suitable for material group S					○				●	
	Suitable for material group H										
	ISO name	Knife edge length (mm)	Edge radius (mm)	16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	APKT 1505 PDER-M	15	0.8	429	●	430	●	428	●	-	-
	ADKT 1505 PD-ER-M	15	0.8	-	-	-	-	-	-	431	●
	APKT 1103 PDER	9.68	0.8	-	-	440	○	-	-	-	-

Prod. Gr. 156

ORION® Shoulder milling cutter set with shank 90°

Including 20x APMT 1003PDER-M OHC4635

Version:
- Shoulder milling cutter 90° with shank
- For indexable milling inserts APKT..1003..
- Soft cutting owing to the positive installation position of the indexable insert
- For groove milling and circumferential milling
- Smooth milling behaviour of the tools

Advantage:
- One set for a wide variety of applications
- Axial run-out max. 0.03 mm
- Concentricity max. 0.03 mm
- Precise 90° shoulder milling

Delivery:
Ref. no. 040: 1x holder 16017036 + 20x indexable inserts 16109145
Ref. no. 043: 1x holder 16017037 + 20x indexable inserts 16109145

Note:
Clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm

D (mm)	L2 (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Number of indexable inserts (PCS)	Suitable for indexable inserts	16017... Ident. No.	
20	40	90	20	8	3	3	AP.. 1003..	040	●
25	49	105	25	8	4	4	AP.. 1003..	043	●

Prod. Gr. 148

ORION® Shoulder milling cutter set with 90° bore

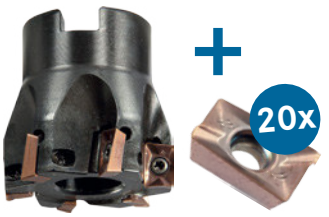
Including 20x APMT 1003PDER-M OHC4635

Version:
- Shoulder milling cutter 90° with bore
- For indexable milling inserts APKT..1003..
- Soft cutting owing to the positive installation position of the indexable insert
- For groove milling, circumferential milling and heel milling
- Smooth milling behaviour of the tools

Advantage:
- One set for a wide variety of applications
- Axial run-out max. 0.03 mm
- Concentricity max. 0.03 mm
- Precise 90° shoulder milling

Delivery:
Ref. no. 041: 1x carrier 16017420 + 20x indexable inserts 16109145
Ref. no. 042: 1x carrier 16017410 + 20x indexable inserts 16109145

Note:
Clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm



D (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Number of indexable inserts (PCS)	Suitable for indexable inserts	16017... Ident. No.	
50	40	22	8	7	7	AP.. 1003..	041	●
40	40	16	8	6	6	AP.. 1003..	042	●

Prod. Gr. 148

ATORN Shoulder milling cutter 90°

For indexable milling insert WNEX 0806..

IK

Application:
Powerful angular milling cutter with particularly economic, double-sided reversible tip with 6 cutting edges. Flexible use for multiple machining steps, such as face, angular, trim and groove milling.

Execution:
- Wear-resistant, nickel-plated version
- With internal cooling

Advantage:
- 6 cutting edges on double-sided indexable insert
- special chip breaker geometry enables low power consumption
- Large plate thickness for optimum process reliability
- Optimised plane cutting edge for high surface quality

Ident. No. 450–560

						Shoulder milling cutter 90°		Clamping screw for indexable inserts	
D (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16020... Ident. No.		16108... Ident. No.	
32	40	16	3.5	6	WNE. 0403..	832	○	016	●
40	40	16	3.5	6	WNE. 0403..	840	●	016	●
50	50	22	3.5	8	WNE. 0403..	850	○	016	●
50	40	22	6	5	WNE. 0806..	450	●	017	●
63	40	22	6	6	WNE. 0806..	463	●	017	●
80	50	27	6	7	WNE. 0806..	480	●	017	●
100	50	32	6	8	WNE. 0806..	500	○	017	●
125	63	40	6	10	WNE. 0806..	525	○	017	●
160	63	40	6	11	WNE. 0806..	560	○	017	●

Prod. Gr. 108

ATORN Shoulder milling cutter 90° with shank

For indexable milling insert WNEU 0403.

IK

Application:
Powerful angular milling cutter with particularly economic, double-sided reversible tip with 6 cutting edges. Flexible use for multiple machining steps, such as face, angular, trim and groove milling.

Execution:
- Wear-resistant, nickel-plated version
- Internal cooling

Advantage:
- 6 cutting edges on double-sided indexable insert
- special chip breaker geometry enables low power consumption
- Large plate thickness for optimum process reliability
- Optimised plane cutting edge for high surface quality

D (mm)	L2 (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16020... Ident. No.	
20	30	100	20	3.5	3	WNE. 0403..	620	●
25	35	115	25	3.5	4	WNE. 0403..	625	○
32	40	125	25	3.5	5	WNE. 0403..	632	○
20	40	150	20	3.5	3	WNE. 0403..	720	○
25	50	170	25	3.5	4	WNE. 0403..	725	○
32	70	195	32	3.5	5	WNE. 0403..	732	○

Prod. Gr. 108

Accessories for		16020 620	16020 625	16020 632	16020 720	16020 725	16020 732
16108... Clamping screw for indexable inserts M2.5 x 5.5mm	Ident. No.	016 ●	016 ●	016 ●	016 ●	016 ●	016 ●

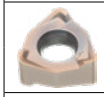
ATORN WNEX indexable milling insert

For shoulder milling cutter no. 16020

Execution:
- For angular milling cutters no. 16020

Delivery:
Ident. No. 300–302, 314–317: Packaging unit: 10 pieces

Ident. No. 310–312: Packing unit: 10 pieces
Ident. No. 318: box quantity: 10 pieces

					Surface	Coated		Coated		Coated		Uncoated	
					Carbide type	HC4620		HC4630		HC4430		HW4415	
					Material to be processed	Steel | Cast metal		Steel | Stainless steel		Steel | Stainless steel | Cast metal		Non-ferrous metal	
					Suitable for material group P	●		○		●			
					Suitable for material group M			●		●			
					Suitable for material group N							●	
					Suitable for material group K	○				●			
					Suitable for material group S								
					Suitable for material group H								
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)	16109... Ident. No.			16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	WNEX 040304-M	4	4	0.4	314	●		315	●	316	●	-	-
	WNEX 040308-M	4	4	0.8	310	○		311	●	312	●	-	-
	WNEU 080608-ALU	7.5	6	0.8	-	-		-	-	-	-	318	●
	WNEU 080608-M	7.5	6	0.8	300	●		301	●	302	●	-	-

Prod. Gr. 156

ATORN Shoulder milling cutter 90°

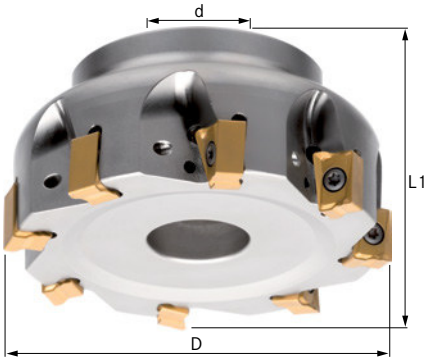
For milling cutter indexable inserts LNMX

IK

Application:
4 flutes per indexable milling insert and special chip shape geometry for profitability and high cutting rates when milling faces, milling corners, trimming and milling grooves.

Execution:
- Wear-resistant, nickel-plated version
- With internal cooling

Advantage:
- 4 cutting edges on one double-sided indexable insert
- Special chip shape geometry for low power consumption
- Thick inserts



								Shoulder milling cutter 90°		Clamping screw for indexable inserts	
D (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Indexable insert type	Suitable for indexable inserts		16016... Ident. No.		16108... Ident. No.	
40	40	16	9	5	1	LN.X 1006..		340	●	171	●
50	40	22	14	5	2	LN.X 1510..		450	●	172	●
50	40	22	9	7	1	LN.X 1006..		350	●	171	●
63	40	22	14	6	2	LN.X 1510..		463	●	172	●
63	40	22	9	9	1	LN.X 1006..		363	●	171	●
80	50	27	14	7	2	LN.X 1510..		480	○	172	●
100	50	32	14	8	2	LN.X 1510..		500	●	172	●
125	63	40	14	10	2	LN.X 1510..		525	○	172	●

Prod. Gr. 108

ATORN Shoulder milling cutter 90° with Weldon shank

For indexable milling inserts LNMX

IK

Application:
4 flutes per indexable milling insert and special chip breaker geometry for profitability and high cutting rates when milling faces, milling corners, trimming and milling grooves.

Execution:
- with Weldon shaft
- wear-proof, nickel-plated design
- with internal cooling

Advantage:
- 4 cutting edges on double-sided indexable insert
- special chip breaker geometry enables low power consumption
- large insert thickness

Ident. No. 321, 326, 333

Ident. No. 320, 325, 332

								Shoulder milling cutter 90° with Weldon shank		Clamping screw for indexable inserts	
D (mm)	L2 (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Indexable insert type	Suitable for indexable inserts	16016... Ident. No.		16108... Ident. No.	
20	30	100	20	9	3	1	LN.X 1006..	320	●	171	●
20	50	150	20	9	3	-	LN.X 1006..	321	○	171	●
25	35	115	25	9	3	1	LN.X 1006..	325	●	171	●
25	50	150	25	9	3	-	LN.X 1006..	326	○	171	●
32	40	125	25	9	4	1	LN.X 1006..	332	○	171	●
32	60	200	32	9	4	-	LN.X 1006..	333	○	171	●

Prod. Gr. 108

ATORN Indexable milling inserts LN.X 1006.. /LN.X 1510..

For shoulder milling cutter no. 16016

Execution:
- For angular milling cutters no. 16016

Delivery:
Ident. No. 250–258, 260–265: Packaging unit: 10 pieces
Ident. No. 259: Box quantity: Pack of 10

						Surface	Uncoated		Coated		Coated		Coated		Coated	
						Carbide type	HW4410		HC4410		HC4630		HC4635		HC4535	
						Material to be processed	Non-ferrous metal		Steel | Cast metal		Steel		Steel | Stainless steel | Cast metal		Steel | Stainless steel	
						Suitable for material group P			○		●		●		●	
						Suitable for material group M							○		●	
						Suitable for material group N	●									
						Suitable for material group K			●				●			
						Suitable for material group S										
						Suitable for material group H										
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)	Indexable insert type	16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	LNMX 100605 PNR-MM	10	9	0.5	1	250	●	-	-	-	-	-	-	-	-
	LNMX 100605 PNR-MM	10	9	0.5	-	-	-	260	●	262	●	-	-	261	●
	LNKX 100605 PNR-MM	10	9	0.5	1	-	-	-	-	-	-	258	●	-	-
	LNMX 151008 PNR-MM	15	14	0.8	2	254	●	-	-	-	-	-	-	-	-
	LNMX 151008 PNR-MM	15	14	0.8	-	-	-	263	●	265	●	-	-	264	●
	LNKX 151008 PNR-MM	15	14	0.8	2	-	-	-	-	-	-	259	●	-	-

Prod. Gr. 156

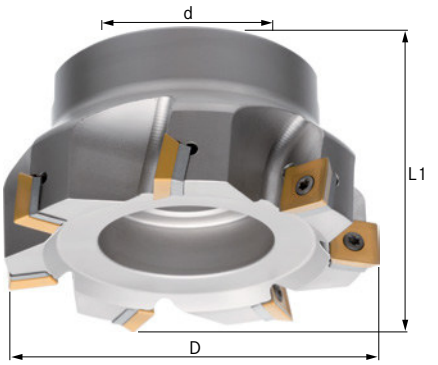
ORION® Shoulder milling cutter 90°

For indexable inserts SEET 1203..

Application:
Universal use for exact 90° cuts.

Execution:
- Wear-resistant, nickel-plated version
- Precision supports ensure insert fits perfectly
- Unequal division for excellent smooth running
- Clamping screw tightening torque (indexable insert) M3.5 = 3.5 Nm

Advantage:
- Low-vibration running
- Nickel-plated for long service life
- Very high surface quality
- Excellent value for money



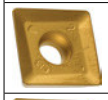
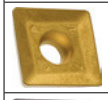
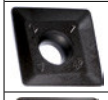
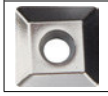
						Shoulder milling cutter 90°		Clamping screw for indexable inserts		Shims		Clamping screw for shims	
D (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16004... Ident. No.		16108... Ident. No.		16108... Ident. No.		16108... Ident. No.	
50	40	22	11.4	4	SEET 1203..	001	●	163	●	-	-	-	-
63	40	22	11.4	5	SEET 1203..	002	●	163	●	167	●	168	●
80	50	27	11.4	6	SEET 1203..	003	●	163	●	167	●	168	●
100	50	32	11.4	7	SEET 1203..	004	●	163	●	167	●	168	●
125	63	40	11.4	8	SEET 1203..	005	○	163	●	167	●	168	●

Prod. Gr. 148

ORION® Indexable insert SEET 1203..

For shoulder milling cutter no. 16004

Delivery: Box quantity: 10 pieces

				Surface	Coated		Coated		Coated		Coated		Uncoated	
				Carbide type	OHC4635		OHC4620		OHC4540		OHC4410		OHW4410	
				Material to be processed	Steel | Stainless steel		Steel | Stainless steel		Steel | Stainless steel | Special alloy		Steel | Cast metal		Non-ferrous metal	
				Suitable for material group P	●		●		●		○			
				Suitable for material group M	●		●		●					
				Suitable for material group N									●	
				Suitable for material group K							●			
				Suitable for material group S					○					
				Suitable for material group H										
	ISO name	Knife edge length (mm)	Edge radius (mm)	16109... Ident. No.			16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	SEET 120308 PDER-PF	13.3	0.8	011	●		-	-	-	-	-	-	-	-
	SEET 120308 PDER-PM	13.3	0.8	-	-		013	●	-	-	-	-	-	-
	SEET 120308 PDER-PR	13.3	0.8	-	-		-	-	015	●	-	-	-	-
	SEET 120308 PDER-PM	13.3	0.8	-	-		-	-	-	-	017	●	-	-
	SEET 120308 PDER-PR	13.3	0.8	-	-		-	-	-	-	019	●	-	-
	SEET 120308 PDER-LH	13.3	0.8	-	-		-	-	-	-	-	-	021	●

Prod. Gr. 148

ATORN tangential milling systems
extreme performance meets high profitability

the tangential indexable milling systems with 4 and 8 cutting edges have been developed for roughing and semi-finishing operations in steel and cast iron. the program includes supports in the diameter range from 50 to 160 mm and indexable inserts with cutting depths down to 11.5 mm.

process reliability through tangential installation position

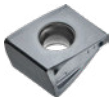
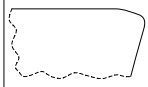
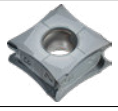
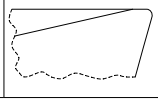
the tangential installation position of the reversible tips brings some characteristic features. the favourable supporting surface and clamping force ratio provides maximum stability. even at high cutting performance, the tools make the process extremely reliable.

profitability through good machining properties

the stable indexable inserts have a positive chip angle resulting in excellent cutting behaviour and low machine power consumption. this allows the service life of the cutting edge to be greatly increased. this has a direct and positive impact on the tool costs.

cost savings through cycle time reduction

the ratio of tool diameter to number of teeth in combination with the high realisable feed rate provides enormous material removal rates. this means much shorter cycle times are achieved, which significantly reduces process costs or cost per part.

	Chip shape	description
	 SR (chamfered and rounded)	▪ 4-blade indexable insert for stable processes ▪ infeed depth to ap max 11.5 mm ▪ stable geometry for wide range of applications
	 ER (rounded)	▪ 8-blade indexable insert for a high level of profitability ▪ infeed depth to ap max 10 mm ▪ soft cutting geometry for reduced chipping forces

ATORN Shoulder milling cutter 90° tangential - 4 cutting edges
For indexable milling insert LNMU 1306..

IK

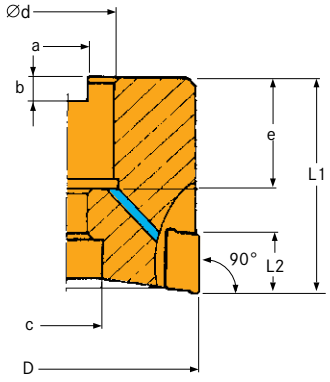
Application:
Milling tool with tangentially arranged indexable inserts and 4 usable cutting edges.

Execution:
▪ Wear-proof, nickel-plated design
▪ With internal cooling

Advantage:
▪ Cutting depth down to 11.5 mm

						Shoulder milling cutter 90° tangential - 4 cutting edges	
D (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16014... Ident. No.	
50	40	22	11.5	4	LNMU 1306..	150	O
50	40	22	11.5	6	LNMU 1306..	151	O
63	40	22	11.5	6	LNMU 1306..	163	O
63	40	22	11.5	8	LNMU 1306..	164	O
80	50	27	11.5	8	LNMU 1306..	180	O
80	50	27	11.5	10	LNMU 1306..	181	O
100	50	32	11.5	10	LNMU 1306..	200	O
100	50	32	11.5	12	LNMU 1306..	201	O
125	63	40	11.5	12	LNMU 1306..	225	O
125	63	40	11.5	16	LNMU 1306..	226	O
160	63	40	11.5	14	LNMU 1306..	260	O
160	63	40	11.5	20	LNMU 1306..	261	O

Prod. Gr. 108



ATORN Indexable milling insert LNMU 130608..

For shoulder milling cutter no. 16014

Execution:
- For angular milling cutters no. 16014

Delivery:
Box quantity: Pack of 10

				Surface	Coated		Coated		Coated	
				Carbide type	HC4420		HC4430		HC4640	
				Material to be processed	Cast metal		Steel | Cast metal		Steel	
				Suitable for material group P			●		●	
				Suitable for material group M						
				Suitable for material group N						
				Suitable for material group K	●		●			
				Suitable for material group S						
				Suitable for material group H						
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)	16113... Ident. No.		16113... Ident. No.		16113... Ident. No.	
	LNMU 130608SR	13.5	11.5	0.8	510	●	512	●	-	-
	LNMU 130608SR	13.5	11.5	0.8	-	-	-	-	514	●

Prod. Gr. 108

ATORN Shoulder milling cutter 90° tangential - 8 cutting edges

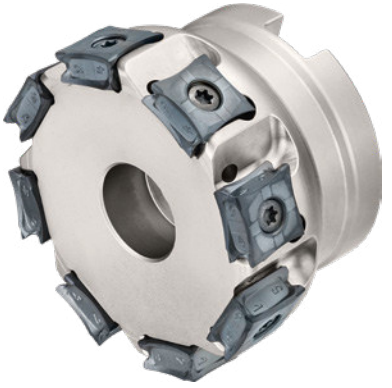
For indexable milling insert XNMU 1206..

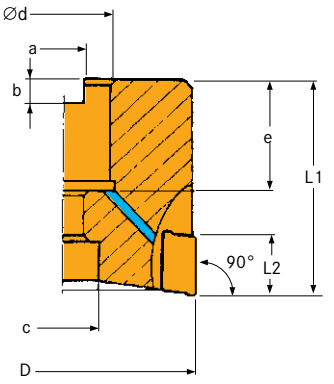
IK

Application:
Milling tool with tangentially arranged indexable inserts and 8 usable cutting edges.

Execution:
- Wear-proof, nickel-plated design
- With internal cooling

Advantage:
- Cutting depth down to 10 mm





						Shoulder milling cutter 90° tangential - 8 cutting edges	
D (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16015... Ident. No.	
50	40	22	10	5	XNMU 1206..	450	●
50	40	22	10	6	XNMU 1206..	451	○
63	40	22	10	6	XNMU 1206..	463	○
63	40	22	10	8	XNMU 1206..	464	○
80	50	27	10	8	XNMU 1206..	480	○
80	50	27	10	10	XNMU 1206..	481	○
100	50	32	10	9	XNMU 1206..	500	○
100	50	32	10	12	XNMU 1206..	501	○
125	63	40	10	11	XNMU 1206..	525	○
125	63	40	10	16	XNMU 1206..	526	○
160	63	40	10	13	XNMU 1206..	560	○
160	63	40	10	20	XNMU 1206..	561	○

Prod. Gr. 108

Indexable milling insert XNMU 120608..

For shoulder milling cutter no. 16015

Execution:
- For angular milling cutters no. 16015

Delivery:
Box quantity: Pack of 10

	Surface				Coated		Coated		Coated	
	Carbide type				HC4420		HC4430		HC4640	
	Material to be processed				Cast metal		Steel | Cast metal		Steel	
	Suitable for material group P						●		●	
	Suitable for material group M									
	Suitable for material group N									
	Suitable for material group K				●		●			
	Suitable for material group S									
	Suitable for material group H									
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)	16113... Ident. No.		16113... Ident. No.		16113... Ident. No.	
	XNMU 120608 ER	12	10	0.8	520	○	522	●	-	-
	XNMU 120608 ER	12	10	0.8	-	-	-	-	524	●

Prod. Gr. 108

ATORN high-feed milling cutter – small cutter very large
high material removal rate, broad field of application

the new ATORN high-feed milling cutter is the perfect application for rough machining small and medium-sized components. the positive high-feed geometry of the uniform, small indexable insert drills allows for the highest material removal rate even with less powerful machining centres. two different indexable insert geometries in two different cutting grades ensure that almost all materials commonly used in tool and mould construction can be processed. the high-feed milling cutter is available as screw-on mill cutter in diameters from 16 – 42 mm with 2 – 6 cutting edges as well as arbour milling cutters with a diameter of 40 – 80 mm with up to 9 cutting edges. all cutting edges are supplied through internal coolant supply. only one size of indexable inserts is required for all tool diameters.

Advantages:
- High material removal volume, even with less efficient machining centres
- High feed rates can be achieved
- Low storage costs for the indexable inserts

Features:
- Universal indexable insert geometry for a wide range of applications
- Positive geometry of the indexable insert for a soft cut
- Uniform size of the indexable inserts
- Internal cooling on all cutting edges

ATORN

ATORN High-feed milling cutter
For indexable milling inserts XDM. 0903..

IK

Execution:
- For indexable milling inserts XDMW / XDMT 0903..
- Wear-resistant, nickel-plated version with internal cooling
- Tightening torque for clamping screw indexable insert 1.2 Nm (TX 08)

								High-feed milling cutter		Clamping screw for indexable inserts	
D (mm)	di (mm)	L3 (mm)	d (mm)	Theoretical radius (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16026... Ident. No.		16108... Ident. No.	
35	26	40	16	1.3	1	5	XDM. 0903..	450	○	110	●
35	26	40	16	1.3	1	6	XDM. 0903..	452	○	110	●
40	31	40	16	1.3	1	6	XDM. 0903..	454	○	110	●
42	33	40	16	1.3	1	6	XDM. 0903..	456	○	110	●
50	41	40	22	1.3	1	7	XDM. 0903..	458	○	110	●
52	43	40	22	1.3	1	7	XDM. 0903..	460	●	110	●
63	54	50	27	1.3	1	8	XDM. 0903..	462	●	110	●
66	57	50	27	1.3	1	8	XDM. 0903..	464	○	110	●
80	71	50	27	1.3	1	9	XDM. 0903..	466	○	110	●

Prod. Gr. 155

ATORN High-feed milling cutters with thread
For indexable milling inserts XDM. 0903..

IK

Execution:
- For indexable milling inserts XDMW / XDMT 0903..
- Wear-resistant, nickel-plated version with internal cooling
- Tightening torque for clamping screw indexable insert 1.2 Nm (TX 08)

Advantage:
- Broad range of applications
- Minimum-vibration milling even for long mounting lengths
- Optimum roughing tool
- Tooth feed possible up to 3 mm
- Reduces production times

								High-feed milling cutters with thread		Clamping screw for indexable inserts	
D (mm)	di (mm)	L3 (mm)	d1	Theoretical radius (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16026... Ident. No.		16108... Ident. No.	
16	7	28	M8	1.3	1	2	XDM. 0903..	400	●	110	●
16	7	28	M8	1.3	1	3	XDM. 0903..	402	●	110	●
20	11	30	M10	1.3	1	3	XDM. 0903..	404	●	110	●
20	11	30	M10	1.3	1	4	XDM. 0903..	406	○	110	●
25	16	33	M12	1.3	1	4	XDM. 0903..	408	●	110	●
32	23	43	M16	1.3	1	5	XDM. 0903..	410	●	110	●
35	26	43	M16	1.3	1	5	XDM. 0903..	412	○	110	●
42	33	43	M16	1.3	1	6	XDM. 0903..	414	○	110	●

Prod. Gr. 155

ATORN Indexable milling insert XDM 0903..

For high-feed milling cutters no. 16026

Execution:
- For high-feed milling cutters no. 16026

Delivery:
Ident. No. 600, 602, 604: Box quantity: 10 pieces
Ident. No. 601, 603, 605: box quantity: 10 pieces

Ident. No. 606: Box quantity: Pack of 10
Ident. No. 608: Packaging unit: 10 pieces

	Surface				Coated		Coated		Coated		Coated	
	Carbide type				HC4410		HC4415		HC4640		HC4544	
	Material to be processed				Steel | Cast metal | Hardened material		Cast metal | Hardened material		Steel | Stainless steel		Steel | Stainless steel | Special alloy	
	Suitable for material group P				○				●		○	
	Suitable for material group M								○		●	
	Suitable for material group N											
	Suitable for material group K				●		○					
	Suitable for material group S										○	
	Suitable for material group H				○		●					
	ISO name	Knife edge length (mm)	max. ap (mm)	Radius, theoretical (mm)	16113... Ident. No.		16113... Ident. No.		16113... Ident. No.		16113... Ident. No.	
	XDMW 0903 SR	9	1	1.5	602	●	-	-	-	-	-	-
	XDMW 0903 SR	9	1	2.0	-	-	608	●	-	-	-	-
	XDMW 0903 SR	9	1	1.5	-	-	-	-	600	●	-	-
	XDMW 0903 SR	9	1	2.0	-	-	-	-	601	●	-	-
	XDMT 0903 ER	9	1	1.5	-	-	-	-	604	●	-	-
	XDMT 0903 ER	9	1	1.5	606	●	-	-	-	-	-	-
	XDMT 0903 ER	9	1	2.0	-	-	-	-	605	●	-	-
	XDMW 0903 SR	9	1	2.0	-	-	-	-	-	-	603	●

Prod. Gr. 156

High-feed milling cutter

Definition:
For HSC machining, the cutting speed and the feed rates are significantly increased and the cutting depth is significantly reduced.
The ATORN® high-feed milling cutter is a high-performance tool with wide-ranging applications for modern tool machines. Applications in die and mould making and general mechanical engineering.

Advantages:
High material removal rate, high surface quality, high dimensional and shape accuracy. Four-cutter indexable insert with large inner circle, innovative coating for robust cutting edges and wide-ranging applications, considerable indexable insert thickness for robust machining processes.

ATORN High-feed milling cutter

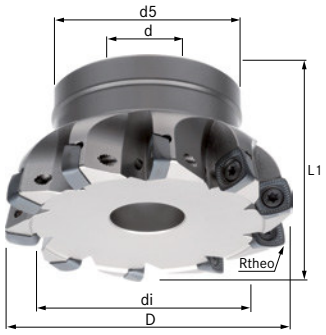
For indexable milling inserts XCNT 120520..

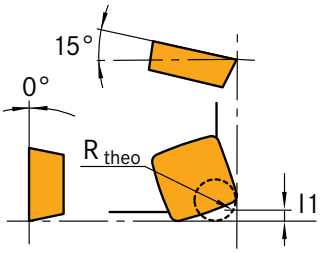
IK

Application:
Dramatically increase your productivity and make great cost-savings – with the high-feed milling cutters. The unique cutting geometries provide extremely smooth running and low cutting forces at maximum feed rates. Our extensive program offers solutions for a wide range of applications in modern machine tools, whether in die and mould making or in general mechanical engineering.

Execution:
- Wear-resistant, nickel-plated version
- Robust supports
- With internal cooling
- Variable pitch
- Tightening torque (indexable insert) M3.5 = 3.5 Nm

Advantage:
- Broad range of application
- Minimum-vibration milling even for long mounting lengths
- Optimum roughing tool
- Tooth feed possible up to 3 mm
- Reduces production times





D (mm)	di (mm)	L3 (mm)	d (mm)	Theoretical radius (mm)	max. ap (mm)	Number of cutting edges (PCS)	Indexable insert type	Suitable for indexable inserts	High-feed milling cutter 16026... Ident. No.		Clamping screw for indexable inserts 16108... Ident. No.	
42	27	40	16	2.5	1.2	4	2	XCN. 09T3..	256	○	638	●
42	27	40	16	2.5	1.2	5	2	XCN. 09T3..	257	○	638	●
52	37	40	22	2.5	1.2	5	2	XCN. 09T3..	258	○	638	●
52	37	40	22	2.5	1.2	6	2	XCN. 09T3..	259	●	638	●
42	23	40	16	3.5	1.5	3	3	XCN. 1205..	260	○	107	●
42	23	40	16	3.5	1.5	4	3	XCN. 1205..	261	○	107	●
52	33.1	40	22	3.5	1.5	4	3	XCN. 1205..	262	○	107	●
52	33.1	40	22	3.5	1.5	5	3	XCN. 1205..	263	●	107	●
66	47.1	50	27	3.5	1.5	5	3	XCN. 1205..	268	○	107	●
66	47.1	50	27	3.5	1.5	6	3	XCN. 1205..	264	○	107	●
66	47.1	50	27	3.5	1.5	7	3	XCN. 1205..	265	○	107	●
80	61.2	50	27	3.5	1.5	6	3	XCN. 1205..	269	○	107	●
80	61.2	50	27	3.5	1.5	8	3	XCN. 1205..	266	○	107	●
100	81.2	50	32	3.5	1.5	7	3	XCN. 1205..	270	○	107	●
100	81.2	50	32	3.5	1.5	10	3	XCN. 1205..	267	○	107	●

Prod. Gr. 155

ATORN High-feed milling cutters with thread

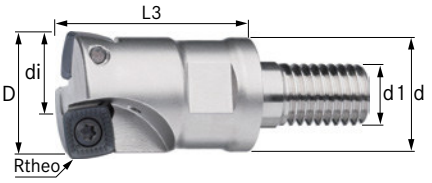
For indexable milling inserts: XCN 0703.., XCN. 09T3..

IK

Application:
Dramatically increase your productivity and make great cost-savings – with the high-feed milling cutters. The unique cutting geometries provide extremely smooth running and low cutting forces at maximum feed rates. Our extensive program offers solutions for a wide range of applications in modern machine tools, whether in die and mould making or in general mechanical engineering.

Execution:
- With screw-in thread
- Wear-resistant, nickel-plated version
- Robust supports
- With internal cooling
- Variable pitch
- Tightening torque (indexable insert) M3.5 = 3.5 Nm

Advantage:
- Broad range of application
- Minimum-vibration milling even for long mounting lengths
- Tooth feed possible up to 3 mm
- Reduces production times



D (mm)	di (mm)	L3 (mm)	d1	Theoretical radius (mm)	max. ap (mm)	Number of cutting edges (PCS)	Indexable insert type	Suitable for indexable inserts	High-feed milling cutters with thread 16026... Ident. No.		Clamping screw for indexable inserts 16108... Ident. No.	
20	6.9	30	M10	1.5	1	2	1	XCN. 0703..	250	●	161	●
25	12	33	M12	1.5	1	3	1	XCN. 0703..	251	●	161	●
32	19	43	M16	1.5	1	4	1	XCN. 0703..	245	○	161	●
35	22	43	M16	1.5	1	5	1	XCN. 0703..	247	●	161	●
32	17	43	M16	2.5	1.2	3	2	XCN. 09T3..	249	○	636	●
32	17	43	M16	2.5	1.2	4	2	XCN. 09T3..	252	●	636	●
35	20	43	M16	2.5	1.2	4	2	XCN. 09T3..	253	●	636	●
42	27	43	M16	2.5	1.2	5	2	XCN. 09T3..	254	○	636	●

Prod. Gr. 155

ATORN Indexable milling insert XCN

For high-feed milling cutters no. 16026

Execution:
- For high-feed milling cutters 16026

Delivery:
Ident. No. 210–221, 241–247: Packaging unit: 10 pieces
Ident. No. 222–224: Box quantity: 10 pieces

							Surface	Coated		Coated		Coated	
							Carbide type	HC4410		HC4640		HC4544	
							Material to be processed	Steel | Cast metal		Steel | Stainless steel		Steel | Stainless steel | Special alloy	
							Suitable for material group P	●		●		○	
							Suitable for material group M			○		●	
							Suitable for material group N						
							Suitable for material group K	●					
							Suitable for material group S					○	
							Suitable for material group H						
	ISO name	Knife edge length (mm)	max. ap (mm)	Radius, theo-retical (mm)	Edge radius (mm)	Indexable insert type	16109... Ident. No.			16109... Ident. No.		16109... Ident. No.	
	XCNT 070308 SN-TR	7.94	1	1.5	0.8	1	210	●		211	●	-	-
	XCNT 09T312 SN-TR	9.52	1.2	2.5	1.2	2	212	●		213	●	-	-
	XCNT 120520 SN-TR	12.7	1.9	3.5	2	3	214	●		-	-	-	-
	XCNT 120520 SN-TR	12.7	1.5	3.5	2	3	-	-		215	●	-	-
	XCNW 070308 SN	7.94	1	1.5	0.8	1	216	●		217	●	-	-
	XCNW 09T312 SN	9.52	1.2	2.5	1.2	2	218	○		219	●	-	-
	XCNW 120520 SN	12.7	1.9	3.5	2	3	220	●		-	-	-	-
	XCNW 120520 SN	12.7	1.5	3.5	2	3	-	-		221	●	-	-
	XCNT 070308 EN-TR	7.94	1	1.5	0.8	1	245	●		222	●	-	-
	XCNT 09T312 EN-TR	9.52	1.2	2.5	1.2	2	246	○		223	●	-	-
	XCNT 120520 EN-TR	12.7	1.5	3.5	2	3	-	-		224	●	-	-
	XCNT 120520 EN-TR	12.7	1.9	3.5	2	3	247	●		-	-	-	-
	XCNT 09T312 EN	9.52	1.2	2.5	1.2	2	-	-		241	●	-	-
	XCNT 09T312 EN	9.52	1.2	2.5	1.2	2	-	-		-	-	242	●
	XCNT 120520 EN	12.7	1.5	3.5	2.0	3	-	-		243	●	-	-
	XCNT 120520 EN	12.7	1.5	3.5	2.0	3	-	-		-	-	244	●

Prod. Gr. 155

ATORN Face and copy milling heads

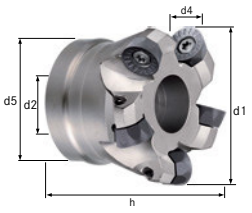
For indexable milling inserts RCKX, OCKX, XCKX, XOKX, SAHT

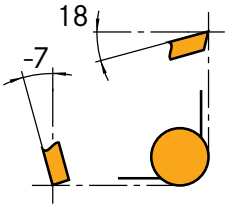
IK

Application:
With a total of 5 different insert types in different cemented carbide grades, there is a wide range of application possibilities. Minimum-vibration milling is guaranteed with low chipping forces and good chip removal for round, square or octagonal inserts. The low cutting force reduces the drive power required by up to 25%, which facilitates use on less efficient machines without issue.

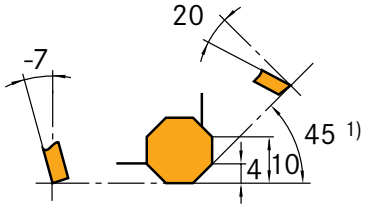
Execution:
- Wear-resistant, nickel-plated version
- With internal cooling
- Clamping screw tightening torque (indexable insert) M5 = 8 Nm

Advantage:
- Versatile with its 5 different insert types
- Low chipping forces
- Minimum-vibration milling
- Low power consumption
- High axial infeed

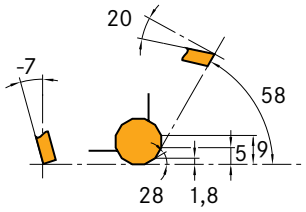




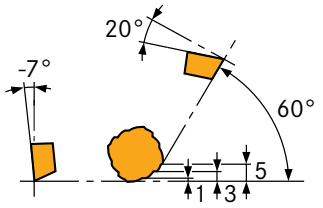
Ident. No. 152
RCKX1606



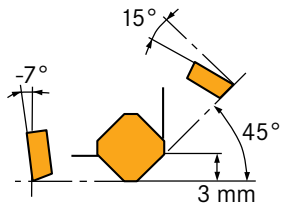
Ident. No. 166
OCKX0606



Ident. No. 180
XCKX1606



Ident. No. 200
XOKX 1606



Ident. No. 225
SAHT 1306

					Face and copy milling heads		Clamping screw for indexable inserts	
D (mm)	L1 (mm)	d (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16027... Ident. No.		16108... Ident. No.	
52	40	22	4	RCKX 1606.. | OCKX 0606.. | XCKX 1606.. | XOKX 1606.. | SAHT 1306	152	●	115	●
66	50	27	5	RCKX 1606.. | OCKX 0606.. | XCKX 1606.. | XOKX 1606.. | SAHT 1306	166	●	115	●
80	50	27	6	RCKX 1606.. | OCKX 0606.. | XCKX 1606.. | XOKX 1606.. | SAHT 1306	180	●	115	●
100	50	32	7	RCKX 1606.. | OCKX 0606.. | XCKX 1606.. | XOKX 1606.. | SAHT 1306	200	●	115	●
125	63	40	8	RCKX 1606.. | OCKX 0606.. | XCKX 1606.. | XOKX 1606.. | SAHT 1306	225	●	115	●

Prod. Gr. 155

ATORN Indexable milling insert RCKX, OCKX, XCKX, XOKX, SAHT

For face and copy milling cutters no. 16027

Execution:
- For copying and face milling cutters no. 16027

Delivery:
Box quantity: 10 pieces

					Surface	Coated		Coated		Coated		Coated	
					Carbide type	HC4410		HC4640		HC4640		HC4410	
					Material to be processed	Steel | Stainless steel | Non-ferrous metal | Cast metal		Steel | Stainless steel		Steel | Stainless steel | Cast metal		Steel | Stainless steel | Cast metal	
					Suitable for material group P	○		●		●		●	
					Suitable for material group M	○		○		●		●	
					Suitable for material group N	●							
					Suitable for material group K	●				●		●	
					Suitable for material group S								
					Suitable for material group H								
	ISO name	Knife edge length (mm)	max. ap (mm)	Edge radius (mm)	16113... Ident. No.			16113... Ident. No.		16113... Ident. No.		16113... Ident. No.	
	RCKX 1606 MO-TR	-	4	-	004	●		006	●	-	-	-	-
	RCKX 1606 MO-TRT	-	4	-	008	●		-	-	-	-	-	-
	RCKX 1606 MO-TT	-	4	-	-	-		-	-	010	●	-	-
	OCKX 0606 AD-TR	6	4	0.5	024	●		025	●	-	-	-	-
	OCKX 0606 AD-TRT	16	4	0.5	026	●		-	-	-	-	-	-
	XCKK 1606 ZDR-TR	-	1.8	-	-	-		032	●	-	-	-	-
	XOKX 1606 ZD-TR	32	5	0.5	037	○		-	-	-	-	035	●

Prod. Gr. 155

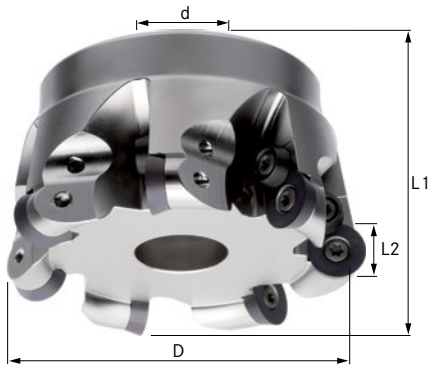
ATORN Copy and face milling cutter heads

For indexable milling inserts: RD..1003.., RD..12T3.., RD..1604..

IK

Application:
For face milling and copy milling, light and medium chipping

Execution:
- Wear-resistant, nickel-plated version
- With internal cooling
- Clamping screw tightening torque (indexable insert) M3.5 = 3.5 Nm, M4.5 = 7.6 Nm



							Copy and face milling cutter heads		Clamping screw for indexable inserts		Clamping claw	
D (mm)	L1 (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Indexable insert type	Suitable for indexable inserts	16035... Ident. No.		16108... Ident. No.		16108... Ident. No.	
42	44	16	2.5	6	32	RD.. 1003..	340	●	145	●	-	-
52	50	22	3	5	33	RD.. 12T3..	351	●	145	●	147	●
52	50	22	3	4	34	RD.. 1604..	350	○	146	●	148	○
66	50	27	4	6	33	RD.. 12T3..	367	○	145	●	147	●
66	50	27	4	5	34	RD.. 1604..	366	○	146	●	148	○
80	50	27	3	7	33	RD.. 12T3..	381	○	145	●	147	●
80	50	27	4	6	34	RD.. 1604..	380	○	146	●	148	○
100	55	32	4	7	34	RD.. 1604..	400	○	146	●	148	○
125	55	40	4	8	34	RD.. 1604..	425	○	146	●	148	○
160	55	40	4	9	34	RD.. 1604..	460	○	146	●	148	○

Prod. Gr. 108

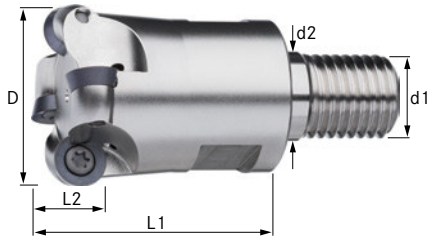
ATORN Copy and face milling cutter heads with thread

For indexable milling inserts RD..0501.., RD..0702.., RD..12T3..

IK

Application:
For face milling and copy milling, light and medium machining

Execution:
- Wear-resistant, nickel-plated version
- With internal cooling
- Clamping screw tightening torque (indexable insert) M1.8 = 0.7 Nm, M2.5 = 1.2 Nm, M3.5 = 3.5 Nm



							Copy and face milling cutter heads with thread		Clamping screw for indexable inserts		Clamping claw	
D (mm)	L1 (mm)	d1	max. ap (mm)	Number of cutting edges (PCS)	Indexable insert type	Suitable for indexable inserts	16035... Ident. No.		16108... Ident. No.		16108... Ident. No.	
10	18	M6	1.5	2	30	RD.. 0501..	210	○	149	○	-	-
15	23	M8	2	2	31	RD.. 0702..	215	○	157	●	-	-
15	23	M8	2	3	31	RD.. 0702..	216	○	157	●	-	-
20	30	M10	1.5	5	30	RD.. 0501..	222	○	149	○	-	-
20	30	M10	2	4	31	RD.. 0702..	221	●	157	●	-	-
20	30	M10	2.5	2	32	RD.. 1003..	220	○	145	●	-	-
24	35	M12	3	2	33	RD.. 12T3..	223	○	145	●	147	●
25	35	M12	2	5	31	RD.. 0702..	225	○	157	●	-	-
25	35	M12	2.5	2	32	RD.. 1003..	224	○	145	●	-	-
25	35	M12	2.5	3	32	RD.. 1003..	226	●	145	●	-	-
30	43	M16	2.5	4	32	RD.. 1003..	230	●	145	●	-	-
30	43	M16	2	5	31	RD.. 0702..	231	○	157	●	-	-
32	43	M16	4	2	34	RD.. 1604..	232	○	146	●	148	○
35	43	M16	2.5	4	32	RD.. 1003..	236	●	145	●	-	-
35	43	M16	3	3	33	RD.. 12T3..	235	●	145	●	147	●
42	43	M16	3	4	33	RD.. 12T3..	240	○	145	●	147	●
42	43	M16	2.5	5	32	RD.. 1003..	241	○	145	●	-	-

Prod. Gr. 108

ATORN Indexable milling insert RD..

For copying and face milling cutters no. 16035

Execution:
- **Ident. No. 057–227, 232:** For copying and face milling cutters no. 16035

Delivery:
Ident. No. 057–096: Box quantity: 10 pieces

Ident. No. 227, 232: Packing unit: 10 pieces
Ident. No. 228–231, 233–236: Packaging unit: 10 pieces

				Surface	Uncoated		Coated		Coated		Coated		Coated		Coated	
				Carbide type	HW4415		HC4410		HC4640		HC4403		HC4540		HC4635	
				Material to be processed	Non-ferrous metal		Steel | Non-ferrous metal | Cast metal | Special alloy		Steel | Stainless steel		Cast metal | Hardened material		Steel | Stainless steel		Steel | Stainless steel | Cast metal	
				Suitable for material group P			●		●				○		●	
				Suitable for material group M					●				●		○	
				Suitable for material group N	●		○									
				Suitable for material group K			●				○				○	
				Suitable for material group S			○									
				Suitable for material group H							●					
	ISO name	max. ap (mm)	Indexable insert type	16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	RDHT 0501MOF	1.25	30	227	○	-	-	-	-	-	-	-	-	-	-	-
	RDHT 0702MOF	1.7	31	228	○	-	-	-	-	-	-	-	-	-	-	-
	RDHT 1003MOF	2.5	32	229	●	-	-	-	-	-	-	-	-	-	-	-
	RDHT 12T3MOF	3	33	230	○	-	-	-	-	-	-	-	-	-	-	-
	RDHT 1604MOF	4	34	231	○	-	-	-	-	-	-	-	-	-	-	-
	RDHW 0702 MOS	1.7	31	-	-	057	●	058	●	059	●	-	-	-	-	-
	RDHW 1003 MOS	2.5	32	-	-	061	●	062	●	063	●	-	-	-	-	-
	RDHW 12T3 MOS	3	33	-	-	071	●	072	●	073	●	-	-	-	-	-
	RDHW 1604 MO	4	34	-	-	081	●	-	-	083	●	-	-	-	-	-
	RDKT 1003 MOTT	2.5	32	-	-	-	-	-	-	-	-	092	●	-	-	-
	RDKT 12T3 MOTT	3	33	-	-	-	-	094	●	-	-	-	-	-	-	-
	RDKT 1604 MOTT	4	34	-	-	-	-	096	●	-	-	-	-	-	-	-
	RDHT 0501MOT	1.25	30	-	-	-	-	-	-	-	-	-	-	232	○	-
	RDHT 0702MOT	1.7	31	-	-	-	-	-	-	-	-	-	-	233	●	-
	RDHT 1003MOT	2.5	32	-	-	-	-	-	-	-	-	-	-	234	●	-
	RDHT 12T3MOT	3	33	-	-	-	-	-	-	-	-	-	-	235	●	-
	RDHT 1604MOT	4	34	-	-	-	-	-	-	-	-	-	-	236	○	-

Prod. Gr. 156

ATORN Chamfer and centring cutters

For indexable milling inserts TCMX 16T3..

IK

Application:
centring and NC spot drilling, chamfering, V-groove milling, lathe facing

Execution:
- with straight shank and clamping surface in accordance with DIN 1835 B
- Shaft tolerance h6
- With internal cooling
- Clamping screw tightening torque (indexable insert) M4 = 5.2 Nm

									Chamfer and centring cutters		Clamping screw for indexable inserts	
Chamfer angle (Degree)	D max. (mm)	D min. (mm)	Clearance length (mm)	Length (mm)	Shank Ø (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts		16107... Ident. No.		16108... Ident. No.	
45	20	0.2	40	115	20	1	TCMX 16T3..		470	●	129	●
45	20	0.2	60	150	20	1	TCMX 16T3..		475	●	129	●
45	20	0.2	80	200	20	1	TCMX 16T3..		480	○	129	●

Prod. Gr. 108

ATORN Chamfer and centring indexable insert TCMT

For chamfer and centring cutters no. 16107

Execution:
- For chamfer and centring cutters no. 16107

Delivery:
Ident. No. 675: Box quantity: 10 pieces

Ident. No. 676: Packaging unit: 10 pieces

	Surface			TiN		TiAlN		
	Carbide type			HC4625		HC4630		
	Material to be processed			Steel | Stainless steel | Cast metal		Steel | Stainless steel | Cast metal		
	Suitable for material group P			●		●		
	Suitable for material group M			○		○		
	Suitable for material group N							
	Suitable for material group K			○		○		
	Suitable for material group S							
	Suitable for material group H							
	ISO name	Knife edge length (mm)	Edge radius (mm)	16109... Ident. No.		16109... Ident. No.		
	TCMX 16T32R..	16	0.2	675	●	-	-	
	TCMX 16T3ZR	16	0.8	-	-	676	●	

Prod. Gr. 156

ATORN Chamfer and centring cutters

For indexable milling inserts SEEX 12T4..

Application:
Centring and NC spot drilling, chamfering, V-groove milling, lathe facing

Execution:
- Straight shank and clamping surface in accordance with DIN 1835 B
- Shaft tolerance h6
- clamping screw tightening torque (indexable insert) M4 = 5.2 Nm

Advantage:
- Cost-effective thanks to the four usable cutting edges
- Improved installation position of the reversible tip increases process reliability

								Chamfer and centring cutters		Clamping screw for indexable inserts	
Chamfer angle (Degree)	D max. (mm)	D min. (mm)	Clearance length (mm)	Length (mm)	Shank Ø (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16107... Ident. No.		16108... Ident. No.	
45	17	0.8	40	120	16	1	SEEX 12T4..	500	●	129	●
30	21	0.8	40	120	16	1	SEEX 12T4..	505	○	129	●

Prod. Gr. 108

ATORN Chamfer and centring cutters in set

For indexable milling inserts SEEX 12T4..

Application:
Centring and NC spot drilling, chamfering, V-groove milling, lathe facing

Execution:
- Including 5 indexable inserts
- Straight shank and clamping surface in accordance with DIN 1835 B
- Shaft tolerance h6
- Clamping screw tightening torque (indexable insert) M4 = 5.2 Nm

Delivery:
Set consists of a holder and five reversible tips SEEX 12T4.

Chamfer angle (Degree)	D max. (mm)	D min. (mm)	Clearance length (mm)	Length (mm)	Shank Ø (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16107... Ident. No.	
45	17	0.8	40	120	16	1	SEEX 12T4..	510	●
30	21	0.8	40	120	16	1	SEEX 12T4..	515	●

Prod. Gr. 108

ATORN Chamfer and centring indexable insert SEEX

For chamfer and centring cutters no. 16107

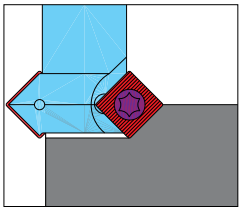
Execution:
- For chamfer and centring cutters no. 16107

Delivery:
Packaging unit: 10 pieces

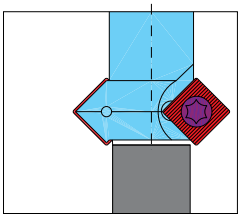
			Surface	Coated	
			Carbide type	HC4630	
			Material to be processed	Steel | Stainless steel | Cast metal | Special alloy	
			Suitable for material group P	●	
			Suitable for material group M	○	
			Suitable for material group N		
			Suitable for material group K	○	
			Suitable for material group S	○	
			Suitable for material group H		
	ISO name	Knife edge length (mm)	Edge radius (mm)	16109... Ident. No.	
	SEEX 12T408	12.25	0.8	285	●

Prod. Gr. 155

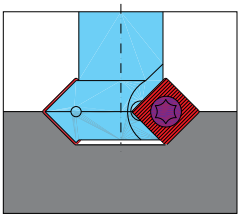
Application examples: chamfer cutter



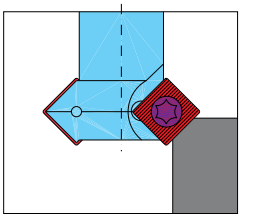
Face milling



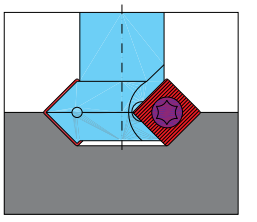
Face milling of narrow webs



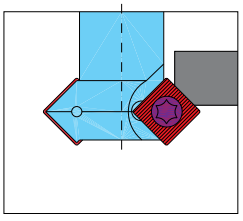
Profile milling of slots



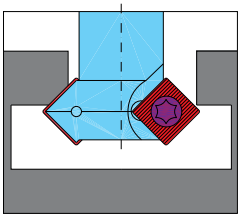
Transverse chamfering



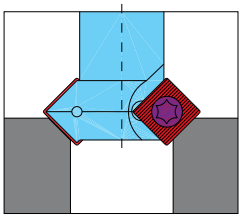
Chamfering bores, circular



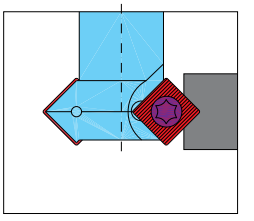
Reverse chamfering



T-slot chamfering



90° countersinking of holes, axial



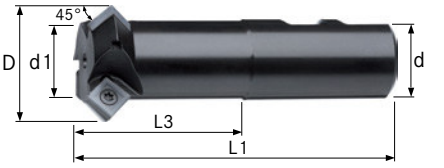
90° Vee block chamfering

ATORN Double 45° chamfer mill

For indexable milling inserts SDMW 0903.., SDMT 0903.., SPMW 1204.., SPMT 1204..

Application:
Universal use for chamfering and deburring.

Execution:
- with straight shank in accordance with DIN 1835 B
- clamping screw tightening torque (indexable insert) M3.5 = 3.5 Nm, M4.5 = 4.5 Nm



									Double 45° chamfer mill		Clamping screw for indexable inserts	
Chamfer angle (Degree)	D (mm)	d1 (mm)	L3 (mm)	L1 (mm)	d (mm)	Number of cutting edges (PCS)	Suitable indexable insert no.	Suitable for indexable inserts	16107... Ident. No.		16108... Ident. No.	
45	28.8	16	37	85	16	2	4	SD.. 0903..	216	●	106	●
45	37.3	20	45	95	20	2	5 | 6	SP.. 1204..	220	●	108	●
45	42.3	25	54	110	25	2	5 | 6	SP.. 1204..	225	●	108	●
45	49.3	32	65	125	32	3	5 | 6	SP.. 1204..	232	○	108	●

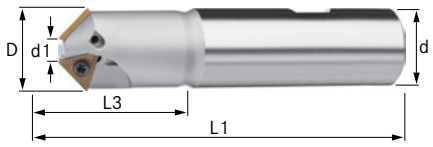
Prod. Gr. 108

ATORN 30°, 45°, 60° chamfer mill

For indexable milling inserts TCMT 1102.., TCMT 16T3..

Application:
Universal use for chamfering and deburring.

Execution:
- with straight shank in accordance with DIN 1835 B
- Shaft tolerance h6
- Clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm, M4 = 5.2 Nm



									30°, 45°, 60° chamfer mill		Clamping screw for indexable inserts	
Chamfer angle (Degree)	D (mm)	d1 (mm)	L3 (mm)	L1 (mm)	d (mm)	Number of cutting edges (PCS)	Suitable indexable insert no.	Suitable for indexable inserts	16107... Ident. No.		16108... Ident. No.	
45	16	1.2	20	70	12	1	1	TC.. 1102..	316	●	110	●
45	21	6.2	35	90	20	2	1	TC.. 1102..	321	●	110	●
45	32.5	10.4	42	100	25	2	2	TC.. 16T3..	332	●	129	●
60	16	5.4	20	70	12	1	1	TC.. 1102..	416	●	110	●
60	26	15.8	35	90	20	1	1	TC.. 1102..	425	●	110	●
60	35	20	39	100	25	2	2	TC.. 16T3..	435	●	129	●
30	32	6	38	100	25	2	2	TC.. 16T3..	532	●	129	●

Prod. Gr. 108

ATORN Adjustable chamfer mill

For indexable milling inserts TCMT, SPMW, SPMT

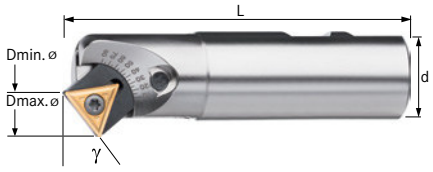
Application:
Universal chamfer cutter for deburring, chamfering and countersinking in rigid operating conditions. Cannot be used on drills.

Execution:
- Adjustable from 10°-80°
- With straight shank in accordance with DIN 1835 B
- Nickel-plated carrier
- +/- 2.5° scale tolerance
- For precise adjustments, please use a presetting device

- Clamping screw tightening torque (indexable insert) M2.5 = 1.2 Nm, M4 = 5.2 Nm
- With replacement box for using TCMT 16.. and SPM.1204 indexable inserts

Delivery:
1x carrier incl. 1x cassette for TC..16.. and 1x cassette SC..12.., without indexable inserts

Notes:
Makeshift tool: max. cutting depth 1 mm



									Adjustable chamfer mill		Clamping screw for indexable inserts		Spare box for chamfer cutter	
D (mm)	Min./ max. chamfer angle	Min./ max. Ø at 10 degrees	Min./ max. Ø at 45 degrees	Min./ max. Ø at 80 degrees	L (mm)	d (mm)	Number of cutting edges (PCS)	Insert type	Suitable for indexable inserts	16107... Ident. No.		16108... Ident. No.		16108... Ident. No.	
25	10-80 Degree	5-32 mm	11-33.5 mm	23-31 mm	95	25	1	2	TC.. 16T3..	166	●	154	●	515	●

Prod. Gr. 108

ATORN T-slot cutter

for indexable milling inserts SPGT.., SPMT..

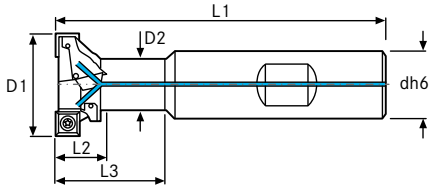
Application:
the T-slot cutter cuts at the circumference and at both sides and is suitable for milling T-slots. alternating inclined teeth (cross-toothing) achieves a high cutting performance.

Execution:
- Wear-resistant, nickel-plated version

- with weld-on shank
- Internal cooling

Delivery:
With clamping screw and wrench

Notes:
For T-slots, in accordance with DIN 650-UNI 4788-ISO 299.



							T-slot cutter		Clamping screw for indexable inserts	
D (mm)	L2 (mm)	L (mm)	d (mm)	max. ap (mm)	Number of cutting edges (PCS)	Suitable for indexable inserts	16107... Ident. No.		16108... Ident. No.	
21	26	76	16	9	2	SP.T 0603..	250	●	225	●
25	31	82	16	11	4	SP.T 0603..	251	○	225	●
32	38	88	20	14	4	SP.T 09T3..	252	●	145	●
40	50	108	25	17	4	SP.T 09T3..	253	●	145	●
50	56	120	32	22	4	SP.T 1204..	254	●	130	●

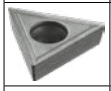
Prod. Gr. 148

ATORN Indexable milling insert TCMT, SDMT, SPMW, SPMT, SPGT

For indexable milling inserts no. 16107

Execution:
- For indexable insert cutters no. 16107

Delivery:
Ident. No. 600–613, 651–663: Packaging unit: 10 pieces
Ident. No. 649: Box quantity: Pack of 10

					Uncoated		Coated		Uncoated		Coated	
				Carbide type	HW4410		HC4410		HW4620		HC4620	
				Material to be processed	Stainless steel | Non-ferrous metal		Steel | Stainless steel | Non-ferrous metal | Cast metal		Steel		Steel | Cast metal	
				Suitable for material group P			○		●		●	
				Suitable for material group M	○		○					
				Suitable for material group N	●		●					
				Suitable for material group K							●	
				Suitable for material group S			●					
				Suitable for material group H								
	ISO name	Knife edge length (mm)	Edge radius (mm)	Indexable insert type	16109... Ident. No.		16109... Ident. No.		16109... Ident. No.		16109... Ident. No.	
	TCMT 110202	11	0.2	1	600	●	-	-	-	-	-	-
	TCMT 16T304	16	0.4	2	610	●	-	-	611	●	613	●
	SPMT 120408	12.7	0.8	6	660	●	663	●	-	-	661	●
	TCMT 110202	11	0.2	1	-	-	-	-	601	●	-	-
	SPMW 120408	12	0.8	5	-	-	653	●	651	●	-	-
	SDMT 090308	9	0.8	-	-	-	-	-	-	-	649	●

Prod. Gr. 156

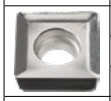
ATORN Indexable milling insert TCMT, SDMT, SPMW, SPMT, SPGT

For T-slot milling cutters no. 16107

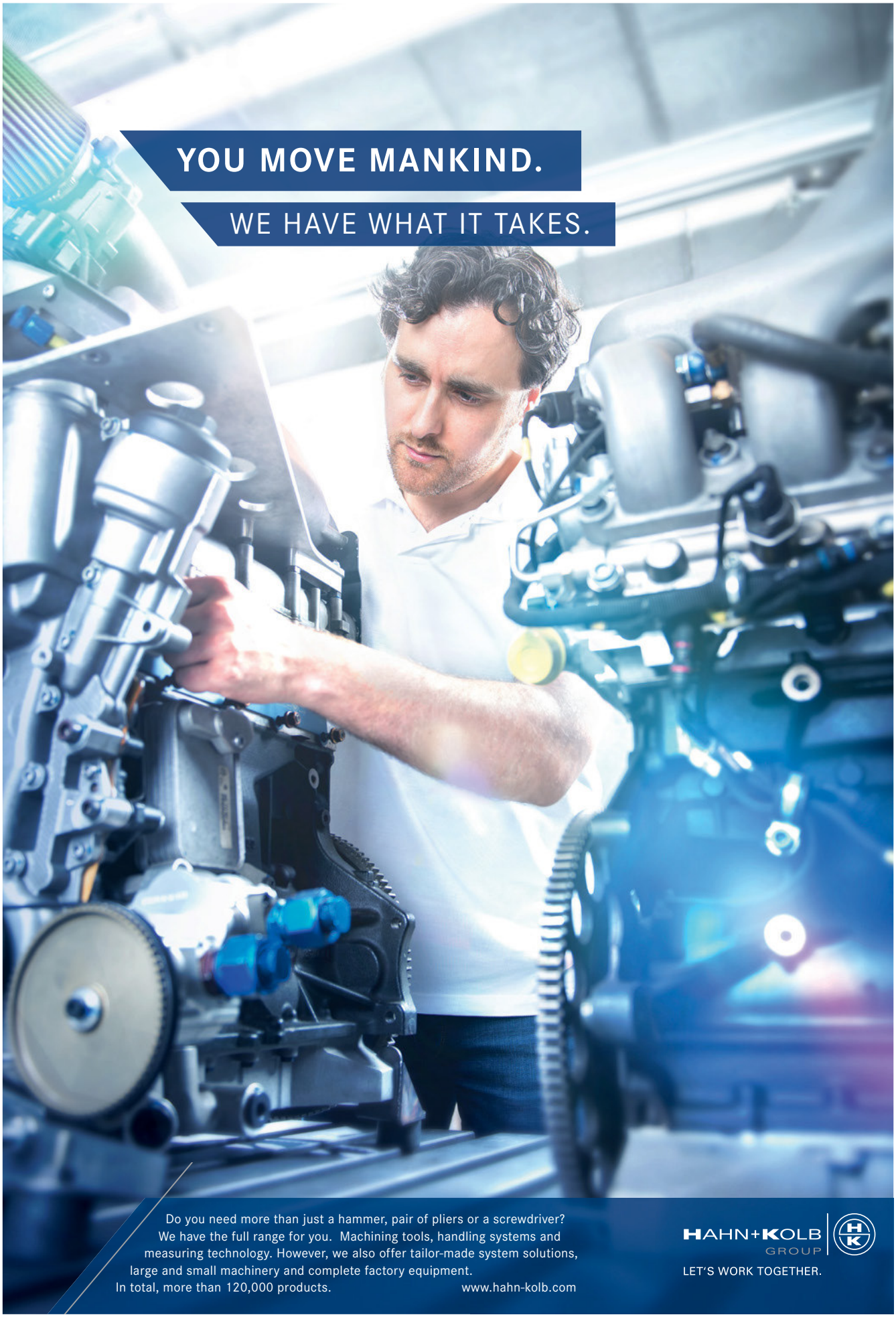
Execution:
- For T-slot milling cutters no. 16107

Delivery:
Ident. No. 702–704: Packaging unit: 10 pieces

Ident. No. 760–761: box quantity: 10 pieces

				Uncoated		Coated	
			Carbide type	HW4415		HC4625	
			Material to be processed	Non-ferrous metal		Steel | Cast metal	
			Suitable for material group P			●	
			Suitable for material group M				
			Suitable for material group N	●			
			Suitable for material group K			●	
			Suitable for material group S				
			Suitable for material group H				
	ISO name	Knife edge length (mm)	Edge radius (mm)	16109... Ident. No.		16109... Ident. No.	
	SPGT 060304 ALU	6.35	0.4	702	●	-	-
	SPGT 09T308 ALU	9.52	0.8	703	●	-	-
	SPGT 120408 ALU	12.7	0.8	704	●	-	-
	SPMT 060304	6.35	0.4	-	-	760	●
	SPMT 09T308	9.52	0.8	-	-	761	●

Prod. Gr. 156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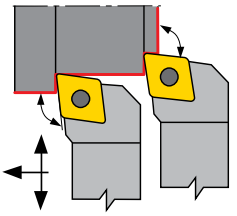
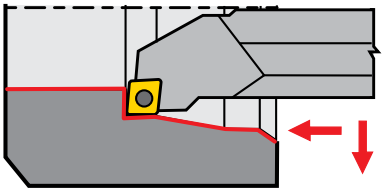
CN.. Indexable inserts - for longitudinal turning and facing





ATORN CNMG finishing negative

ISO P CVD coating

			Carbide type		HC7610		HC7620	
			Machining conditions for indexable insert		Good		Medium	
			Vc in steel ●		110-420 m/min		80-350 m/min	
			Vc in cast iron ●		110-320 m/min		60-290 m/min	
			Chip breaker code		FP		FP	
ISO-Code Rotating	min./max. ap	f min./max.		17863... Ident. No.			17863... Ident. No.	
CNMG 120404	0.1-1.5 mm	0.04-0.2 mm/r		098	●		099	●
CNMG 120408	0.2-2 mm	0.08-0.25 mm/r		100	●		101	●

Prod. Gr. 1GA

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ATORN CNMG finishing, negative

ISO P CVD coating

			Carbide type		ACP15T-1		ACP25T-1	
			Machining conditions for indexable insert		Good		Medium	
			Vc in steel ●		115-295 m/min		115-295 m/min	
			Vc in cast iron ●		135-395 m/min		135-395 m/min	
			Chip breaker code		FP1		FP1	
ISO-Code Rotating	min./max. ap	f min./max.		17874... Ident. No.			17874... Ident. No.	
CNMG 090304	0.3-2 mm	0.10-0.5 mm/r		083	●		084	○
CNMG 090308	0.3-2 mm	0.10-0.5 mm/r		085	○		086	○
CNMG 09T304	0.3-2 mm	0.10-0.5 mm/r		087	○		-	-
CNMG 09T308	0.3-2 mm	0.10-0.5 mm/r		088	○		-	-
CNMG 120404	0.3-2 mm	0.10-0.5 mm/r		091	●		092	○
CNMG 120408	0.3-2 mm	0.10-0.5 mm/r		099	●		100	●

Prod. Gr. 1GA

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ORION® CNMG medium machining, negative

ISO P CVD coating

			Carbide type		OHC8615		OHC7625	
			Machining conditions for indexable insert		Good		Medium	
			Vc in steel ●		180-410 m/min		180-380 m/min	
			Vc in stainless steel ●		-		70-180 m/min	
			Vc in cast iron ●		180-360 m/min		130-290 m/min	
			Vc in special alloys ●		-		20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.		17874... Ident. No.			17863... Ident. No.	
CNMG 120404	0.5-4 mm	0.1-0.4 mm/r		704	●		470	●
CNMG 120408	0.8-4 mm	0.1-0.4 mm/r		705	●		471	●
CNMG 120412	1.2-4 mm	0.1-0.4 mm/r		707	●		472	●

Prod. Gr. 1GE

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ATORN CNMG medium machining, negative

ISO P CVD coating

		Carbide type	HC7620		HC7630		HC7610	
		Machining conditions for indexable insert	Medium		Unfavourable		Good	
		Vc in steel ●	80-350 m/min		60-220 m/min		110-420 m/min	
		Vc in cast iron ●	60-290 m/min				110-320 m/min	
		Chip breaker code	MP		MP		MP	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.		17863... Ident. No.	
CNMG 120404	0.5-4 mm	0.1-0.18 mm/r	102	●	103	●	-	-
CNMG 120408	0.6-5 mm	0.15-0.25 mm/r	105	●	108	●	104	●
CNMG 120412	0.8-4 mm	0.18-0.3 mm/r	161	●	162	●	160	●
CNMG 160608	1-7 mm	0.15-0.3 mm/r	170	●	-	-	-	-
CNMG 160612	1.2-7 mm	0.2-0.4 mm/r	171	●	-	-	-	-

Prod. Gr. 1GA

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ATORN CNMG medium machining, negative

ISO P CVD coating

		Carbide type	ACP15T-1				ACP25T-1	
		Machining conditions for indexable insert	Good				Medium	
		Vc in steel ●	125-295 m/min				115-270 m/min	
		Vc in cast iron ●	125-295 m/min				115-270 m/min	
		Chip breaker code	MP1				MP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.				17874... Ident. No.	
CNMG 120404	0.4-5.5 mm	0.1-0.3 mm/r	093	●			094	●
CNMG 120408	0.5-5.5 mm	0.15-0.5 mm/r	101	●			102	●
CNMG 120412	0.8-5.5 mm	0.18-0.6 mm/r	107	●			108	○
CNMG 120416	1.00-5.5 mm	0.23-0.65 mm/r	111	○			112	●

Prod. Gr. 1GA

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ATORN CNMG medium machining, negative

ISO P CVD coating

		Carbide type	ACP15T-1				ACP25T-1	
		Machining conditions for indexable insert	Good				Medium	
		Vc in steel ●	115-295 m/min				115-295 m/min	
		Vc in cast iron ●	135-395 m/min				135-395 m/min	
		Chip breaker code	MPL				MPL	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.				17874... Ident. No.	
CNMG 120404	0.40-2.5 mm	0.07-0.3 mm/r	089	○			090	●
CNMG 120408	0.40-2.5 mm	0.10-0.4 mm/r	097	○			098	●
CNMG 120412	0.40-2.5 mm	0.15-0.4 mm/r	105	●			106	○

Prod. Gr. 1GA

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ORION CNMG medium machining, negative

ISO P CVD coating

		Carbide type	OHC7615				OHC7625	
		Machining conditions for indexable insert	Good				Medium	
		Vc in steel ●	200-370 m/min				180-380 m/min	
		Vc in stainless steel ●					70-180 m/min	
		Vc in cast iron ●	195-350 m/min				130-290 m/min	
		Vc in special alloys ●					20-70 m/min	
		Vc in hardened steel ●	40-65 m/min					
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.				17863... Ident. No.	
CNMG 120404	0.5-3 mm	0.15-0.3 mm/r	197	●			-	-
CNMG 120408	0.8-3 mm	0.15-0.45 mm/r	198	●			-	-
CNMG 120412	1.2-4 mm	0.15-0.45 mm/r	199	●			-	-
CNMG 120404	0.5-4 mm	0.1-0.4 mm/r	-	-			470	●
CNMG 120408	0.8-4 mm	0.1-0.4 mm/r	-	-			471	●
CNMG 120412	1.2-4 mm	0.1-0.4 mm/r	-	-			472	●

Prod. Gr. 1GE

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ORION® CNMG medium machining, negative

ISO P CVD coating

			Carbide type	OHC6610		OHC6620	
			Machining conditions for indexable insert	Good		Medium	
			Vc in steel ●	200-380 m/min		180-350 m/min	
			Vc in cast iron ●	200-300 m/min		120-220 m/min	
ISO-Code Rotating	min./max. ap	f min./max.		17863... Ident. No.		17863... Ident. No.	
CNMG 120404	0.4-5 mm	0.15-0.35 mm/r		411	●	430	●
CNMG 120408	0.5-5 mm	0.15-0.4 mm/r		413	●	432	●

Prod. Gr. 1GE

MP3

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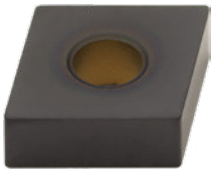
ORION® CNMA medium machining, negative

ISO P CVD coating

			Carbide type	OHC6605	
			Machining conditions for indexable insert	Good	
			Vc in hardened steel ●	25-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.		17996... Ident. No.	
CNMA 120404	0.4-1.5 mm	0.1-0.4 mm/r		040	●
CNMA 120408	0.8-1.5 mm	0.1-0.4 mm/r		045	●

Prod. Gr. 1GE



OHC6605 medium machining for hard materials up to 55 HRC

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ATORN CNMG roughing, negative

ISO P CVD coating

			Carbide type	HC7610		HC7620		HC7630	
			Vc in steel ●	160-320 m/min		130-270 m/min		110-230 m/min	
			Vc in cast iron ●	160-520 m/min		130-440 m/min		110-390 m/min	
			Chip breaker code	RP5		RP5		RP5	
ISO-Code Rotating	min./max. ap	f min./max.		17863... Ident. No.		17863... Ident. No.		17863... Ident. No.	
CNMG 120408	0.8-6 mm	0.20-0.40 mm/r		130	●	227	●	242	●
CNMG 120412	1-6 mm	0.25-0.60 mm/r		245	●	247	●	249	●

Prod. Gr. 1GA

RP5

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ATORN CNMG roughing, negative

ISO P CVD coating

			Carbide type	ACP15T-1		ACP25T-1	
			Machining conditions for indexable insert	Good		Medium	
			Vc in steel ●	115-295 m/min		115-295 m/min	
			Vc in cast iron ●	135-395 m/min		135-395 m/min	
			Chip breaker code	RP4		RP4	
ISO-Code Rotating	min./max. ap	f min./max.		17874... Ident. No.		17874... Ident. No.	
CNMG 120408	1-7 mm	0.12-0.5 mm/r		095	●	096	●
CNMG 120412	1-7 mm	0.12-0.5 mm/r		103	○	104	●
CNMG 120416	1.5-7 mm	0.12-0.5 mm/r		109	○	110	●
CNMG 160608	1-7 mm	0.15-0.6 mm/r		113	○	114	●
CNMG 160612	1-7 mm	0.15-0.6 mm/r		115	●	117	●
CNMG 160616	1.5-7 mm	0.15-0.6 mm/r		118	●	119	●
CNMG 190612	1.5-7 mm	0.2-0.7 mm/r		121	○	122	●
CNMG 190616	1.5-7 mm	0.2-0.7 mm/r		123	●	124	○

Prod. Gr. 1GA

RP4

p. 666 p. 667 p. 697

ORION® CNMG roughing, negative

ISO P CVD coating

			OHC8615		OHC7625		OHC7635	
Carbide type								
Machining conditions for indexable insert			Good		Medium		Unfavourable	
Vc in steel ●			180-410 m/min		140-310 m/min		80-220 m/min	
Vc in stainless steel ●			-		70-180 m/min		-	
Vc in cast iron ●			180-390 m/min		130-290 m/min		130-295 m/min	
Vc in special alloys ●			-		20-70 m/min		-	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17863... Ident. No.		17863... Ident. No.	
CNMG 120408	0.8-7 mm	0.25-0.7 mm/r	706	●	473	●	504	●
CNMG 120412	1.2-7 mm	0.25-0.7 mm/r	708	●	474	●	505	●
CNMG 160608	1-8 mm	0.2-0.5 mm/r	-	-	-	-	507	○
CNMG 160612	1.2-8 mm	0.3-0.7 mm/r	-	-	-	-	508	●

Prod. Gr. 1GE

No. 17863 473–17863 508, 17874 708

RU

p. 666 p. 667 p. 697

ORION® CNMG roughing, negative

ISO P CVD coating

			OHC6610		OHC6620	
Carbide type						
Machining conditions for indexable insert			Good		Medium	
Vc in steel ●			200-380 m/min		180-350 m/min	
Vc in cast iron ●			200-300 m/min		120-220 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CNMG 120408	0.6-6.5 mm	0.2-0.6 mm/r	449	●	450	●
CNMG 120412	0.6-6.5 mm	0.2-0.65 mm/r	484	●	485	●

Prod. Gr. 1GE

RP3

p. 666 p. 667 p. 697

ATORN CNMM roughing, negative

ISO P CVD coating

			ACP15T-1		ACP25T-1	
Carbide type						
Machining conditions for indexable insert			Good		Medium	
Vc in steel ●			110-350 m/min		100-300 m/min	
Vc in cast iron ●			110-350 m/min		100-300 m/min	
Chip breaker code			RP6		RP6	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
CNMM 190612	2.4-12 mm	0.25-1.6 mm/r	136	○	137	○
CNMM 190616	2.4-12 mm	0.25-1.6 mm/r	140	○	141	○
CNMM 190624	3.2-12 mm	0.25-1.6 mm/r	144	○	145	●
CNMM 250924	3.2-17 mm	0.25-1.6 mm/r	148	○	149	○
CNMM 120408	2.4-12 mm	0.25-1.6 mm/r	-	-	127	○
CNMM 120412	2.4-12 mm	0.25-1.6 mm/r	-	-	128	●

Prod. Gr. 1GA

RP6

p. 666 p. 667 p. 697

ATORN CNMM roughing, negative

ISO P CVD coating

			ACP15T-1		ACP25T-1	
Carbide type						
Machining conditions for indexable insert			Good		Medium	
Vc in steel ●			110-350 m/min		100-300 m/min	
Vc in cast iron ●			110-350 m/min		100-300 m/min	
Chip breaker code			RP7		RP7	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
CNMM 160608	1-8 mm	0.2-1.2 mm/r	129	○	130	○
CNMM 160612	1-8 mm	0.2-1.2 mm/r	131	●	-	-
CNMM 160616	1.5-8 mm	0.2-1.2 mm/r	133	●	135	●
CNMM 190612	2-10 mm	0.2-1.2 mm/r	138	○	139	○
CNMM 190616	2-10 mm	0.2-1.2 mm/r	142	○	143	○
CNMM 190624	2-12 mm	0.2-1.2 mm/r	146	●	147	●

Prod. Gr. 1GA

Ident. No. 129–142, 146

RP7

p. 666 p. 667 p. 697

ATORN CNMG finishing negative
ISO M CVD coating

		Carbide type	HC7520		HC7510	
		Machining conditions for indexable insert	Medium		Good	
		Vc in steel ●			140-320 m/min	
		Vc in stainless steel ●	120-260 m/min		175-270 m/min	
		Vc in special alloys ●	30-60 m/min			
		Chip breaker code	FM		FM	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CNMG 120402	0.2-1 mm	0.05-0.12 mm/r	172	●	-	-
CNMG 120404	0.2-1 mm	0.05-0.12 mm/r	603	●	601	●
CNMG 120408	0.4-1.5 mm	0.07-0.16 mm/r	604	●	602	●

Prod. Gr. 1GA

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ATORN CNMG finishing negative
ISO M PVD coating

		Carbide type	HC7820		
		Machining conditions for indexable insert	Medium		
		Vc in steel ●	50-140 m/min		
		Vc in stainless steel ●	110-250 m/min		
		Vc in special alloys ●	40-60 m/min		
		Chip breaker code	FM		
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		
CNMG 120402	0.1-1.5 mm	0.05-0.2 mm/r	186	●	
CNMG 120404	0.2-1.5 mm	0.05-0.2 mm/r	398	●	
CNMG 120408	0.4-1.5 mm	0.05-0.2 mm/r	399	●	

Prod. Gr. 1GA

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ATORN CNGP finishing negative
ISO M PVD coating

		Carbide type	APM20T		
		Machining conditions for indexable insert	Good		
		Vc in non-ferrous metals ●	120-400 m/min		
		Vc in stainless steel ●	120-200 m/min		
		Vc in cast iron ●	120-160 m/min		
		Vc in special alloys ●	20-80 m/min		
		Chip breaker code	FM5		
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		
CNGP 120402	0.2-2.5 mm	0.08-0.25 mm/r	436	●	
CNGP 120404	0.2-2.5 mm	0.08-0.25 mm/r	437	●	
CNGP 120408	0.2-2.5 mm	0.08-0.25 mm/r	438	●	
CNGP 120412	0.2-2.5 mm	0.08-0.25 mm/r	439	●	

Prod. Gr. 1GA

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ATORN CNMG finishing, negative
ISO M CVD coating

		Carbide type	ACM25T-1		
		Machining conditions for indexable insert	Medium		
		Vc in stainless steel ●	110-240 m/min		
		Chip breaker code	FM1		
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.		
CNMG 120404	0.6-3 mm	0.1-0.55 mm/r	351	●	
CNMG 120408	0.6-3 mm	0.1-0.55 mm/r	352	●	
CNMG 120412	0.6-3 mm	0.1-0.55 mm/r	353	●	

Prod. Gr. 1GA

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ATORN CNMG finishing negative
ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	FM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
CNMG 120404	0.6-3 mm	0.1-0.55 mm/r	322	●
CNMG 120408	0.6-3 mm	0.1-0.55 mm/r	323	●
CNMG 120412	0.6-3 mm	0.1-0.55 mm/r	324	●

Prod. Gr. 1GA

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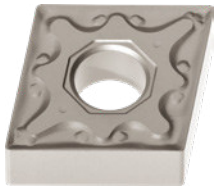
ATORN CNMG medium machining, negative
ISO M CVD coating

		Carbide type	HC7520		HC7530	
		Machining conditions for indexable insert	Medium		Unfavourable	
		Vc in stainless steel ●	120-260 m/min		90-200 m/min	
		Vc in special alloys ●	30-60 m/min		20-50 m/min	
		Chip breaker code	MM		MM	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CNMG 120404	0.5-2 mm	0.1-0.18 mm/r	615	●	616	●
CNMG 120408	0.8-3.5 mm	0.18-0.3 mm/r	617	●	618	●
CNMG 120412	1.2-3.5 mm	0.18-0.3 mm/r	619	●	620	●

Prod. Gr. 1GA



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ATORN CNMG medium machining, negative
ISO M PVD coating

		Carbide type	HC7810		HC7820		HC7830	
		Machining conditions for indexable insert	Good		Medium		Unfavourable	
		Vc in steel ●	100-160 m/min		90-140 m/min		60-120 m/min	
		Vc in stainless steel ●	170-240 m/min		100-230 m/min		90-180 m/min	
		Vc in special alloys ●	40-70 m/min		40-60 m/min		20-40 m/min	
		Chip breaker code	MM		MM		MM	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.		17863... Ident. No.	
CNMG 120404	0.5-3.0 mm	0.1-0.32 mm/r	400	●	401	●	402	●
CNMG 120408	0.5-3.0 mm	0.1-0.32 mm/r	403	●	404	●	405	●
CNMG 120412	0.8-3.0 mm	0.1-0.32 mm/r	-	-	414	●	-	-

Prod. Gr. 1GA

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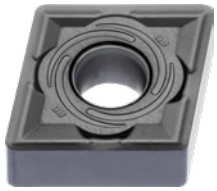
ATORN CNMG medium machining, negative
ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	MM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
CNMG 120404	0.15-2.5 mm	0.1-0.45 mm/r	219	●
CNMG 120408	0.2-3 mm	0.1-0.45 mm/r	220	●
CNMG 120412	0.3-4 mm	0.1-0.45 mm/r	222	●

Prod. Gr. 1GA



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ATORN CNMG medium machining, negative

ISO M CVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	MM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
CNMG 120404	0.15-4 mm	0.1-0.45 mm/r	191	●
CNMG 120408	0.15-4 mm	0.1-0.45 mm/r	192	●
CNMG 120412	0.15-4 mm	0.1-0.45 mm/r	193	●

Prod. Gr. 1GA

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ORION CNMG medium machining, negative

ISO M PVD coating

		Carbide type	OHC8515		OHC8530	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	130-290 m/min		130-290 m/min	
		Vc in stainless steel ●	70-250 m/min		70-250 m/min	
		Vc in special alloys ●	20-70 m/min		20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17863... Ident. No.	
CNMG 120404	0.5-3 mm	0.1-0.3 mm/r	607	●	747	●
CNMG 120408	0.8-3 mm	0.1-0.3 mm/r	608	●	748	●

Prod. Gr. 1GE

p. 666 p. 667 p. 697

ORION CNMG medium machining, negative

ISO M PVD coating

		Carbide type	OHC7520		OHC7530	
		Machining conditions for indexable insert	Medium		Unfavourable	
		Vc in steel ●			130-245 m/min	
		Vc in stainless steel ●	160-220 m/min		75-145 m/min	
		Vc in special alloys ●	30-90 m/min		25-50 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CNMG 120404	0.5-3.5 mm	0.1-0.3 mm/r	495	●	496	●
CNMG 120408	0.5-5 mm	0.12-0.45 mm/r	573	●	572	●
CNMG 120412	0.5-3.5 mm	0.15-0.3 mm/r	574	●	575	●
CNMG 160608	0.5-7 mm	0.12-0.4 mm/r	579	●	-	-
CNMG 160612	1-7 mm	0.15-0.6 mm/r	581	●	-	-

Prod. Gr. 1GE

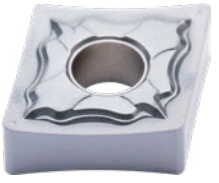
p. 666 p. 667 p. 697

ORION CNGG medium machining, negative

ISO M PVD coating

		Carbide type	OHC8515	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	80-220 m/min	
		Vc in special alloys ●	20-60 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CNGG 120404	0.15-2.5 mm	0.08-0.3 mm/r	986	●
CNGG 120408	0.15-2.5 mm	0.1-0.35 mm/r	987	●
CNGG 120412	0.2-3 mm	0.12-0.4 mm/r	988	●

Prod. Gr. 1GE



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ATORN CNMG roughing, negative
ISO M CVD coating

		Carbide type	HC7520		HC7530	
		Machining conditions for indexable insert	Medium		Unfavourable	
		Vc in stainless steel ●	120-260 m/min		90-200 m/min	
		Vc in special alloys ●	30-60 m/min		20-50 m/min	
		Chip breaker code	RM		RM	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CNMG 120408	1.2-4 mm	0.22-0.4 mm/r	621	●	622	●
CNMG 120412	1.5-4.5 mm	0.25-0.5 mm/r	623	●	624	●
CNMG 160608	1.2-7 mm	0.22-0.45 mm/r	627	●	-	-
CNMG 160612	1.5-7 mm	0.25-0.6 mm/r	629	●	-	-

Prod. Gr. 1GA

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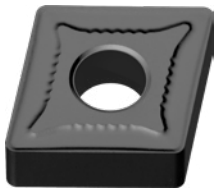
ATORN CNMG roughing, negative
ISO M PVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	50-140 m/min	
		Vc in stainless steel ●	80-220 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	RM	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CNMG 120408	1.2-5.0 mm	0.22-0.40 mm/r	406	●
CNMG 120412	1.2-5 mm	0.22-0.4 mm/r	424	●

Prod. Gr. 1GA



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ATORN CNMG roughing negative
ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	RM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
CNMG 090304	0.5-2.5 mm	0.1-0.65 mm/r	410	●
CNMG 090308	0.5-2.5 mm	0.1-0.65 mm/r	412	●
CNMG 120404	0.5-5.7 mm	0.1-0.65 mm/r	414	●
CNMG 120408	0.5-5.7 mm	0.1-0.65 mm/r	415	●
CNMG 120412	0.5-5.7 mm	0.1-0.65 mm/r	416	●
CNMG 120416	0.5-5.7 mm	0.1-0.65 mm/r	417	●
CNMG 160608	0.5-7.2 mm	0.1-0.65 mm/r	418	●
CNMG 160612	0.5-7.2 mm	0.1-0.65 mm/r	419	●
CNMG 190612	0.5-8.5 mm	0.1-0.65 mm/r	420	●
CNMG 190616	0.5-8.5 mm	0.1-0.65 mm/r	421	●

Prod. Gr. 1GA

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ATORN CNMG roughing, negative
ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-220 m/min	
		Vc in special alloys ●	20-150 m/min	
		Chip breaker code	RM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
CNMG 090304	0.5-2.5 mm	0.1-0.65 mm/r	377	●
CNMG 090308	0.5-2.5 mm	0.1-0.65 mm/r	378	●
CNMG 120404	0.5-5.7 mm	0.1-0.65 mm/r	379	●
CNMG 120408	0.5-5.7 mm	0.1-0.65 mm/r	380	●
CNMG 120412	0.5-5.7 mm	0.1-0.65 mm/r	381	●
CNMG 160608	0.5-7.2 mm	0.1-0.65 mm/r	382	●
CNMG 160612	0.5-7.2 mm	0.1-0.65 mm/r	383	●
CNMG 190612	0.5-8.5 mm	0.1-0.65 mm/r	384	●
CNMG 190616	0.5-8.5 mm	0.1-0.65 mm/r	385	●

Prod. Gr. 1GA

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ORION® CNMG roughing negative
ISO M PVD coating

		Carbide type	OHC7520		OHC7530	
		Machining conditions for indexable insert	Medium		Unfavourable	
		Vc in steel ●			130-245 m/min	
		Vc in stainless steel ●	160-220 m/min		75-145 m/min	
		Vc in special alloys ●	30-90 m/min		25-50 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CNMG 120408	1-5 mm	0.1-0.38 mm/r	576	●	577	●
CNMG 120412	1-7 mm	0.15-0.6 mm/r	578	●	580	●

Prod. Gr. 1GE

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ORION® CNMG medium machining, negative
ISO K CVD coating

		Carbide type	OHC6410		OHC6420	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	160-260 m/min			
		Vc in cast iron ●	200-300 m/min		120-230 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CNMG 120404	0.5-2.5 mm	0.1-0.3 mm/r	532	●	-	-
CNMG 120408	0.5-5 mm	0.2-0.4 mm/r	536	●	537	●
CNMG 190612	0.8-8 mm	0.2-0.5 mm/r	559	●	-	-

Prod. Gr. 1GF

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ORION® CNGG medium machining negative
ISO N

		Carbide type	OHW7310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	300-800 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CNGG 120402	0.8-3.5 mm	0.1-0.4 mm/r	982	●
CNGG 120404	0.8-3.5 mm	0.1-0.4 mm/r	983	●
CNGG 120408	0.8-3.5 mm	0.1-0.4 mm/r	984	●

Prod. Gr. 1GF

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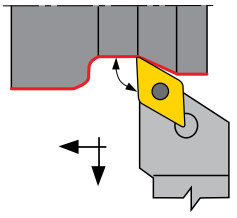
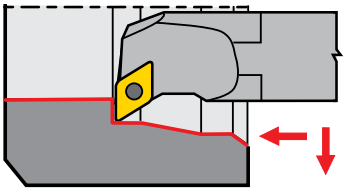
DN.. Indexable inserts - for longitudinal and copy turning





ATORN DNMG finishing, negative
ISO P CVD coating

		Carbide type	HC7610		HC7620	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	140-420 m/min		80-350 m/min	
		Vc in cast iron ●	140-320 m/min		50-290 m/min	
		Chip breaker code	FP		FP	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DNMG 110408	0.2-2 mm	0.08-0.25 mm/r	100	●	101	●
DNMG 110404	0.1-1.5 mm	0.05-0.2 mm/r	-	-	099	●
DNMG 150604	0.1-1.5 mm	0.05-0.2 mm/r	189	●	181	●
DNMG 150608	0.2-2 mm	0.08-0.25 mm/r	-	-	182	●

Prod. Gr. 1GA

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ATORN DNMG finishing, negative

ISO P CVD coating

		Carbide type	HC7615		HC7625	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	FP1		FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DNMG 110404	0.12-1.5 mm	0.08-0.4 mm/r	651	●	652	●
DNMG 110408	0.12-1.5 mm	0.08-0.4 mm/r	654	●	655	●
DNMG 150404	0.12-1.5 mm	0.10-0.45 mm/r	656	●	657	●
DNMG 150408	0.12-1.5 mm	0.10-0.45 mm/r	658	○	659	●
DNMG 150412	0.12-1.5 mm	0.10-0.45 mm/r	660	●	661	●
DNMG 150604	0.12-1.5 mm	0.10-0.45 mm/r	662	●	663	●
DNMG 150608	0.12-1.5 mm	0.10-0.45 mm/r	664	●	665	●
DNMG 150612	0.12-1.5 mm	0.10-0.45 mm/r	666	●	752	●

p. 685 p. 667 p. 723

Prod. Gr. 1GA

ATORN DNMG medium machining, negative

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	MPL		MPL	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
DNMG 150404	0.4-3.5 mm	0.07-0.5 mm/r	171	○	172	○
DNMG 150408	0.4-3.5 mm	0.07-0.5 mm/r	179	○	180	●
DNMG 150412	0.4-3.5 mm	0.07-0.5 mm/r	187	○	188	○
DNMG 150604	0.4-3.5 mm	0.07-0.5 mm/r	191	●	192	●
DNMG 150608	0.4-3.5 mm	0.07-0.5 mm/r	199	○	200	●
DNMG 150612	0.4-3.5 mm	0.07-0.5 mm/r	207	○	208	○

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Prod. Gr. 1GA

ATORN DNMG medium machining, negative

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-270 m/min	
		Vc in cast iron ●	125-295 m/min		115-270 m/min	
		Chip breaker code	MP1		MP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
DNMG 150404	0.5-6 mm	0.1-0.6 mm/r	175	●	176	○
DNMG 150408	0.5-6 mm	0.1-0.6 mm/r	183	●	184	●
DNMG 150604	0.5-6 mm	0.1-0.6 mm/r	195	●	196	●
DNMG 150608	0.5-6 mm	0.1-0.6 mm/r	203	●	204	●
DNMG 150612	0.5-6 mm	0.1-0.6 mm/r	211	○	212	○
DNMG 150616	0.5-6 mm	0.1-0.6 mm/r	213	●	214	●

p. 685 p. 667 p. 723

Prod. Gr. 1GA

ORION® DNMG medium machining, negative

ISO P CVD coating

Carbide type			OHC8615		OHC7625		OHC7635	
Machining conditions for indexable insert			Good		Medium		Unfavourable	
Vc in steel ●			180-410 m/min		140-310 m/min		80-220 m/min	
Vc in stainless steel ●			-		70-180 m/min		-	
Vc in cast iron ●			180-390 m/min		130-290 m/min		130-295 m/min	
Vc in special alloys ●			-		20-70 m/min		-	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17864... Ident. No.		17864... Ident. No.	
DNMG 110404	0.4-4 mm	0.1-0.4 mm/r	716	●	280	●	311	○
DNMG 110408	0.8-4 mm	0.1-0.4 mm/r	717	●	281	●	312	○
DNMG 150604	0.4-4 mm	0.1-0.4 mm/r	720	●	282	●	313	○
DNMG 150608	0.8-4 mm	0.1-0.4 mm/r	721	●	283	●	315	●
DNMG 150612	1.2-4 mm	0.1-0.4 mm/r	723	●	335	●	-	-

Prod. Gr. 1GE

MU

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ATORN DNMG medium machining negative

ISO P CVD coating

Carbide type			HC7620		HC7630		HC7610	
Machining conditions for indexable insert			Medium		Unfavourable		Good	
Vc in steel ●			80-350 m/min		60-220 m/min		140-420 m/min	
Vc in cast iron ●			50-290 m/min				140-320 m/min	
Chip breaker code			MP		MP		MP	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.		17864... Ident. No.	
DNMG 110404	0.5-4 mm	0.15-0.25 mm/r	185	●	187	●	-	-
DNMG 110408	0.6-4 mm	0.18-0.35 mm/r	251	●	199	●	188	●
DNMG 150604	0.5-4 mm	0.16-0.25 mm/r	201	●	202	●	200	●
DNMG 150608	0.6-5 mm	0.18-0.35 mm/r	204	●	207	●	203	●

Prod. Gr. 1GA

MP

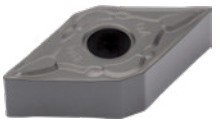
p. 685 p. 667 p. 723

ORION® DNMG medium machining negative

ISO P CVD coating

Carbide type			OHC6610		OHC6620	
Machining conditions for indexable insert			Good		Medium	
Vc in steel ●			130-245 m/min		180-350 m/min	
Vc in cast iron ●			200-300 m/min		120-220 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DNMG 150604	1-3 mm	0.15-0.35 mm/r	352	●	353	●
DNMG 150608	1-4 mm	0.15-0.4 mm/r	354	●	355	●

Prod. Gr. 1GE



MP3

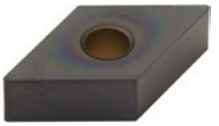
p. 685 p. 667 p. 723

ORION® DNMA medium machining, negative

ISO P CVD coating

Carbide type			OHC6605	
Machining conditions for indexable insert			Good	
Vc in steel ●			280-450 m/min	
Vc in cast iron ●			300-400 m/min	
Vc in hardened steel ●			50-90 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17996... Ident. No.	
DNMA 150604	0.1-1.5 mm	0.05-0.2 mm/r	070	●
DNMA 150608	0.1-1.5 mm	0.05-0.2 mm/r	075	●

Prod. Gr. 1GE



OHC6605 medium machining for hard materials up to 55 HRC

p. 685 p. 667 p. 723

ATORN DNMG roughing negative
ISO P CVD coating

			Carbide type		HC7610		HC7620		HC7630	
			Vc in steel ●		200-340 m/min		140-290 m/min		140-230 m/min	
			Vc in cast iron ●		250-580 m/min		140-490 m/min		180-430 m/min	
			Chip breaker code		RP5		RP5		RP5	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.				17864... Ident. No.		17864... Ident. No.	
DNMG 150608	0.8-5.0 mm	0.15-0.35 mm/r	501	●			503	●	504	●
DNMG 150612	1.0-5.0 mm	0.20-0.55 mm/r	-	-			505	●	-	-

Prod. Gr. 1GA

RP5

p. 685 p. 667 p. 723

ATORN DNMG roughing, negative
ISO P CVD coating

			Carbide type		ACP15T-1		ACP25T-1	
			Machining conditions for indexable insert		Good		Medium	
			Vc in steel ●		115-295 m/min		115-295 m/min	
			Vc in cast iron ●		135-395 m/min		135-395 m/min	
			Chip breaker code		RP4		RP4	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.				17874... Ident. No.	
DNMG 150408	1.00-6 mm	0.10-0.45 mm/r	177	●			178	○
DNMG 150412	1.00-6 mm	0.10-0.45 mm/r	185	○			186	○
DNMG 150608	1.00-6 mm	0.10-0.45 mm/r	197	○			198	●
DNMG 150612	1.00-6 mm	0.10-0.45 mm/r	205	○			206	●

Prod. Gr. 1GA

RP4

p. 685 p. 667 p. 723

ORION® DNMG roughing, negative
ISO P CVD coating

			Carbide type		OHC7625		OHC7635		OHC8615	
			Machining conditions for indexable insert		Medium		Unfavourable		Good	
			Vc in steel ●		140-310 m/min		80-220 m/min		180-410 m/min	
			Vc in stainless steel ●		70-180 m/min		-		-	
			Vc in cast iron ●		130-290 m/min		130-295 m/min		180-390 m/min	
			Vc in special alloys ●		20-70 m/min		-		-	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.				17864... Ident. No.		17874... Ident. No.	
DNMG 110408	0.8-7 mm	0.25-0.7 mm/r	059	●			060	●	-	-
DNMG 110412	1.2-7 mm	0.25-0.7 mm/r	071	○			-	-	-	-
DNMG 150608	0.8-7 mm	0.25-0.7 mm/r	089	●			090	○	790	●
DNMG 150612	1.2-7 mm	0.25-0.7 mm/r	092	●			093	○	792	●

Prod. Gr. 1GE

RU

p. 685 p. 667 p. 723

ATORN DNMG finishing, negative
ISO M CVD coating

			Carbide type		HC7510		HC7520	
			Machining conditions for indexable insert		Good		Medium	
			Vc in steel ●		140-320 m/min		140-320 m/min	
			Vc in stainless steel ●		170-260 m/min		170-260 m/min	
			Vc in special alloys ●		30-60 m/min		30-60 m/min	
			Chip breaker code		FM		FM	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.				17864... Ident. No.	
DNMG 110404	0.4-1 mm	0.05-0.12 mm/r	601	●			602	●
DNMG 110408	0.4-1.5 mm	0.07-0.16 mm/r	603	●			533	●
DNMG 150604	0.4-1.5 mm	0.05-0.12 mm/r	604	●			605	●
DNMG 150608	0.4-1.5 mm	0.07-0.16 mm/r	-	-			625	●

Prod. Gr. 1GA

FM

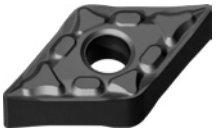
p. 685 p. 667 p. 723

ATORN DNMG finishing, negative

ISO M CVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	50-140 m/min	
		Vc in stainless steel ●	110-250 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	FM	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DNMG 110404	0.4-1.5 mm	0.08-0.2 mm/r	537	●
DNMG 110408	0.8-1.5 mm	0.15-0.25 mm/r	539	●
DNMG 150604	0.4-1.5 mm	0.04-0.12 mm/r	541	●
DNMG 150608	0.8-1.5 mm	0.15-0.25 mm/r	542	●

Prod. Gr. 1GA



FM

p. 685 p. 667 p. 723

ATORN DNMG finishing, negative

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	FM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
DNMG 110404	0.6-3 mm	0.1-0.55 mm/r	354	●
DNMG 110408	0.6-3 mm	0.1-0.55 mm/r	358	●
DNMG 150604	0.6-3 mm	0.1-0.55 mm/r	359	●
DNMG 150608	0.6-3 mm	0.1-0.55 mm/r	360	●
DNMG 150612	0.6-3 mm	0.1-0.55 mm/r	361	●

Prod. Gr. 1GA

FM1

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ATORN DNMG finishing, negative

ISO M CVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	FM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
DNMG 110404	0.6-3 mm	0.1-0.55 mm/r	326	●
DNMG 110408	0.6-3 mm	0.1-0.55 mm/r	330	●
DNMG 150604	0.6-3 mm	0.1-0.55 mm/r	332	●
DNMG 150608	0.6-3 mm	0.1-0.55 mm/r	333	●
DNMG 150612	0.6-3 mm	0.1-0.55 mm/r	336	●

Prod. Gr. 1GA

FM1

p. 685 p. 667 p. 723

ATORN DNMP finishing negative

ISO M PVD coating

		Carbide type	APM20T	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	100-600 m/min	
		Vc in stainless steel ●	60-200 m/min	
		Vc in cast iron ●	120-160 m/min	
		Vc in special alloys ●	20-80 m/min	
		Chip breaker code	FM5	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DNGP 150602	0.5-2.5 mm	0.1-0.25 mm/r	252	●
DNGP 150404	0.5-2.5 mm	0.1-0.25 mm/r	300	●
DNGP 150604	0.5-2.5 mm	0.1-0.25 mm/r	302	●
DNGP 150608	0.5-2.5 mm	0.1-0.25 mm/r	305	●

Prod. Gr. 1GA

FM5

p. 685 p. 667 p. 723

ATORN DNMG medium machining negative

ISO M CVD coating

		Carbide type	HC7520		HC7530	
		Machining conditions for indexable insert	Medium		Unfavourable	
		Vc in stainless steel ●	110-260 m/min		90-200 m/min	
		Vc in special alloys ●	30-60 m/min		20-50 m/min	
		Chip breaker code	MM		MM	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DNMG 110404	0.5-2 mm	0.05-0.18 mm/r	555	●	613	●
DNMG 110408	0.8-3 mm	0.15-0.25 mm/r	614	●	615	●
DNMG 150604	0.5-4 mm	0.16-0.25 mm/r	616	●	617	●
DNMG 150608	0.6-5 mm	0.18-0.35 mm/r	618	●	619	●
DNMG 150612	0.8-4 mm	0.18-0.3 mm/r	620	●	621	●

Prod. Gr. 1GA

p. 685 p. 667 p. 723

ATORN DNMG medium machining negative

ISO M CVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	50-140 m/min	
		Vc in stainless steel ●	100-230 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	MM	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DNMG 110404	0.5-3.0 mm	0.10-0.18 mm/r	383	●
DNMG 110408	0.8-3.0 mm	0.15-0.25 mm/r	384	●
DNMG 150604	0.5-3.0 mm	0.1-0.18 mm/r	376	●
DNMG 150608	0.8-3.0 mm	0.15-0.25 mm/r	385	●
DNMG 150612	0.8-3.0 mm	0.18-0.30 mm/r	394	●

Prod. Gr. 1GA

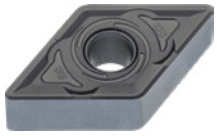
p. 685 p. 667 p. 723

ATORN DNMG medium machining negative

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	MM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
DNMG 110404	0.1-1.8 mm	0.1-0.35 mm/r	223	●
DNMG 110408	0.15-2 mm	0.1-0.35 mm/r	229	●
DNMG 150604	0.15-2 mm	0.1-0.35 mm/r	232	●
DNMG 150608	0.2-2.5 mm	0.1-0.35 mm/r	233	●
DNMG 150612	0.3-3 mm	0.1-0.35 mm/r	236	●

Prod. Gr. 1GA



p. 685 p. 667 p. 723

ATORN DNMG medium machining negative

ISO M CVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	MM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
DNMG 110404	0.1-1.8 mm	0.1-0.35 mm/r	194	●
DNMG 110408	0.15-2 mm	0.1-0.35 mm/r	198	●
DNMG 150604	0.15-2 mm	0.1-0.35 mm/r	199	●
DNMG 150608	0.2-2.5 mm	0.1-0.35 mm/r	200	●
DNMG 150612	0.3-3 mm	0.1-0.35 mm/r	201	●

Prod. Gr. 1GA

p. 685 p. 667 p. 723

ORION® DNMG medium machining, negative

ISO M PVD coating

Carbide type			OHC8515		OHC8530		OHC7535	
Machining conditions for indexable insert			Good		Good		Unfavourable	
Vc in steel ●			150-300 m/min		130-290 m/min		115-215 m/min	
Vc in stainless steel ●			70-250 m/min		70-180 m/min		65-125 m/min	
Vc in special alloys ●			20-70 m/min		20-70 m/min		-	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.		17864... Ident. No.	
DNMG 110404	0.4-3 mm	0.1-0.3 mm/r	616	●	650	●	316	●
DNMG 110408	0.8-3 mm	0.1-0.3 mm/r	617	●	651	●	317	●
DNMG 150604	0.4-3 mm	0.1-0.3 mm/r	618	●	654	●	318	○
DNMG 150608	0.8-3 mm	0.1-0.3 mm/r	619	●	655	●	319	●
DNMG 150612	1.2-3 mm	0.1-0.3 mm/r	-	-	657	●	-	-

Prod. Gr. 1GE

MU

p. 685 p. 667 p. 723

ORION® DNMG roughing, negative

ISO M PVD coating

Carbide type		OHC8515		OHC8530	
Machining conditions for indexable insert		Good		Good	
Vc in steel ●		150-300 m/min		130-290 m/min	
Vc in stainless steel ●		70-250 m/min		70-180 m/min	
Vc in special alloys ●		20-70 m/min		20-70 m/min	
ISO-Code Rotating	min./max. ap	17874... Ident. No.		17874... Ident. No.	
DNMG 150608	0.8-4.5 mm	620	●	656	●

Prod. Gr. 1GE

RU

p. 685 p. 667 p. 723

ORION® DNMG medium machining negative

ISO M PVD coating

Carbide type			OHC7520		OHC7530	
Machining conditions for indexable insert			Medium		Unfavourable	
Vc in steel ●					130-205 m/min	
Vc in stainless steel ●			160-220 m/min		75-145 m/min	
Vc in special alloys ●			30-60 m/min		25-50 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DNMG 150604	0.5-4.2 mm	0.1-0.3 mm/r	455	●	456	●
DNMG 150608	0.5-4.5 mm	0.1-0.38 mm/r	457	●	458	●

Prod. Gr. 1GE

MM3

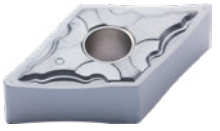
p. 685 p. 667 p. 723

ORION® DNGG medium machining negative

ISO M PVD coating

Carbide type			OHC8515	
Machining conditions for indexable insert			Medium	
Vc in stainless steel ●			80-220 m/min	
Vc in special alloys ●			20-60 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
DNGG 150604	0.15-1.5 mm	0.08-0.22 mm/r	874	●
DNGG 150608	0.2-1.5 mm	0.1-0.25 mm/r	876	●

Prod. Gr. 1GE



MM1

p. 685 p. 667 p. 723

ATORN DNMG roughing negative
ISO M CVD coating

		Carbide type	HC7520		HC7530	
		Machining conditions for indexable insert	Medium		Unfavourable	
		Vc in stainless steel	110-260 m/min		90-200 m/min	
		Vc in special alloys	30-60 m/min		20-50 m/min	
		Chip breaker code	RM		RM	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DNMG 150608	0.2-4 mm	0.22-0.4 mm/r	622	●	623	●
DNMG 150612	1.5-4.5 mm	0.25-0.4 mm/r	624	●	-	-

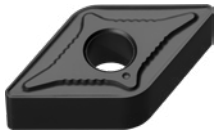
Prod. Gr. 1GA

p. 685 p. 667 p. 723

ATORN DNMG roughing, negative
ISO M PVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel	50-140 m/min	
		Vc in stainless steel	80-220 m/min	
		Vc in special alloys	40-60 m/min	
		Chip breaker code	RM	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DNMG 150608	1.2-4.0 mm	0.22-0.40 mm/r	415	●
DNMG 150612	1.5-4.0 mm	0.25-0.50 mm/r	417	●

Prod. Gr. 1GA



p. 685 p. 667 p. 723

ATORN DNMG roughing negative
ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel	110-240 m/min	
		Chip breaker code	RM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
DNMG 110408	0.5-4.4 mm	0.12-0.6 mm/r	425	●
DNMG 150604	0.3-6 mm	0.12-0.6 mm/r	426	●
DNMG 150608	0.5-6.4 mm	0.12-0.6 mm/r	427	●
DNMG 150612	0.5-6.4 mm	0.12-0.6 mm/r	429	●

Prod. Gr. 1GA

p. 685 p. 667 p. 723

ATORN DNMG roughing, negative
ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel	90-220 m/min	
		Vc in special alloys	20-150 m/min	
		Chip breaker code	RM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
DNMG 110408	0.5-4.4 mm	0.12-0.6 mm/r	389	●
DNMG 150604	0.3-6 mm	0.12-0.6 mm/r	390	●
DNMG 150608	0.5-6.4 mm	0.12-0.6 mm/r	391	●
DNMG 150612	0.5-6.4 mm	0.12-0.6 mm/r	392	●

Prod. Gr. 1GA

p. 685 p. 667 p. 723

ORION® DNGG medium machining negative

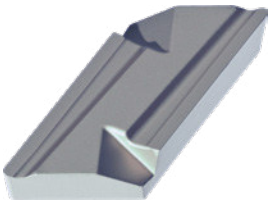
ISO N

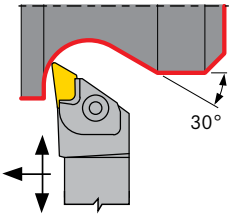
		Carbide type	OHW7310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	300-800 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DNGG 150604	0.8-3.5 mm	0.1-0.4 mm/r	870	●
DNGG 150608	0.8-3.5 mm	0.1-0.4 mm/r	872	●

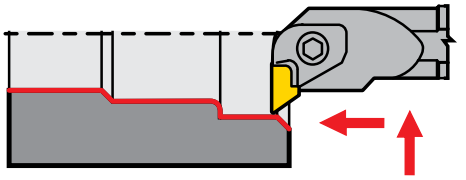
Prod. Gr. 1GF

p. 685 p. 667 p. 723

KN.. Indexable inserts - for facing, longitudinal and copy turning







ATORN KNUX indexable insert, negative

ISO P

Ident. No. 219

p. 665 p. 697

		Carbide type	ACP15T-1		ACP15T-1		ACP25T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Good		Medium		Medium	
		Vc in steel ●	110-300 m/min		110-300 m/min		110-350 m/min		110-350 m/min	
		Chip breaker code	L01		R01		L01		R01	
		Vc in cast iron ●	130-250 m/min		130-250 m/min		130-250 m/min		130-250 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.		17874... Ident. No.		17874... Ident. No.	
KNUX 160405	1-6 mm	0.2-0.35 mm/r	215	●	218	●	217	○	219	○

Prod. Gr. 1GA

ATORN KNUX indexable insert, negative

ISO P

p. 665 p. 697

		Carbide type	ACP15T-1		ACP15T-1		ACP25T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Good		Medium		Medium	
		Vc in steel ●	110-350 m/min		110-350 m/min		110-350 m/min		110-350 m/min	
		Vc in cast iron ●	130-250 m/min		130-250 m/min		130-250 m/min		130-250 m/min	
		Chip breaker code	L02		R02		L02		R02	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.		17874... Ident. No.		17874... Ident. No.	
KNUX 160410	1-6 mm	0.2-0.7 mm/r	221	○	223	○	222	○	224	●

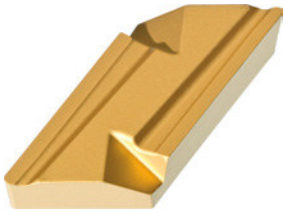
Prod. Gr. 1GA

ORION® KNUX indexable insert, negative

ISO P

			Carbide type	OHC6620	
			Machining conditions for indexable insert	Medium	
			Vc in steel ●	70-350 m/min	
			Vc in stainless steel ●	70-200 m/min	
			Vc in cast iron ●	70-240 m/min	
ISO name	ISO-Code Rotating	min./max. ap	f min./max.	17869... Ident. No.	
KNUX 160405 L11	KNUX 160405	1-6 mm	0.15-0.35 mm/r	700	●
KNUX 160405 R11	KNUX 160405	1-6 mm	0.15-0.35 mm/r	701	●
KNUX 160405 L12	KNUX 160405	1-6 mm	0.15-0.35 mm/r	702	●
KNUX 160405 R12	KNUX 160405	1-6 mm	0.15-0.35 mm/r	703	●
KNUX 160410 L11	KNUX 160410	1-6 mm	0.15-0.35 mm/r	704	●
KNUX 160410 R11	KNUX 160405	1.5-6 mm	0.15-0.35 mm/r	705	●
KNUX 160410 L12	KNUX 160405	1.5-6 mm	0.15-0.35 mm/r	706	●
KNUX 160410 R12	KNUX 160405	1.5-6 mm	0.15-0.35 mm/r	707	●

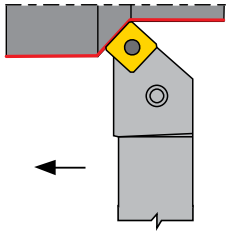
Prod. Gr. 1GE

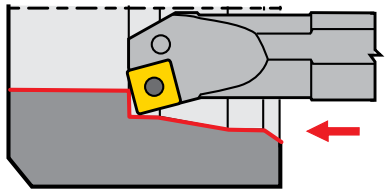


11 – finishing chip breaker
12 – medium chip breaker

p. 665 p. 697

SN.. Indexable inserts - for longitudinal turning and facing





ATORN SNMG finishing, negative

ISO P CVD coating

			Carbide type	ACP15T-1		ACP25T-1	
			Machining conditions for indexable insert	Good		Medium	
			Vc in steel ●	115-295 m/min		115-295 m/min	
			Vc in cast iron ●	135-395 m/min		135-395 m/min	
			Chip breaker code	FP1		FP1	
ISO-Code Rotating	min./max. ap	f min./max.		17874... Ident. No.		17874... Ident. No.	
SNMG 120404	0.15-2.5 mm	0.05-0.25 mm/r		264	●	265	●
SNMG 120408	0.15-2.5 mm	0.08-0.45 mm/r		270	○	271	●
SNMG 120412	0.15-2.5 mm	0.08-0.45 mm/r		276	●	277	○

Prod. Gr. 1GA

p. 667

ATORN SNMG medium machining, negative

ISO P CVD coating

			Carbide type	HC7610		HC7620		HC7630	
			Machining conditions for indexable insert	Good		Medium		Unfavourable	
			Vc in steel ●	140-340 m/min		80-280 m/min		60-220 m/min	
			Vc in cast iron ●	180-290 m/min		120-260 m/min			
			Chip breaker code	MP		MP		MP	
ISO-Code Rotating	min./max. ap	f min./max.		17867... Ident. No.		17867... Ident. No.		17867... Ident. No.	
SNMG 120408	0.6-5 mm	0.18-0.4 mm/r		010	●	011	●	012	●
SNMG 120412	1-5 mm	0.2-0.4 mm/r		-	-	017	●	018	●

Prod. Gr. 1GA

p. 667

ATORN SNMG medium machining, negative

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	125-295 m/min		115-270 m/min	
		Vc in cast iron ●	125-295 m/min		115-270 m/min	
		Chip breaker code	MP		MP	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
SNMG 120404	0.40-5.5 mm	0.15-0.4 mm/r	266	●	267	●
SNMG 120408	0.50-6 mm	0.15-0.5 mm/r	272	●	273	●
SNMG 120412	0.60-6 mm	0.20-0.55 mm/r	278	●	279	○

Prod. Gr. 1GA

MP1

p. 667

ORION SNMG medium machining, negative

ISO P CVD coating

		Carbide type	OHC8615		OHC7625	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	180-410 m/min		140-310 m/min	
		Vc in stainless steel ●	-		70-180 m/min	
		Vc in cast iron ●	180-360 m/min		130-290 m/min	
		Vc in special alloys ●	-		20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17867... Ident. No.	
SNMG 120404	0.4-4 mm	0.1-0.4 mm/r	731	●	176	●
SNMG 120408	0.8-4 mm	0.1-0.4 mm/r	732	●	177	●
SNMG 120412	1.2-4 mm	0.1-0.4 mm/r	734	●	-	-

Prod. Gr. 1GE

MU

p. 667

ATORN SNMG roughing, negative

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	RP4		RP4	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
SNMG 120408	1.00-7 mm	0.08-0.45 mm/r	268	○	269	●
SNMG 120412	1.00-7 mm	0.08-0.45 mm/r	274	○	275	○
SNMG 120416	1.00-7 mm	0.08-0.45 mm/r	280	○	281	○
SNMG 190612	1.50-0 mm	0.20-0.7 mm/r	284	●	285	○
SNMG 190616	1.50-0 mm	0.20-0.7 mm/r	286	○	287	●
SNMG 150612	1.00-8 mm	0.10-0.6 mm/r	-	-	282	○
SNMG 150616	1.00-8 mm	0.10-0.6 mm/r	-	-	283	○
SNMG 250724	2.00-2 mm	0.40-1.2 mm/r	-	-	288	○
SNMG 250924	2.00-2 mm	0.25-0.75 mm/r	-	-	289	○

Prod. Gr. 1GA

RP4

p. 667

ORION SNMG roughing, negative

ISO P CVD coating

		Carbide type	OHC8615		OHC7625		OHC7635	
		Machining conditions for indexable insert	Good		Medium		Unfavourable	
		Vc in steel ●	180-410 m/min		180-380 m/min		80-220 m/min	
		Vc in stainless steel ●	-		140-240 m/min		130-295 m/min	
		Vc in cast iron ●	180-360 m/min		130-290 m/min		-	
		Vc in special alloys ●	-		20-70 m/min		-	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17867... Ident. No.		17867... Ident. No.	
SNMG 120408	0.8-7 mm	0.25-0.7 mm/r	733	●	051	●	052	○
SNMG 120412	1.2-7 mm	0.25-0.7 mm/r	735	●	054	●	055	●
SNMG 120416	1.6-7 mm	0.25-0.7 mm/r	-	-	-	-	058	●
SNMG 150612	1.2-7 mm	0.25-0.7 mm/r	736	●	-	-	-	-

Prod. Gr. 1GE

No. 17867

RU

p. 667

ATORN SNMM roughing, negative

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	110-350 m/min		100-300 m/min	
		Vc in cast iron ●	135-395 m/min		125-350 m/min	
		Chip breaker code	RP6		RP6	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
SNMM 190612	2.4-13 mm	0.35-1.8 mm/r	296	○	-	-
SNMM 250724	3.2-17 mm	0.35-1.8 mm/r	304	○	305	○
SNMM 190616	2.4-13 mm	0.35-1.8 mm/r	-	-	299	○
SNMM 190624	2-2 mm	0.35-1.8 mm/r	-	-	302	○
SNMM 250732	3.2-7 mm	0.35-1.8 mm/r	-	-	306	○

Prod. Gr. 1GA

RP6

p. 667

ATORN SNMM roughing, negative

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	110-350 m/min		100-300 m/min	
		Vc in cast iron ●	135-395 m/min		125-350 m/min	
		Chip breaker code	RP7		RP7	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
SNMM 150608	1-8 mm	0.15-1.5 mm/r	290	○	291	○
SNMM 150612	1-8 mm	0.15-1.5 mm/r	292	○	293	○
SNMM 150616	1-8 mm	0.15-1.5 mm/r	294	○	295	○
SNMM 190612	2-12 mm	0.15-1.5 mm/r	297	○	298	○
SNMM 190616	2-12 mm	0.15-1.5 mm/r	300	○	301	○
SNMM 190624	2-12 mm	0.15-1.5 mm/r	-	-	303	○

Prod. Gr. 1GA

RP7

p. 667

ATORN SNMG medium machining negative

ISO M CVD coating

		Carbide type	ACM25T-1		
		Machining conditions for indexable insert	Medium		
		Vc in stainless steel ●	110-240 m/min		
		Chip breaker code	FM1		
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.		
SNMG 120404	1-4 mm	0.1-0.55 mm/r	362	●	
SNMG 120408	1-4 mm	0.1-0.55 mm/r	363	●	
SNMG 120412	1-4 mm	0.1-0.55 mm/r	364	●	

Prod. Gr. 1GA

FM1

p. 667

ATORN SNMG medium machining negative

ISO M PVD coating

		Carbide type	APM20T-1		
		Machining conditions for indexable insert	Good		
		Vc in stainless steel ●	90-240 m/min		
		Vc in special alloys ●	20-160 m/min		
		Chip breaker code	FM1		
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.		
SNMG 120404	1-4 mm	0.1-0.55 mm/r	337	●	
SNMG 120408	1-4 mm	0.1-0.55 mm/r	338	●	
SNMG 120412	1-4 mm	0.1-0.55 mm/r	339	●	

Prod. Gr. 1GA

FM1

p. 667

ATORN SNMG medium machining negative

ISO M CVD coating

		Carbide type	HC7520		HC7530	
		Machining conditions for indexable insert	Medium		Medium	
		Vc in stainless steel ●	110-260 m/min		110-260 m/min	
		Vc in special alloys ●	30-60 m/min		20-50 m/min	
		Chip breaker code	MM		MM	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.		17867... Ident. No.	
SNMG 120404	0.4-3 mm	0.15-0.2 mm/r	593	●	-	-
SNMG 120408	0.8-3 mm	0.18-0.3 mm/r	600	●	-	-
SNMG 120412	0.8-3 mm	0.18-0.3 mm/r	610	●	601	●

Prod. Gr. 1GA

p. 667

ATORN SNMG medium machining negative

ISO M PVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	50-140 m/min	
		Vc in stainless steel ●	100-230 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	MM	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.	
SNMG 120404	0.5-2.0 mm	0.10-0.18 mm/r	612	●
SNMG 120408	0.8-3 mm	0.15-0.25 mm/r	613	●
SNMG 120412	0.8-3.5 mm	0.18-0.30 mm/r	614	●

Prod. Gr. 1GA

p. 667

ATORN SNMG medium machining negative

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	MM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
SNMG 120408	0.2-3 mm	0.15-0.5 mm/r	237	●
SNMG 120412	0.5-5 mm	0.15-0.5 mm/r	239	●

Prod. Gr. 1GA

p. 667

ATORN SNMG medium machining negative

ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	MM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
SNMG 120408	0.2-3 mm	0.15-0.5 mm/r	202	●
SNMG 120412	0.5-5 mm	0.15-0.5 mm/r	204	●

Prod. Gr. 1GA

p. 667

ORION® SNMG medium machining, negative

ISO M PVD coating

Carbide type			OHC8515		OHC8530		OHC7535	
Machining conditions for indexable insert			Good		Good		Unfavourable	
Vc in steel ●			130-290 m/min		120-290 m/min		150-260 m/min	
Vc in stainless steel ●			70-250 m/min		70-180 m/min		90-150 m/min	
Vc in special alloys ●			20-70 m/min		20-70 m/min		30-75 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.		17867... Ident. No.	
SNMG 120404	0.4-3 mm	0.1-0.3 mm/r	625	●	664	●	-	-
SNMG 120408	0.8-3 mm	0.1-0.3 mm/r	626	●	665	●	198	●
SNMG 120412	1.2-3 mm	0.1-0.3 mm/r	-	-	667	●	-	-

Prod. Gr. 1GE

MU

p. 667

ORION® SNMG medium machining negative

ISO M PVD coating

Carbide type			OHC7520	
Machining conditions for indexable insert			Medium	
Vc in stainless steel ●			150-220 m/min	
Vc in special alloys ●			30-90 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.	
SNMG 120408	0.5-6 mm	0.12-0.4 mm/r	560	●

Prod. Gr. 1GE

MM3

p. 667

ATORN SNMG roughing, negative

ISO M CVD coating

Carbide type			HC7520	
Machining conditions for indexable insert			Medium	
Vc in stainless steel ●			110-260 m/min	
Vc in special alloys ●			30-60 m/min	
Chip breaker code			RM	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.	
SNMG 120408	0.8-3 mm	0.15-0.25 mm/r	620	●

Prod. Gr. 1GA

RM

p. 667

ORION® SNMG roughing, negative

ISO M PVD coating

Carbide type		OHC8515		OHC8530	
Machining conditions for indexable insert		Good		Good	
Vc in steel ●		130-290 m/min		120-290 m/min	
Vc in stainless steel ●		70-250 m/min		70-180 m/min	
Vc in special alloys ●		20-70 m/min		20-70 m/min	
ISO-Code Rotating	min./max. ap	17874... Ident. No.		17874... Ident. No.	
SNMG 120408	0.8-4 mm	627	●	666	●
SNMG 120412	0.8-4 mm	628	●	-	-
SNMG 150612	0.8-4 mm	629	●	-	-

Prod. Gr. 1GE

RU

p. 667

ATORN SNMG roughing, negative
ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	RM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
SNMG 120404	0.5-6.4 mm	0.1-0.6 mm/r	430	●
SNMG 120408	0.5-6.4 mm	0.1-0.6 mm/r	431	●
SNMG 120412	0.5-6.4 mm	0.1-0.6 mm/r	433	●
SNMG 150608	0.5-8 mm	0.1-0.6 mm/r	435	●
SNMG 150612	0.5-8 mm	0.1-0.6 mm/r	437	●

Prod. Gr. 1GA

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ATORN SNMG roughing, negative
ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-220 m/min	
		Vc in special alloys ●	20-150 m/min	
		Chip breaker code	RM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
SNMG 090304	0.5-4.5 mm	0.1-0.6 mm/r	393	●
SNMG 090308	0.5-4.5 mm	0.1-0.6 mm/r	394	●
SNMG 120404	0.5-6.4 mm	0.1-0.6 mm/r	395	●
SNMG 120408	0.5-6.4 mm	0.1-0.6 mm/r	396	●
SNMG 120412	0.5-6.4 mm	0.1-0.6 mm/r	397	●

Prod. Gr. 1GA

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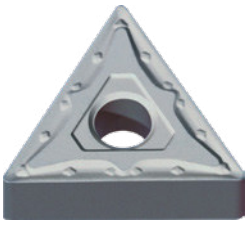
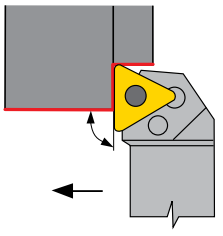
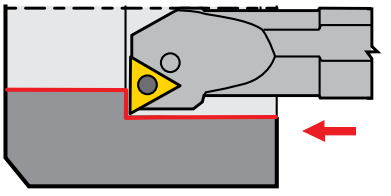
TN.. Indexable inserts - for longitudinal turning and facing



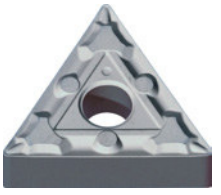




ATORN TNMG finishing, negative
ISO P CVD coating

		Carbide type	HC7620	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	140-370 m/min	
		Vc in cast iron ●	140-300 m/min	
		Chip breaker code	FP	
ISO-Code Rotating	min./max. ap	f min./max.	17868... Ident. No.	
TNMG 160404	0.1-1.5 mm	0.04-0.2 mm/r	007	●
TNMG 160408	0.2-2 mm	0.08-0.25 mm/r	009	●

Prod. Gr. 1GA



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ATORN TNMG finishing, negative
ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	FP1		FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
TNMG 160404	0.10-1.5 mm	0.10-0.4 mm/r	333	●	335	●
TNMG 160408	0.10-1.5 mm	0.10-0.4 mm/r	342	○	343	●
TNMG 160412	0.10-1.5 mm	0.10-0.4 mm/r	350	○	351	○

Prod. Gr. 1GA

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ATORN TNMG medium machining, negative

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	125-295 m/min		115-270 m/min	
		Vc in cast iron ●	125-295 m/min		115-270 m/min	
		Chip breaker code	MP1		MP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
TNMG 160404	0.40-5 mm	0.10-0.3 mm/r	336	●	337	●
TNMG 160408	0.50-5 mm	0.15-0.5 mm/r	344	●	345	●
TNMG 160412	0.80-5 mm	0.18-0.6 mm/r	352	○	353	○
TNMG 160416	1.00-5 mm	0.15-0.5 mm/r	354	○	355	○
TNMG 220404	0.40-6.6 mm	0.10-0.3 mm/r	356	○	357	●
TNMG 220408	0.50-6.6 mm	0.15-0.5 mm/r	360	●	361	○
TNMG 220412	0.80-6.6 mm	0.18-0.6 mm/r	364	○	365	○
TNMG 220416	1.00-6.6 mm	0.23-0.6 mm/r	368	○	369	○

Prod. Gr. 1GA

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ATORN TNMG medium machining, negative

ISO P CVD coating

		Carbide type	HC7620		HC7610	
		Machining conditions for indexable insert	Medium		Good	
		Vc in steel ●	140-370 m/min		140-350 m/min	
		Vc in cast iron ●	140-300 m/min		140-290 m/min	
		Chip breaker code	MP		MP	
ISO-Code Rotating	min./max. ap	f min./max.	17868... Ident. No.		17868... Ident. No.	
TNMG 160404	0.5-4 mm	0.16-0.25 mm/r	012	●	011	●
TNMG 160408	0.6-4 mm	0.18-0.35 mm/r	016	●	015	●

Prod. Gr. 1GA

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ATORN TNMG medium machining, negative

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	MPL		MPL	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
TNMG 160404	0.40-2.5 mm	0.07-0.3 mm/r	329	●	330	●
TNMG 160408	0.40-2.5 mm	0.10-0.4 mm/r	340	●	341	○
TNMG 160412	0.80-3 mm	0.15-0.5 mm/r	348	○	349	○

Prod. Gr. 1GA

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ORION TNMG medium machining, negative

ISO P CVD coating

		Carbide type	OHC8615		OHC7625		OHC7635	
		Machining conditions for indexable insert	Good		Medium		Unfavourable	
		Vc in steel ●	180-410 m/min		140-310 m/min		80-220 m/min	
		Vc in stainless steel ●	-		70-180 m/min		-	
		Vc in cast iron ●	180-360 m/min		130-290 m/min		30-295 m/min	
		Vc in special alloys ●	-		20-70 m/min		-	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17868... Ident. No.		17868... Ident. No.	
TNMG 160404	0.4-3 mm	0.1-0.4 mm/r	742	●	650	●	653	○
TNMG 160408	0.8-3 mm	0.1-0.4 mm/r	743	●	652	●	654	●

Prod. Gr. 1GE

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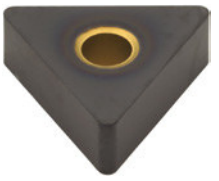
ORION® TNMA medium machining, negative

ISO P CVD coating

		Carbide type	OHC6605	
		Machining conditions for indexable insert	Good	
		Vc in steel ●	280-450 m/min	
		Vc in cast iron ●	300-400 m/min	
		Vc in hardened steel ●	50-90 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17996... Ident. No.	
TNMA 160404	0.1-1.5 mm	0.12-0.2 mm/r	095	●
TNMA 160408	0.1-1.5 mm	0.15-0.2 mm/r	100	●

Prod. Gr. 1GE



OHC6605 medium machining for hard materials up to 55 HRC

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ATORN TNMG roughing, negative

ISO P CVD coating

			Carbide type	ACP15T-1		ACP25T-1	
			Machining conditions for indexable insert	Good		Medium	
			Vc in steel ●	115-295 m/min		115-295 m/min	
			Vc in cast iron ●	135-395 m/min		135-395 m/min	
			Chip breaker code	RP4		RP4	
ISO-Code Rotating		min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
TNMG 160408		0.8-6 mm	0.1-0.6 mm/r	338	●	339	●
TNMG 160412		0.8-6 mm	0.1-0.6 mm/r	346	○	347	●
TNMG 220408		1-7 mm	0.15-0.8 mm/r	358	●	359	○
TNMG 220412		1-7 mm	0.15-0.8 mm/r	362	●	363	○
TNMG 220416		1-7 mm	0.15-0.8 mm/r	366	○	367	○

Prod. Gr. 1GA

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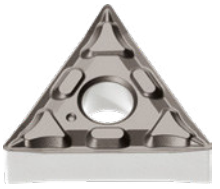
ATORN TNMG finishing, negative

ISO M CVD coating

			Carbide type	HC7520		HC7520	
			Machining conditions for indexable insert	Medium		Medium	
			Vc in stainless steel ●	150-260 m/min		170-260 m/min	
			Vc in special alloys ●	30-60 m/min		30-60 m/min	
			Chip breaker code	FM		FM	
ISO-Code Rotating		min./max. ap	f min./max.	17868... Ident. No.		17868... Ident. No.	
TNMG 160404		0.2-1 mm	0.05-0.12 mm/r	620	●	-	-
TNMG 160408		0.2-1 mm	0.05-0.12 mm/r	-	-	624	●

Prod. Gr. 1GA



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ATORN TNMG finishing, negative

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	FM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
TNMG 160404	0.6-3 mm	0.1-0.55 mm/r	365	●
TNMG 160408	0.6-3 mm	0.1-0.55 mm/r	366	●
TNMG 160412	0.6-3 mm	0.1-0.55 mm/r	367	●

Prod. Gr. 1GA

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ATORN TNMG finishing negative
ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	FM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
TNMG 160404	0.6-3 mm	0.1-0.55 mm/r	340	●
TNMG 160408	0.6-3 mm	0.1-0.55 mm/r	341	●
TNMG 160412	0.6-3 mm	0.1-0.55 mm/r	342	●

Prod. Gr. 1GA

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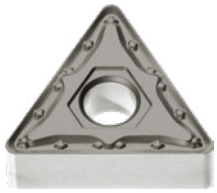
ATORN TNMG medium machining, negative
ISO M CVD coating

		Carbide type	HC7520		HC7530	
		Machining conditions for indexable insert	Medium		Unfavourable	
		Vc in stainless steel ●	110-260 m/min		130-200 m/min	
		Vc in special alloys ●	30-60 m/min		20-50 m/min	
		Chip breaker code	MM		MM	
ISO-Code Rotating	min./max. ap	f min./max.	17868... Ident. No.		17868... Ident. No.	
TNMG 160404	0.6-4 mm	0.18-0.35 mm/r	599	●	-	-
TNMG 160408	0.6-4 mm	0.18-0.35 mm/r	621	●	601	●

Prod. Gr. 1GA



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ATORN TNMG medium machining, negative
ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	MM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
TNMG 160404	0.15-3 mm	0.1-0.35 mm/r	240	●
TNMG 160408	0.2-3 mm	0.1-0.35 mm/r	242	●
TNMG 160412	0.3-3 mm	0.1-0.35 mm/r	243	●

Prod. Gr. 1GA

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ATORN TNMG medium machining, negative
ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	MM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
TNMG 160404	0.15-3 mm	0.1-0.35 mm/r	205	●
TNMG 160408	0.2-3 mm	0.1-0.35 mm/r	206	●
TNMG 160412	0.3-3 mm	0.1-0.35 mm/r	207	●

Prod. Gr. 1GA

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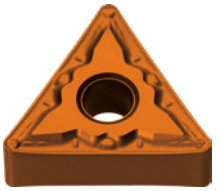
ORION® TNMG medium machining, negative

ISO M PVD coating

Carbide type			OHC8515		OHC8530		OHC7535	
Machining conditions for indexable insert			Good		Good		Unfavourable	
Vc in steel ●			130-290 m/min		120-290 m/min		125-215 m/min	
Vc in stainless steel ●			70-250 m/min		70-180 m/min		75-125 m/min	
Vc in special alloys ●			20-70 m/min		20-70 m/min		25-60 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.		17868... Ident. No.	
TNMG 160404	0.4-3 mm	0.1-0.3 mm/r	634	●	674	●	663	●
TNMG 160408	0.8-3 mm	0.1-0.3 mm/r	635	●	675	●	664	●

Prod. Gr. 1GE



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WIDIA TNMG medium machining, negative

ISO M CVD coating

Carbide type			WM15CT		WM25CT	
Machining conditions for indexable insert			Good		Medium	
Vc in stainless steel ●			90-240 m/min		90-220 m/min	
Vc in special alloys ●			30-120 m/min			
ISO-Code Rotating	min./max. ap	f min./max.	17685... Ident. No.		17685... Ident. No.	
TNMG 160404	0,4-4 mm	0,15-0,35 mm/U	482	○	659	○
TNMG 160408	0,8-4 mm	0,15-0,35 mm/U	483	○	660	○
TNMG 160412	1,2-4 mm	0,15-0,35 mm/U	-	-	661	○
TNMG 160416	1,6-4 mm	0,15-0,35 mm/U	-	-	662	○

Prod. Gr. 1XH

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ATORN TNMG roughing, negative

ISO M PVD coating

Carbide type			HC7520	
Machining conditions for indexable insert			Medium	
Vc in stainless steel ●			110-260 m/min	
Vc in special alloys ●			30-60 m/min	
Chip breaker code			RM	
ISO-Code Rotating	min./max. ap	f min./max.	17868... Ident. No.	
TNMG 160408	1.2-4.0 mm	0.22-0.40 mm/r	630	●

Prod. Gr. 1GA

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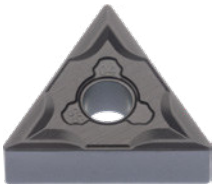
ATORN TNMG roughing, negative

ISO M CVD coating

Carbide type			ACM25T-1	
Machining conditions for indexable insert			Medium	
Vc in stainless steel ●			110-240 m/min	
Chip breaker code			RM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
TNMG 160404	0.5-4 mm	0.1-0.6 mm/r	438	●
TNMG 160408	0.5-4.8 mm	0.1-0.6 mm/r	439	○
TNMG 160412	0.5-4.8 mm	0.1-0.6 mm/r	440	●

Prod. Gr. 1GA



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ATORN TNMG roughing, negative
ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel	90-220 m/min	
		Vc in special alloys	20-150 m/min	
		Chip breaker code	RM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
TNMG 160404	0.5-4 mm	0.1-0.6 mm/r	398	●
TNMG 160408	0.5-4.8 mm	0.1-0.6 mm/r	399	●
TNMG 160412	0.5-4.8 mm	0.1-0.6 mm/r	400	●

Prod. Gr. 1GA

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ORION TNMG roughing, negative
ISO M PVD coating

	Carbide type	OHC8530	
	Machining conditions for indexable insert	Good	
	Vc in steel	130-290 m/min	
	Vc in stainless steel	70-250 m/min	
	Vc in special alloys	20-70 m/min	
ISO-Code Rotating	min./max. ap	17874... Ident. No.	
TNMG 160412	0.8-4 mm	676	●

Prod. Gr. 1GE

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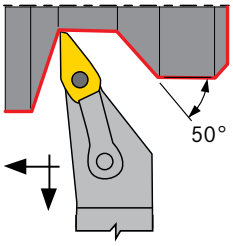
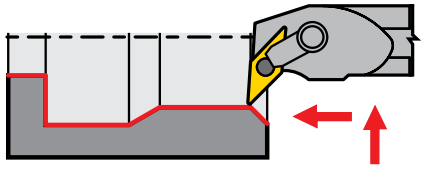
VN.. Indexable inserts - for longitudinal and copy turning





ATORN VNMG finishing negative
ISO P CVD coating

		Carbide type	HC7620	
		Machining conditions for indexable insert	Medium	
		Vc in steel	120-350 m/min	
		Vc in cast iron	150-290 m/min	
		Chip breaker code	FP	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VNMG 160404	0.1-1.5 mm	0.04-0.22 mm/r	120	●

Prod. Gr. 1GA

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ORION® VNMG medium machining, negative

ISO P CVD coating

		Carbide type	OHC8615		OHC7625	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	180-410 m/min		165-250 m/min	
		Vc in stainless steel ●	-		95-150 m/min	
		Vc in cast iron ●	180-360 m/min		155-235 m/min	
		Vc in special alloys ●	-		20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17866... Ident. No.	
VNMG 160404	0.4-4 mm	0.1-0.4 mm/r	756	●	071	●
VNMG 160408	0.8-4 mm	0.1-0.4 mm/r	757	●	073	●
VNMG 160412	1.2-4 mm	0.1-0.4 mm/r	-	-	075	●

Prod. Gr. 1GE

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ATORN VNMG finishing, negative

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	FP1		FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
VNMG 160404	0.1-1.5 mm	0.05-0.25 mm/r	401	○	402	●
VNMG 160408	0.1-1.5 mm	0.1-0.4 mm/r	407	○	408	●

Prod. Gr. 1GA

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ATORN VNMG medium machining negative

ISO P CVD coating

		Carbide type	HC7620	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	120-350 m/min	
		Vc in cast iron ●	150-290 m/min	
		Chip breaker code	MP	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VNMG 160404	0.5-4 mm	0.16-0.25 mm/r	136	●
VNMG 160408	0.6-4 mm	0.18-0.35 mm/r	131	●

Prod. Gr. 1GA

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ATORN VNMG medium machining negative

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	125-295 m/min		115-270 m/min	
		Vc in cast iron ●	125-295 m/min		115-270 m/min	
		Chip breaker code	MP1		MP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
VNMG 160404	0.5-4 mm	0.15-0.5 mm/r	403	○	404	○
VNMG 160408	0.5-4 mm	0.15-0.5 mm/r	409	●	410	●

Prod. Gr. 1GA

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ATORN VNMG medium machining negative

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	MPL		MPL	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
VNMG 160408	0.35-2 mm	0.08-0.35 mm/r	405	●	406	●

Prod. Gr. 1GA

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ORION VNMG medium machining, negative

ISO M CVD coating

		Carbide type	OHC8530	
		Machining conditions for indexable insert	Good	
		Vc in steel ●	120-290 m/min	
		Vc in stainless steel ●	70-180 m/min	
		Vc in special alloys ●	20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.	
VNMG 160404	0.4-3 mm	0.1-0.3 mm/r	689	●
VNMG 160408	0.8-3 mm	0.1-0.3 mm/r	690	●

Prod. Gr. 1GE

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ATORN VNMG finishing negative

ISO M CVD coating

		Carbide type	HC7520	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	170-260 m/min	
		Vc in special alloys ●	30-60 m/min	
		Chip breaker code	FM	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VNMG 160404	0.5-2 mm	0.1-0.18 mm/r	500	●
VNMG 160408	0.5-2 mm	0.1-0.18 mm/r	501	●

Prod. Gr. 1GA

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ATORN VNMG finishing negative

ISO M CVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	50-140 m/min	
		Vc in stainless steel ●	110-250 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	FM	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VNMG 160404	0.2-1.5 mm	0.04-0.12 mm/r	510	●
VNMG 160408	0.2-1.5 mm	0.05-0.12 mm/r	511	●

Prod. Gr. 1GA

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ATORN VNMG finishing negative

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	FM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VNMG 160404	0.6-3 mm	0.1-0.55 mm/r	368	●
VNMG 160408	0.6-3 mm	0.1-0.55 mm/r	369	●
VNMG 160412	0.6-3 mm	0.1-0.55 mm/r	370	●

Prod. Gr. 1GA

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ATORN VNMG finishing negative

ISO M CVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	FM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VNMG 160404	0.6-3 mm	0.1-0.55 mm/r	343	●
VNMG 160408	0.6-3 mm	0.1-0.55 mm/r	344	●
VNMG 160412	0.6-3 mm	0.1-0.55 mm/r	345	●

Prod. Gr. 1GA

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ATORN VNGP finishing, negative

ISO M CVD coating

		Carbide type	APM20T	
		Machining conditions for indexable insert	Medium	
		Vc in non-ferrous metals ●	100-600 m/min	
		Vc in stainless steel ●	60-200 m/min	
		Vc in cast iron ●	120-220 m/min	
		Vc in special alloys ●	20-50 m/min	
		Chip breaker code	FM5	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VNGP 160402	0.14-2.5 mm	0.08-0.2 mm/r	659	●
VNGP 160404	0.14-2.5 mm	0.08-0.2 mm/r	660	●

Prod. Gr. 1GA

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ATORN VNMG medium machining, negative

ISO M CVD coating

		Carbide type	HC7520	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-260 m/min	
		Vc in special alloys ●	30-60 m/min	
		Chip breaker code	MM	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VNMG 160404	0.5-2 mm	0.1-0.18 mm/r	611	●
VNMG 160408	0.5-3 mm	0.1-0.18 mm/r	612	●

Prod. Gr. 1GA

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ATORN VNMG medium machining negative
ISO M PVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	50-140 m/min	
		Vc in stainless steel ●	100-230 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	MM	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VNMG 160404	0.5-2 mm	0.05-0.12 mm/r	616	●
VNMG 160408	0.8-3 mm	0.15-0.25 mm/r	617	●

Prod. Gr. 1GA

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ATORN VNMG medium machining, negative
ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	MM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VNMG 160404	0.15-2 mm	0.04-0.25 mm/r	244	●
VNMG 160408	0.2-2.5 mm	0.04-0.25 mm/r	246	●
VNMG 160412	0.3-3 mm	0.04-0.25 mm/r	247	●

Prod. Gr. 1GA

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ATORN VNMG medium machining, negative
ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	MM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VNMG 160404	0.15-2 mm	0.04-0.25 mm/r	208	●
VNMG 160408	0.2-2.5 mm	0.04-0.25 mm/r	209	●
VNMG 160412	0.3-3 mm	0.04-0.25 mm/r	211	●

Prod. Gr. 1GA

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ORION® VNGG medium machining, negative
ISO M CVD coating

		Carbide type	OHC8515	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	80-220 m/min	
		Vc in special alloys ●	20-60 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VNGG 160402	0.12-2 mm	0.05-0.2 mm/r	842	●
VNGG 160404	0.15-2 mm	0.08-0.2 mm/r	843	●
VNGG 160408	0.2-2 mm	0.1-0.2 mm/r	844	●

Prod. Gr. 1GE

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ATORN VNMG roughing negative

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	RM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VNMG 160404	0.5-4 mm	0.1-0.45 mm/r	441	●
VNMG 160408	0.5-4 mm	0.1-0.45 mm/r	442	●

Prod. Gr. 1GA

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ATORN VNMG roughing, negative

ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-220 m/min	
		Vc in special alloys ●	20-150 m/min	
		Chip breaker code	RM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VNMG 160404	0.5-4 mm	0.1-0.45 mm/r	401	●
VNMG 160408	0.5-4 mm	0.1-0.45 mm/r	402	●

Prod. Gr. 1GA

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ORION® VNGG medium machining negative

ISO N

		Carbide type	OHW7310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	300-800 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VNGG 160402	0.8-3.5 mm	0.1-0.4 mm/r	836	●
VNGG 160404	0.8-3.5 mm	0.1-0.4 mm/r	837	●
VNGG 160408	0.8-3.5 mm	0.1-0.4 mm/r	838	●

Prod. Gr. 1GF

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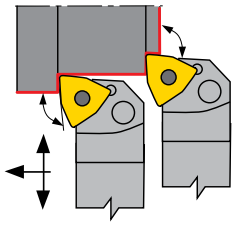
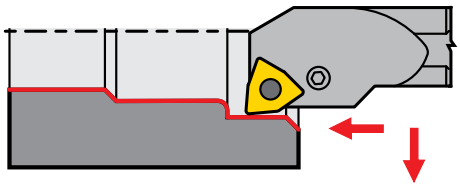
WN.. Indexable inserts - for longitudinal turning and facing

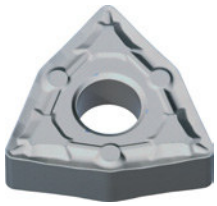




ATORN WNMG finishing, negative
ISO P CVD coating

		Carbide type	HC7620	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	90-350 m/min	
		Vc in cast iron ●	120-290 m/min	
		Chip breaker code	FP	
ISO-Code Rotating	min./max. ap	f min./max.	17869... Ident. No.	
WNMG 060404	0.1-1.5 mm	0.04-0.2 mm/r	002	●
WNMG 080404	0.1-1.5 mm	0.05-0.2 mm/r	006	●
WNMG 080408	0.2-2 mm	0.08-0.25 mm/r	008	●

Prod. Gr. 1GA



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ATORN WNMG finishing, negative
ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	FP1		FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
WNMG 060404	0.12-1.5 mm	0.05-0.35 mm/r	411	●	412	○
WNMG 060408	0.12-1.5 mm	0.05-0.35 mm/r	415	●	416	●
WNMG 060412	0.12-1.5 mm	0.05-0.35 mm/r	419	○	420	○
WNMG 080404	0.50-2.5 mm	0.08-0.45 mm/r	421	○	422	●
WNMG 080408	0.50-2.5 mm	0.08-0.45 mm/r	429	●	430	○
WNMG 080412	0.50-2.5 mm	0.08-0.45 mm/r	438	○	439	○

Prod. Gr. 1GA

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ATORN WNMG medium machining, negative
ISO P CVD coating

			Carbide type	HC7620		HC7610	HC7630	
			Machining conditions for indexable insert	Medium		Good	Unfavourable	
			Vc in steel ●	90-350 m/min		110-350 m/min	60-220 m/min	
			Vc in cast iron ●	120-290 m/min		140-240 m/min		
			Chip breaker code	MP		MP	MP	
ISO-Code Rotating	min./max. ap	f min./max.		17869... Ident. No.		17869... Ident. No.	17869... Ident. No.	
WNMG 060404	0.5-4 mm	0.16-0.25 mm/r	010	●	-	-	-	-
WNMG 060408	0.6-4 mm	0.18-0.35 mm/r	013	●	-	-	-	-
WNMG 080404	0.5-4 mm	0.16-0.25 mm/r	016	●	015	●	017	●
WNMG 080408	0.6-5 mm	0.18-0.4 mm/r	022	●	021	●	023	●
WNMG 080412	1-6 mm	0.2-0.4 mm/r	027	●	-	-	-	-

Prod. Gr. 1GA

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ATORN WNMG medium machining negative
ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	MP1		MP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
WNMG 060404	0.5-4 mm	0.1-0.5 mm/r	413	●	414	●
WNMG 060408	0.5-4 mm	0.1-0.5 mm/r	417	●	418	●
WNMG 080404	0.5-4 mm	0.1-0.5 mm/r	423	●	424	●

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		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	MP1		MP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
WNMG 080408	0.5-4 mm	0.1-0.5 mm/r	433	○	435	●
WNMG 080412	0.5-4 mm	0.1-0.5 mm/r	440	●	441	●
WNMG 080416	0.5-4 mm	0.1-0.5 mm/r	442	●	443	○

Prod. Gr. 1GA

ATORN WNMG medium machining negative

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	MPL		MPL	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
WNMG 080408	0.40-2.5 mm	0.10-0.35 mm/r	427	●	428	○

Prod. Gr. 1GA

MPL

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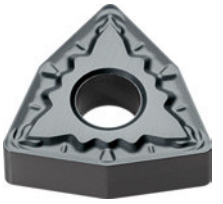
ORION WNMG medium machining negative

ISO P CVD coating

		Carbide type	OHC7625		OHC7635		OHC8615	
		Machining conditions for indexable insert	Medium		Unfavourable		Good	
		Vc in steel ●	130-290 m/min		80-220 m/min		180-410 m/min	
		Vc in stainless steel ●	95-150 m/min		90-165 m/min		-	
		Vc in cast iron ●	155-235 m/min		130-295 m/min		140-310 m/min	
		Vc in special alloys ●	20-70 m/min		-		-	
ISO-Code Rotating	min./max. ap	f min./max.	17869... Ident. No.		17869... Ident. No.		17874... Ident. No.	
WNMG 060404	0.4-4 mm	0.1-0.4 mm/r	152	●	-	-	758	●
WNMG 060408	0.8-4 mm	0.1-0.4 mm/r	153	●	161	●	759	●
WNMG 080404	0.4-4 mm	0.1-0.4 mm/r	154	●	162	○	760	●
WNMG 080408	0.8-4 mm	0.1-0.4 mm/r	155	●	163	●	761	●

Prod. Gr. 1GE



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ATORN WNMG roughing, negative

ISO P CVD coating

		Carbide type	HC7610		HC7620		HC7630	
		Vc in steel ●	160-270 m/min		160-270 m/min		160-270 m/min	
		Vc in cast iron ●	140-390 m/min		140-390 m/min		140-390 m/min	
		Chip breaker code	RP5		RP5		RP5	
ISO-Code Rotating	min./max. ap	f min./max.	17869... Ident. No.		17869... Ident. No.		17869... Ident. No.	
WNMG 080408	0.8-6.0 mm	0.2-0.4 mm/r	655	●	656	●	657	●
WNMG 080412	1.0-6.0 mm	0.2-0.4 mm/r	-	-	658	●	-	-

Prod. Gr. 1GA

RP5

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ATORN WNMG roughing, negative

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	RP4		RP4	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
WNMG 080408	0.8-5 mm	0.2-0.55 mm/r	425	●	426	●
WNMG 080412	0.8-5 mm	0.2-0.55 mm/r	436	○	437	●

Prod. Gr. 1GA

RP4

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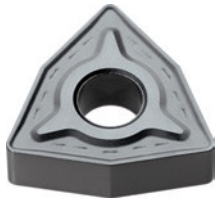
ORION® WNMG roughing, negative

ISO P CVD coating

Carbide type			OHC7625		OHC7635		OHC8615	
Machining conditions for indexable insert			Medium		Unfavourable		Good	
Vc in steel ●			190-335 m/min		80-220 m/min		180-410 m/min	
Vc in stainless steel ●			110-225 m/min		-		-	
Vc in cast iron ●			180-360 m/min		130-295 m/min		180-380 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17869... Ident. No.		17869... Ident. No.		17874... Ident. No.	
WNMG 080408	0.8-7 mm	0.25-0.7 mm/r	158	●	164	●	762	●
WNMG 080412	1.2-7 mm	0.25-0.7 mm/r	159	●	166	●	763	●

Prod. Gr. 1GE



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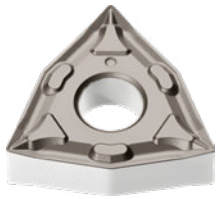
ATORN WNMG finishing, negative

IS0 M CVD coating

Carbide type			HC7510		HC7520	
Machining conditions for indexable insert			Good		Medium	
Vc in steel ●			140-320 m/min			
Vc in stainless steel ●			175-270 m/min		110-260 m/min	
Vc in special alloys ●					30-60 m/min	
Chip breaker code			FM		FM	
ISO-Code Rotating	min./max. ap	f min./max.	17869... Ident. No.		17869... Ident. No.	
WNMG 060404	0.2-1 mm	0.05-0.12 mm/r	601	●	602	●
WNMG 080404	0.2-1 mm	0.05-0.12 mm/r	603	●	604	●
WNMG 060408	0.2-1 mm	0.05-0.12 mm/r	-	-	596	●
WNMG 080408	0.2-1.5 mm	0.05-0.16 mm/r	-	-	614	●

Prod. Gr. 1GA



FM

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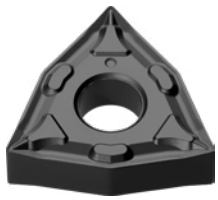
ATORN WNMG finishing negative

IS0 M PVD coating

Carbide type			HC7820	
Machining conditions for indexable insert			Medium	
Vc in steel ●			50-140 m/min	
Vc in stainless steel ●			110-250 m/min	
Vc in special alloys ●			40-60 m/min	
Chip breaker code			FM	
ISO-Code Rotating	min./max. ap	f min./max.	17869... Ident. No.	
WNMG 060404	0.2-1 mm	0.05-0.12 mm/r	622	●
WNMG 060408	0.4-1.5 mm	0.05-0.16 mm/r	623	●
WNMG 080404	0.2-1 mm	0.05-0.12 mm/r	626	●
WNMG 080408	0.4-1.5 mm	0.05-0.16 mm/r	627	●

Prod. Gr. 1GA



FM

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ATORN WNGP finishing negative

IS0 M CVD coating

Carbide type			APM20T	
Machining conditions for indexable insert			Medium	
Vc in non-ferrous metals ●			100-600 m/min	
Vc in stainless steel ●			60-200 m/min	
Vc in cast iron ●			120-220 m/min	
Vc in special alloys ●			20-50 m/min	
Chip breaker code			FM5	
ISO-Code Rotating	min./max. ap	f min./max.	17869... Ident. No.	
WNGP 080404	0.14-2.5 mm	0.2-0.08 mm/r	524	●
WNGP 080408	0.14-2.5 mm	0.2-0.08 mm/r	525	●

Prod. Gr. 1GA

FM5

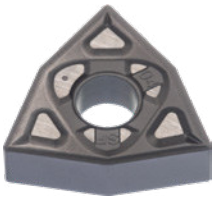
p. 666 p. 697

ATORN WNMG finishing, negative

IS0 M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	FM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
WNMG 060404	0.6-3 mm	0.1-0.55 mm/r	371	●
WNMG 060408	0.6-3 mm	0.1-0.55 mm/r	372	●
WNMG 060412	0.6-3 mm	0.1-0.55 mm/r	373	●
WNMG 080404	0.6-3 mm	0.1-0.55 mm/r	374	●
WNMG 080408	0.6-3 mm	0.1-0.55 mm/r	375	●
WNMG 080412	0.6-3 mm	0.1-0.55 mm/r	376	●

Prod. Gr. 1GA



FM1

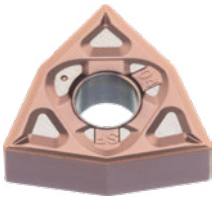
p. 666 p. 697

ATORN WNMG finishing, negative

IS0 M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	FM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
WNMG 060404	0.6-3 mm	0.1-0.55 mm/r	346	●
WNMG 060408	0.6-3 mm	0.1-0.55 mm/r	347	●
WNMG 080404	0.6-3 mm	0.1-0.55 mm/r	348	●
WNMG 080408	0.6-3 mm	0.1-0.55 mm/r	349	●
WNMG 080412	0.6-3 mm	0.1-0.55 mm/r	350	●

Prod. Gr. 1GA



FM1

p. 666 p. 697

ATORN WNMG medium machining, negative

ISO M CVD coating

		Carbide type	HC7530		HC7520	
		Machining conditions for indexable insert	Unfavourable		Medium	
		Vc in stainless steel ●	90-200 m/min		110-260 m/min	
		Vc in special alloys ●	30-60 m/min		30-60 m/min	
		Chip breaker code	MM		MM	
ISO-Code Rotating	min./max. ap	f min./max.	17869... Ident. No.		17869... Ident. No.	
WNMG 060404	0.5-4 mm	0.18-0.35 mm/r	605	●	590	●
WNMG 060408	0.5-5 mm	0.18-0.4 mm/r	607	●	606	●
WNMG 080408	1-6 mm	0.22-0.4 mm/r	-	-	608	●
WNMG 080404	1-6 mm	0.22-0.4 mm/r	-	-	617	●

Prod. Gr. 1GA

MM

p. 666 p. 697

ATORN WNMG medium machining, negative

ISO M PVD coating

		Carbide type	HC7820		HC7830	
		Machining conditions for indexable insert	Medium		Medium	
		Vc in steel ●	50-140 m/min		60-120 m/min	
		Vc in stainless steel ●	100-230 m/min		90-180 m/min	
		Vc in special alloys ●	40-60 m/min		20-40 m/min	
		Chip breaker code	MM		MM	
ISO-Code Rotating	min./max. ap	f min./max.	17869... Ident. No.		17869... Ident. No.	
WNMG 080404	0.5-3.0 mm	0.10-0.20 mm/r	003	●	004	●
WNMG 080408	0.8-3.0 mm	0.15-0.32 mm/r	005	●	007	●
WNMG 060404	0.5-2 mm	0.1-0.18 mm/r	000	●	-	-
WNMG 060408	0.8-2.5 mm	0.15-0.25 mm/r	001	●	-	-

Prod. Gr. 1GA

MM

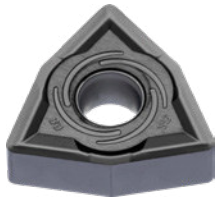
p. 666 p. 697

ATORN WNMG medium machining, negative

ISO M CVD coating

			Carbide type	ACM25T-1	
			Machining conditions for indexable insert	Medium	
			Vc in stainless steel ●	110-240 m/min	
			Chip breaker code	MM1	
ISO-Code Rotating	min./max. ap	f min./max.		17870... Ident. No.	
WNMG 060404	0.1-2 mm	0.1-0.4 mm/r		248	●
WNMG 060408	0.15-2.5 mm	0.1-0.4 mm/r		249	●
WNMG 080404	0.15-2.5 mm	0.1-0.4 mm/r		250	●
WNMG 080408	0.2-3 mm	0.1-0.4 mm/r		251	●
WNMG 080412	0.3-3.5 mm	0.1-0.4 mm/r		252	●

Prod. Gr. 1GA



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ATORN WNMG medium machining, negative

ISO M PVD coating

			Carbide type	APM20T-1	
			Machining conditions for indexable insert	Good	
			Vc in stainless steel ●	90-240 m/min	
			Vc in special alloys ●	20-160 m/min	
			Chip breaker code	MM1	
ISO-Code Rotating	min./max. ap	f min./max.		17870... Ident. No.	
WNMG 060404	0.1-2 mm	0.1-0.4 mm/r		212	●
WNMG 060408	0.15-2.5 mm	0.1-0.4 mm/r		213	●
WNMG 080404	0.15-2.5 mm	0.1-0.4 mm/r		215	●
WNMG 080408	0.2-3 mm	0.1-0.4 mm/r		216	●
WNMG 080412	0.3-3.5 mm	0.1-0.4 mm/r		217	●

Prod. Gr. 1GA

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ORION WNMG medium machining, negative

ISO M PVD coating

			Carbide type	OHC8515		OHC8530	
			Machining conditions for indexable insert	Good		Good	
			Vc in steel ●	130-290 m/min		120-290 m/min	
			Vc in stainless steel ●	70-250 m/min		70-180 m/min	
			Vc in special alloys ●	20-70 m/min		20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.		17874... Ident. No.		17874... Ident. No.	
WNMG 060404	0.4-3 mm	0.1-0.3 mm/r		640	●	691	●
WNMG 080404	0.4-3 mm	0.1-0.3 mm/r		641	●	693	●
WNMG 080408	0.8-3 mm	0.1-0.3 mm/r		642	●	694	●
WNMG 060408	0.8-3 mm	0.1-0.3 mm/r		-	-	692	●

Prod. Gr. 1GE

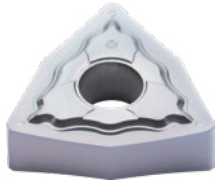
p. 666 p. 697

ORION WNMG medium machining, negative

ISO M PVD coating

			Carbide type	OHC8515	
			Machining conditions for indexable insert	Medium	
			Vc in stainless steel ●	80-220 m/min	
			Vc in special alloys ●	20-60 m/min	
ISO-Code Rotating	min./max. ap	f min./max.		17869... Ident. No.	
WNGG 060404	0.15-2 mm	0.1-0.3 mm/r		760	●
WNGG 060408	0.15-2 mm	0.15-0.4 mm/r		761	●
WNGG 060412	0.2-2 mm	0.15-0.4 mm/r		762	●
WNGG 080404	0.5-2 mm	0.1-0.3 mm/r		763	●
WNGG 080408	0.5-2 mm	0.15-0.4 mm/r		764	●
WNGG 080412	0.5-2 mm	0.15-0.5 mm/r		765	●

Prod. Gr. 1GE



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ATORN WNMG roughing, negative

ISO M CVD coating

		Carbide type	HC7520		HC7530	
		Machining conditions for indexable insert	Medium		Unfavourable	
		Vc in stainless steel ●	110-260 m/min		90-200 m/min	
		Vc in special alloys ●	30-60 m/min		30-60 m/min	
		Chip breaker code	RM		RM	
ISO-Code Rotating	min./max. ap	f min./max.	17869... Ident. No.		17869... Ident. No.	
WNMG 080408	1.2-6 mm	0.22-0.4 mm/r	610	●	611	●
WNMG 080404	1.2-6 mm	0.22-0.4 mm/r	575	●	-	-

Prod. Gr. 1GA

RM

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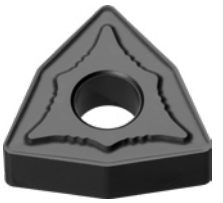
ATORN WNMG roughing, negative

ISO M PVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	50-140 m/min	
		Vc in stainless steel ●	80-220 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	RM	
ISO-Code Rotating	min./max. ap	f min./max.	17869... Ident. No.	
WNMG 080404	0.5-3 mm	0.1-0.2 mm/r	560	●
WNMG 080408	1.2-4 mm	0.2-0.4 mm/r	561	●

Prod. Gr. 1GA



RM

p. 666 p. 697

ATORN WNMG roughing, negative

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	RM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
WNMG 060404	0.5-3 mm	0.12-0.6 mm/r	443	●
WNMG 060408	0.5-3 mm	0.12-0.6 mm/r	444	●
WNMG 080404	0.5-3 mm	0.12-0.6 mm/r	445	●
WNMG 080408	0.5-4 mm	0.12-0.6 mm/r	446	●
WNMG 080412	0.5-4 mm	0.12-0.6 mm/r	447	●

Prod. Gr. 1GA

RM1

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ATORN WNMG roughing, negative

ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-220 m/min	
		Vc in special alloys ●	20-150 m/min	
		Chip breaker code	RM1	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
WNMG 060404	0.5-3 mm	0.12-0.6 mm/r	403	●
WNMG 060408	0.5-3 mm	0.12-0.6 mm/r	404	●
WNMG 06T304	0.5-3 mm	0.12-0.6 mm/r	405	●
WNMG 06T308	0.5-3 mm	0.12-0.6 mm/r	406	●
WNMG 080404	0.5-3 mm	0.12-0.6 mm/r	407	●
WNMG 080408	0.5-4 mm	0.12-0.6 mm/r	408	●
WNMG 080412	0.5-4 mm	0.12-0.6 mm/r	409	●

Prod. Gr. 1GA

RM1

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ORION® WNMG roughing, negative

ISO P PVD coating

		Carbide type	OHC8515		OHC8530	
		Machining conditions for indexable insert	Good		Good	
		Vc in steel ●	150-300 m/min		130-290 m/min	
		Vc in stainless steel ●	70-250 m/min		70-180 m/min	
		Vc in special alloys ●	20-70 m/min		20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
WNMG 080408	0.8-4 mm	0.1-0.45 mm/r	643	●	695	●

Prod. Gr. 1GE

RU

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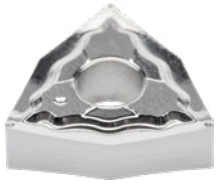
ORION® WNGG medium machining negative

ISO N

		Carbide type	OHW7310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	300-800 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17869... Ident. No.	
WNGG 060404	0.8-3.5 mm	0.1-0.4 mm/r	750	●
WNGG 060408	0.8-3.5 mm	0.1-0.4 mm/r	752	●
WNGG 080404	0.8-3.5 mm	0.1-0.4 mm/r	754	●
WNGG 080408	0.8-3.5 mm	0.1-0.4 mm/r	756	●

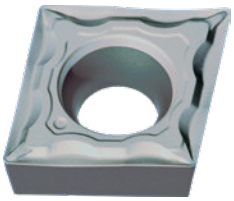
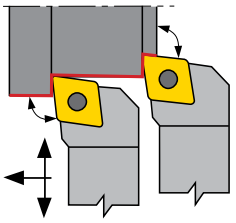
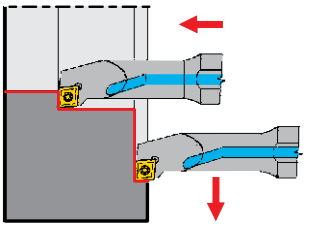
Prod. Gr. 1GF



MN2

p. 666 p. 697

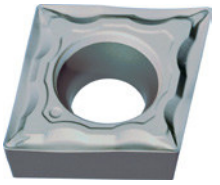
CC.. Indexable inserts - for longitudinal turning and facing
Test 123456677

ATORN CCMT finishing positive
ISO P CVD coating

Carbide type			HC7610		HC7620	
Machining conditions for indexable insert			Good		Medium	
Vc in steel ●			140-380 m/min		110-320 m/min	
Vc in cast iron ●			140-240 m/min		140-260 m/min	
Chip breaker code			FP		FP	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CCMT 060202	0.1-1.5 mm	0.05-0.16 mm/r	058	●	059	●
CCMT 060204	0.1-1.5 mm	0.05-0.16 mm/r	060	●	061	●
CCMT 09T302	0.1-1 mm	0.04-0.12 mm/r	062	●	063	●
CCMT 09T304	0.1-1.5 mm	0.05-0.16 mm/r	064	●	065	●
CCMT 09T308	0.1-2.5 mm	0.08-0.2 mm/r	066	●	067	●
CCMT 120404	0.1-1.5 mm	0.05-0.16 mm/r	068	●	069	●
CCMT 120408	0.1-2.5 mm	0.08-0.2 mm/r	070	●	071	●

Prod. Gr. 1GA



FP

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ATORN CCMT smoothing, positive
ISO P CVD coating

Carbide type			ACP25T-1		ACP15T-1	
Machining conditions for indexable insert			Medium		Good	
Vc in steel ●			115-335 m/min		125-400 m/min	
Vc in cast iron ●			135-370 m/min		150-395 m/min	
Chip breaker code			FP1		FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
CCMT 060202	0.3-1.7 mm	0.06-0.11 mm/r	059	●	-	-
CCMT 060204	0.3-1.7 mm	0.08-0.17 mm/r	061	●	060	●
CCMT 09T302	0.35-2 mm	0.04-0.13 mm/r	066	●	-	-
CCMT 09T304	0.35-2 mm	0.06-0.23 mm/r	068	●	067	●
CCMT 09T308	0.35-2 mm	0.08-0.45 mm/r	072	●	071	●
CCMT 120404	0.14-2.4 mm	0.07-0.27 mm/r	076	●	075	●

Prod. Gr. 1GA

Ident. No. 060–076

FP1

p. 664 p. 696

ORION® CCMT smoothing positive
ISO P CVD coating

Carbide type			OHC8615		OHC7625	
Machining conditions for indexable insert			Good		Medium	
Vc in steel ●			180-380 m/min		140-310 m/min	
Vc in stainless steel ●			-		70-180 m/min	
Vc in cast iron ●			180-360 m/min		130-290 m/min	
Vc in special alloys ●			-		20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17863... Ident. No.	
CCMT 060202	0.2-2.5 mm	0.1-0.2 mm/r	696	●	451	●
CCMT 060204	0.4-2.5 mm	0.1-0.2 mm/r	697	●	452	●
CCMT 060208	0.8-2.5 mm	0.1-0.2 mm/r	698	●	335	●
CCMT 09T302	0.2-2.5 mm	0.1-0.2 mm/r	699	●	345	●
CCMT 09T304	0.4-2.5 mm	0.1-0.2 mm/r	700	●	453	●
CCMT 09T308	0.8-2.5 mm	0.1-0.2 mm/r	701	●	454	●
CCMT 120404	0.4-2.5 mm	0.1-0.2 mm/r	702	●	517	●
CCMT 120408	0.8-2.5 mm	0.1-0.2 mm/r	703	●	455	●

Prod. Gr. 1GE

FU

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ORION® CCMT finishing positive

ISO P CVD coating

		Carbide type	OHC6610		OHC6620	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	200-380 m/min		170-450 m/min	
		Vc in cast iron ●	200-300 m/min		200-300 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CCMT 060202	0.1-1.5 mm	0.2-0.1 mm/r	379	●	380	●
CCMT 060204	0.1-1.5 mm	0.05-0.15 mm/r	381	●	382	●
CCMT 09T304	0.4-3 mm	0.1-0.3 mm/r	385	●	386	●

Prod. Gr. 1GE

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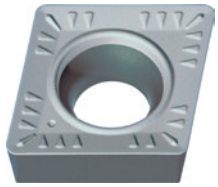
ATORN CCMT medium machining positive

ISO P CVD coating

			Carbide type	HC7610		HC7620		HC7630	
			Machining conditions for indexable insert	Good		Medium		Unfavourable	
			Vc in steel ●	140-380 m/min		110-320 m/min		80-220 m/min	
			Vc in cast iron ●	140-240 m/min		140-260 m/min			
			Chip breaker code	MP		MP		MP	
ISO-Code Rotating	min./max. ap	f min./max.		17863... Ident. No.		17863... Ident. No.		17863... Ident. No.	
CCMT 060204	0.4-3 mm	0.12-0.25 mm/r		074	●	075	●	076	●
CCMT 09T304	0.4-3 mm	0.12-0.25 mm/r		080	●	081	●	082	●
CCMT 09T308	0.6-4 mm	0.16-0.35 mm/r		083	●	084	●	085	●
CCMT 120404	0.4-3 mm	0.12-0.25 mm/r		086	●	087	●	088	●
CCMT 120408	0.6-5 mm	0.16-0.4 mm/r		089	●	090	●	091	●

Prod. Gr. 1GA



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ATORN CCMT medium machining positive

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	125-400 m/min		115-335 m/min	
		Vc in cast iron ●	150-395 m/min		135-370 m/min	
		Chip breaker code	MP1		MP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
CCMT 060204	0.2-2.4 mm	0.06-0.17 mm/r	062	●	063	●
CCMT 060208	0.4-2.4 mm	0.08-0.35 mm/r	064	●	065	○
CCMT 09T304	0.25-3 mm	0.08-0.23 mm/r	069	●	070	●
CCMT 09T308	0.5-3 mm	0.1-0.4 mm/r	073	●	074	●
CCMT 120404	0.3-3.6 mm	0.09-0.27 mm/r	077	●	078	●
CCMT 120408	0.6-3.6 mm	0.12-0.45 mm/r	079	●	080	●
CCMT 120412	0.72-3.6 mm	0.14-0.6 mm/r	081	○	082	○

Prod. Gr. 1GA

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ORION® CCMT medium machining positive

ISO P CVD coating

		Carbide type	OHC7635		OHC7625	
		Machining conditions for indexable insert	Unfavourable		Medium	
		Vc in steel ●	150-310 m/min		150-310 m/min	
		Vc in stainless steel ●	-		70-180 m/min	
		Vc in cast iron ●	130-290 m/min		130-290 m/min	
		Vc in special alloys ●	-		40-105 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CCMT 060204	0.4-4 mm	0.15-0.35 mm/r	491	●	-	-
CCMT 09T304	0.4-4 mm	0.15-0.35 mm/r	492	●	457	●
CCMT 09T308	0.8-4 mm	0.15-0.35 mm/r	493	●	458	●
CCMT 120408	0.8-4 mm	0.15-0.35 mm/r	-	-	459	●

Prod. Gr. 1GE

p. 664 p. 696

ORION® CCMT medium machining positive

ISO P CVD coating

Carbide type			OHC6610		OHC6620	
Machining conditions for indexable insert			Good		Medium	
Vc in steel ●			200-380 m/min		170-450 m/min	
Vc in cast iron ●			200-300 m/min		200-300 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CCMT 060204	0.5-2.5 mm	0.1-0.25 mm/r	189	●	190	●
CCMT 09T304	0.4-3 mm	0.1-0.25 mm/r	191	●	192	●
CCMT 09T308	0.4-3 mm	0.1-0.32 mm/r	193	●	194	●
CCMT 120404	0.5-2.5 mm	0.1-0.30 mm/r	207	●	208	●
CCMT 120408	0.6-3.5 mm	0.05-0.3 mm/r	-	-	196	●

Prod. Gr. 1GE

p. 664 p. 696

ORION® CCMW medium machining, positive

ISO P CVD coating

Carbide type			OHC6605	
Machining conditions for indexable insert			Good	
Vc in steel ●			170-450 m/min	
Vc in cast iron ●			160-400 m/min	
Vc in hardened steel ●			30-90 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17996... Ident. No.	
CCMW 060202	0.1-1.5 mm	0.05-0.2 mm/r	014	●
CCMW 060204	0.1-1.5 mm	0.05-0.2 mm/r	015	●
CCMW 09T304	0.1-1.5 mm	0.05-0.2 mm/r	020	●
CCMW 09T308	0.1-1.5 mm	0.05-0.2 mm/r	025	●
CCMW 120404	0.1-1.5 mm	0.05-0.2 mm/r	030	●
CCMW 120408	0.1-1.5 mm	0.05-0.2 mm/r	035	●

Prod. Gr. 1GE

OHC6605 medium machining for hard materials up to 55 HRC

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ATORN CCMT finishing positive

ISO M CVD coating

Carbide type			HC7520	
Machining conditions for indexable insert			Medium	
Vc in stainless steel ●			80-220 m/min	
Vc in special alloys ●			30-60 m/min	
Chip breaker code			FP	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CCMT 060202	0.1-1.0 mm	0.04-0.12 mm/r	209	●
CCMT 060204	0.1-1.5 mm	0.05-0.16 mm/r	212	●
CCMT 09T302	0.4-3 mm	0.12-0.25 mm/r	215	●
CCMT 09T304	0.1-1.5 mm	0.05-0.16 mm/r	217	●
CCMT 09T308	0.1-1.5 mm	0.08-0.20 mm/r	219	●
CCMT 120404	0.6-5 mm	0.16-0.4 mm/r	239	●
CCMT 120408	0.6-5 mm	0.16-0.4 mm/r	252	●

Prod. Gr. 1GA

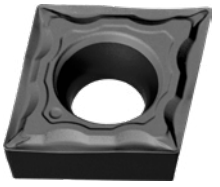
p. 664 p. 696

ATORN CCMT finishing positive

ISO M PVD coating

Carbide type			HC7820	
Machining conditions for indexable insert			Medium	
Vc in steel ●			50-130 m/min	
Vc in stainless steel ●			90-210 m/min	
Vc in special alloys ●			40-60 m/min	
Chip breaker code			FM	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CCMT 060202	0.1-1.0 mm	0.04-0.12 mm/r	407	●
CCMT 060204	0.1-1.5 mm	0.05-0.16 mm/r	408	●
CCMT 09T302	0.1-1.0 mm	0.04-0.12 mm/r	417	●
CCMT 09T304	0.1-1.5 mm	0.05-0.16 mm/r	418	●
CCMT 09T308	0.1-1.5 mm	0.08-0.20 mm/r	419	●
CCMT 120404	0.1-1.5 mm	0.08-0.2 mm/r	428	●
CCMT 120408	0.1-1.5 mm	0.08-0.2 mm/r	429	●

Prod. Gr. 1GA



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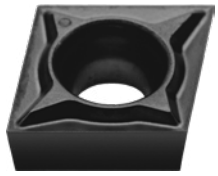
ATORN CCGT finishing positive
ISO M PVD coating

		Carbide type	HC7820		HC7810	
		Machining conditions for indexable insert	Medium		Good	
		Vc in steel ●	30-130 m/min		80-160 m/min	
		Vc in stainless steel ●	60-210 m/min		130-220 m/min	
		Vc in special alloys ●	40-60 m/min		40-70 m/min	
		Chip breaker code	FU1		FU1	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CCGT 060201	0.1-1.5 mm	0.02-0.06 mm/r	225	●	-	-
CCGT 060202	0.2-2.0 mm	0.05-0.12 mm/r	229	●	339	●
CCGT 060204	0.2-2.5 mm	0.08-0.25 mm/r	232	●	349	●
CCGT 09T301	0.1-1.5 mm	0.02-0.06 mm/r	235	●	-	-
CCGT 09T302	0.2-2.0 mm	0.05-0.12 mm/r	237	●	353	●
CCGT 09T304	0.2-2.5 mm	0.08-0.25 mm/r	319	●	396	●
CCGT 09T308	0.3-3.0 mm	0.10-0.30 mm/r	322	●	397	●
CCGT 120404	0.3-3.0 mm	0.10-0.30 mm/r	543	●	-	-
CCGT 120408	0.3-3.0 mm	0.10-0.30 mm/r	546	●	-	-



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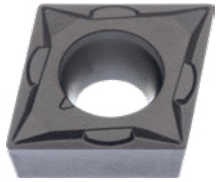
Prod. Gr. 1GA

ATORN CCMT finishing, positive
ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	55-230 m/min	
		Vc in special alloys ●	25-145 m/min	
		Chip breaker code	FM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
CCMT 060202	0.06-1.7 mm	0.03-0.11 mm/r	154	●
CCMT 060204	0.1-1.7 mm	0.05-0.17 mm/r	155	●
CCMT 09T302	0.08-2 mm	0.04-0.13 mm/r	156	●
CCMT 09T304	0.11-2 mm	0.06-0.23 mm/r	157	●
CCMT 09T308	0.15-2 mm	0.08-0.45 mm/r	158	●
CCMT 120404	0.14-2.4 mm	0.07-0.27 mm/r	159	●



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Prod. Gr. 1GA

ATORN CCMT finishing positive
ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-220 m/min	
		Vc in special alloys ●	35-145 m/min	
		Chip breaker code	FM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
CCMT 060202	0.06-1.7 mm	0.03-0.11 mm/r	110	●
CCMT 060204	0.1-1.7 mm	0.05-0.17 mm/r	112	●
CCMT 09T302	0.08-2 mm	0.04-0.13 mm/r	114	●
CCMT 09T304	0.11-2 mm	0.06-0.23 mm/r	116	●
CCMT 09T308	0.15-2 mm	0.08-0.45 mm/r	117	●
CCMT 120404	0.14-2.4 mm	0.07-0.27 mm/r	118	●

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Prod. Gr. 1GA

ORION CCMT finishing, positive
ISO M PVD coating

			Carbide type	OHC8515		OHC8530		OHC7535	
			Machining conditions for indexable insert	Good		Medium		Unfavourable	
			Vc in steel ●	130-290 m/min		130-290 m/min		115-265 m/min	
			Vc in stainless steel ●	70-220 m/min		70-180 m/min		65-155 m/min	
			Vc in special alloys ●	20-70 m/min		20-70 m/min		20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.		17874... Ident. No.		17863... Ident. No.		17863... Ident. No.	
CCMT 060202	0.2-2.5 mm	0.05-0.2 mm/r		600	●	727	●	-	-
CCMT 060204	0.4-2.5 mm	0.05-0.2 mm/r		601	●	728	●	466	●
CCMT 060208	0.8-2.5 mm	0.05-0.2 mm/r		-	-	732	●	-	-
CCMT 09T302	0.2-2.5 mm	0.05-0.2 mm/r		602	●	733	●	-	-
CCMT 09T304	0.4-2.5 mm	0.05-0.2 mm/r		603	●	735	●	467	●
CCMT 09T308	0.8-2.5 mm	0.05-0.2 mm/r		604	●	736	●	468	●
CCMT 120404	0.4-2.5 mm	0.05-0.2 mm/r		605	●	737	●	-	-
CCMT 120408	0.8-2.5 mm	0.05-0.2 mm/r		606	●	738	●	469	●
CCMT 120412	1.2-2.5 mm	0.05-0.2 mm/r		-	-	740	●	-	-

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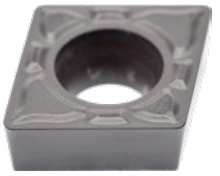
Prod. Gr. 1GE

ORION® CCMT finishing, positive

ISO M CVD coating

		Carbide type	OHC7510		OHC7520	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	130-245 m/min		130-245 m/min	
		Vc in stainless steel ●	90-220 m/min		80-240 m/min	
		Vc in special alloys ●			30-60 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CCMT 060202	0.2-1 mm	0.05-0.18 mm/r	582	●	583	●
CCMT 060204	0.2-1 mm	0.05-0.2 mm/r	584	●	585	●
CCMT 09T304	0.2-2 mm	0.05-0.2 mm/r	586	●	587	●

Prod. Gr. 1GE



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ATORN CCMT medium machining positive

ISO M CVD coating

		Carbide type	HC7520		HC7530	
		Machining conditions for indexable insert	Medium		Unfavourable	
		Vc in stainless steel ●	80-240 m/min		90-160 m/min	
		Vc in special alloys ●	30-60 m/min		30-60 m/min	
		Chip breaker code	MPX		MPX	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CCMT 060204	0.4-2.5 mm	0.12-0.25 mm/r	605	●	606	●
CCMT 060208	0.4-2.5 mm	0.12-0.25 mm/r	588	●	-	-
CCMT 09T304	0.4-2.5 mm	0.12-0.25 mm/r	607	●	608	●
CCMT 09T308	0.6-4 mm	0.16-0.35 mm/r	609	●	610	●
CCMT 120404	0.6-5 mm	0.16-0.4 mm/r	525	●	-	-
CCMT 120408	0.6-5 mm	0.16-0.4 mm/r	611	●	612	●
CCMT 120412	0.8-5 mm	0.18-0.5 mm/r	613	●	614	●

Prod. Gr. 1GA

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ATORN CCMT medium machining positive

ISO M PVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	30-110 m/min	
		Vc in stainless steel ●	70-180 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	MM	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CCMT 060204	0.4-2.5 mm	0.12-0.25 mm/r	409	●
CCMT 060208	0.6-2.5 mm	0.12-0.25 mm/r	415	●
CCMT 09T304	0.4-3.0 mm	0.12-0.25 mm/r	421	●
CCMT 09T308	0.6-4.0 mm	0.16-0.35 mm/r	423	●
CCMT 120404	0.4-3 mm	0.12-0.25 mm/r	440	●
CCMT 120408	0.6-4 mm	0.16-0.35 mm/r	443	●

Prod. Gr. 1GA

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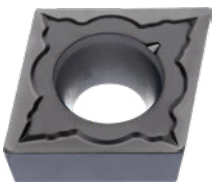
ATORN CCMT medium machining positive

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	55-230 m/min	
		Vc in special alloys ●	25-145 m/min	
		Chip breaker code	MM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
CCMT 060204	0.2-2.4 mm	0.06-0.17 mm/r	287	●
CCMT 060208	0.4-2.4 mm	0.08-035 mm/r	288	●
CCMT 09T304	0.25-3.0 mm	0.08-0.23 mm/r	289	●
CCMT 09T308	0.5-3.0 mm	0.1-0.4 mm/r	290	●
CCMT 120404	0.3-3.6 mm	0.09-0.27 mm/r	291	●
CCMT 120408	0.6-3.6 mm	0.12-0.45 mm/r	292	●
CCMT 120412	0.72-3.6 mm	0.14-0.6 mm/r	293	●

Prod. Gr. 1GA



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ATORN CCMT medium machining positive

ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-220 m/min	
		Vc in special alloys ●	35-145 m/min	
		Chip breaker code	MM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
CCMT 060204	0.2-2.4 mm	0.06-0.17 mm/r	253	●
CCMT 060208	0.4-2.4 mm	0.08-0.35 mm/r	254	●
CCMT 09T304	0.25-3 mm	0.08-0.23 mm/r	255	●
CCMT 09T308	0.5-3 mm	0.1-0.4 mm/r	256	●
CCMT 120404	0.3-3.6 mm	0.09-0.27 mm/r	257	●
CCMT 120408	0.6-3.6 mm	0.12-0.45 mm/r	258	●
CCMT 120412	0.72-3.6 mm	0.14-0.6 mm/r	259	●

Prod. Gr. 1GA

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ORION CCMT medium machining positive

ISO M PVD coating

		Carbide type	OHC8530	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	140-310 m/min	
		Vc in stainless steel ●	70-220 m/min	
		Vc in cast iron ●	130-290 m/min	
		Vc in special alloys ●	20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CCMT 060204	0.4-4 mm	0.15-0.35 mm/r	460	●
CCMT 09T304	0.4-4 mm	0.15-0.35 mm/r	742	●
CCMT 09T308	0.8-4 mm	0.15-0.35 mm/r	743	●
CCMT 120408	0.8-4 mm	0.15-0.35 mm/r	745	●
CCMT 120412	1.2-4 mm	0.15-0.35 mm/r	746	●

Prod. Gr. 1GE

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ORION CCMT medium machining positive

ISO M PVD coating

		Carbide type	OHC7510		OHC7520	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	130-245 m/min			
		Vc in stainless steel ●	90-220 m/min		80-240 m/min	
		Vc in special alloys ●			30-60 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17863... Ident. No.	
CCMT 060204	0.2-2.5 mm	0.06-0.2 mm/r	589	●	630	●
CCMT 09T304	0.22-3.2 mm	0.08-0.25 mm/r	631	●	632	●
CCMT 09T308	0.22-3.2 mm	0.08-0.25 mm/r	638	●	639	●
CCMT 120404	0.22-3.2 mm	0.08-0.35 mm/r	640	●	641	●
CCMT 120408	0.22-3.2 mm	0.08-0.35 mm/r	643	●	645	●

Prod. Gr. 1GE

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ORION CCMT medium machining positive

ISO K CVD coating

		Carbide type	OHC6410	
		Machining conditions for indexable insert	Good	
		Vc in steel ●	170-320 m/min	
		Vc in cast iron ●	220-400 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CCMT 060204	0.2-2.4 mm	0.06-0.2 mm/r	502	●
CCMT 060208	0.2-2.4 mm	0.08-0.25 mm/r	506	●
CCMT 09T304	0.3-3 mm	0.06-0.2 mm/r	510	●
CCMT 09T308	0.5-3 mm	0.08-0.25 mm/r	514	●

Prod. Gr. 1GF

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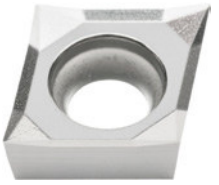
ATORN CCGT medium machining, positive
ISO N

			Carbide type	HW6310
			Machining conditions for indexable insert	Good
			Vc in non-ferrous metals ●	110-600 m/min
			Chip breaker code	MN
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CCGT 060202	0.2-1.5 mm	0.04-0.12 mm/r	709	●
CCGT 060204	0.3-1.8 mm	0.05-0.16 mm/r	719	●
CCGT 09T302	0.2-2 mm	0.04-0.12 mm/r	729	●
CCGT 09T304	0.3-2.5 mm	0.05-0.16 mm/r	739	●
CCGT 09T308	0.5-3 mm	0.08-0.2 mm/r	749	●
CCGT 120402	0.2-3.5 mm	0.04-0.12 mm/r	759	●
CCGT 120404	0.3-4 mm	0.05-0.16 mm/r	769	●
CCGT 120408	0.5-5 mm	0.08-0.2 mm/r	779	●

Prod. Gr. 1GB



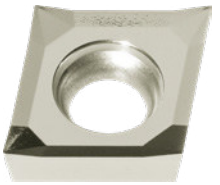
MN – medium machining

p. 664 p. 696

ATORN CCGT medium machining, positive
ISO N PVD coating

			Carbide type	HC8310
			Machining conditions for indexable insert	Good
			Vc in non-ferrous metals ●	160-1000 m/min
			Vc in stainless steel ●	120-200 m/min
			Chip breaker code	MN
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
CCGT 060202	0.2-1.5 mm	0.04-0.12 mm/r	820	●
CCGT 060204	0.3-1.8 mm	0.05-0.16 mm/r	821	●
CCGT 09T302	0.2-2 mm	0.04-0.12 mm/r	822	●
CCGT 09T304	0.3-2.5 mm	0.05-0.16 mm/r	823	●
CCGT 09T308	0.5-3 mm	0.08-0.2 mm/r	824	●
CCGT 120402	0.2-3.5 mm	0.04-0.12 mm/r	825	●
CCGT 120404	0.3-4 mm	0.05-0.16 mm/r	826	●
CCGT 120408	0.5-5 mm	0.08-0.2 mm/r	827	●

Prod. Gr. 1GB



p. 664 p. 696

ATORN CCGT medium machining, positive
ISO N

			Carbide type	AWN15T
			Machining conditions for indexable insert	Good
			Vc in non-ferrous metals ●	100-2000 m/min
			Vc in cast iron ●	120-200 m/min
			Vc in special alloys ●	20-50 m/min
			Chip breaker code	MN5
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CCGT 060202	0.1-4.5 mm	0.1-0.5 mm/r	865	●
CCGT 060204	0.1-4.5 mm	0.1-0.5 mm/r	866	●
CCGT 09T302	0.1-4.5 mm	0.1-0.5 mm/r	867	●
CCGT 09T304	0.1-4.5 mm	0.1-0.5 mm/r	868	●
CCGT 09T308	0.1-4.5 mm	0.1-0.5 mm/r	869	●
CCGT 120404	0.1-4.5 mm	0.1-0.5 mm/r	879	●
CCGT 120408	0.1-4.5 mm	0.1-0.5 mm/r	889	●

Prod. Gr. 1GB

p. 664 p. 696

ATORN CCGT medium machining, positive
ISO N PVD coating

			Carbide type	APN15T
			Machining conditions for indexable insert	Good
			Vc in non-ferrous metals ●	100-3000 m/min
			Vc in stainless steel ●	50-220 m/min
			Vc in special alloys ●	18-80 m/min
			Chip breaker code	MN5
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CCGT 060202	0.1-4.5 mm	0.1-0.5 mm/r	715	●
CCGT 060204	0.1-4.5 mm	0.1-0.5 mm/r	716	●
CCGT 09T302	0.1-4.5 mm	0.1-0.5 mm/r	717	●
CCGT 09T304	0.1-4.5 mm	0.1-0.5 mm/r	718	●
CCGT 09T308	0.1-4.5 mm	0.1-0.5 mm/r	722	●
CCGT 120404	0.1-4.5 mm	0.1-0.5 mm/r	723	●
CCGT 120408	0.1-4.5 mm	0.1-0.5 mm/r	725	●

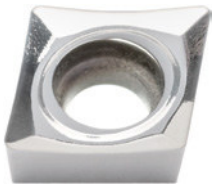
Prod. Gr. 1GB

p. 664 p. 696

ORION® CCGT medium machining, positive
ISO N

		Carbide type	OHW6310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	110-600 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CCGT 060202	0.2-3 mm	0.05-0.15 mm/r	626	●
CCGT 060204	0.5-3 mm	0.1-0.3 mm/r	634	●
CCGT 09T304	0.5-3 mm	0.1-0.3 mm/r	642	●
CCGT 120404	0.5-5 mm	0.1-0.3 mm/r	648	●

Prod. Gr. 1GF

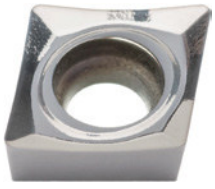


p. 664 p. 696

ORION® CCGT medium machining, positive
ISO N PVD coating

		Carbide type	OHC6310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	110-600 m/min	
		Vc in stainless steel ●	75-110 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CCGT 060202	0.2-3 mm	0.05-0.15 mm/r	628	●
CCGT 060204	0.5-3 mm	0.1-0.3 mm/r	636	●
CCGT 09T304	0.5-5 mm	0.1-0.3 mm/r	644	●
CCGT 120404	0.5-3 mm	0.1-0.3 mm/r	646	●

Prod. Gr. 1GF



MN – medium machining

p. 664 p. 696

ORION® CCGT medium machining, positive
ISO N

		Carbide type	OHW7310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	300-800 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CCGT 060202	0.1-2.5 mm	0.03-0.5 mm/r	811	●
CCGT 060204	0.1-2.5 mm	0.03-0.5 mm/r	816	●
CCGT 09T302	0.1-3.5 mm	0.03-0.5 mm/r	821	●
CCGT 09T304	0.1-3.5 mm	0.03-0.5 mm/r	826	●
CCGT 09T308	0.1-3.5 mm	0.03-0.5 mm/r	831	●
CCGT 120402	0.1-5.0 mm	0.03-0.5 mm/r	836	●
CCGT 120404	0.1-5.0 mm	0.03-0.5 mm/r	841	●
CCGT 120408	0.1-5.0 mm	0.03-0.5 mm/r	846	●

Prod. Gr. 1GF

p. 664 p. 696

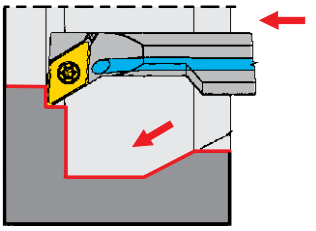
ORION® CCGT medium machining, positive
ISO N DLC coating

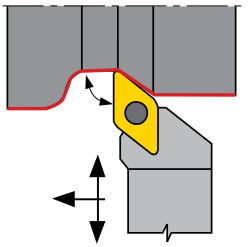
		Carbide type	OHC7310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	150-800 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.	
CCGT 060202	0.05-3 mm	0.01-0.12 mm/r	870	●
CCGT 060204	0.1-3 mm	0.02-0.15 mm/r	871	●
CCGT 060208	0.1-4 mm	0.02-0.2 mm/r	872	●
CCGT 09T302	0.05-3 mm	0.02-0.2 mm/r	873	●
CCGT 09T308	0.1-5 mm	0.03-0.5 mm/r	875	●
CCGT 09T304	0.1-5 mm	0.02-0.3 mm/r	877	●
CCGT 120402	0.05-4 mm	0.02-0.3 mm/r	878	●
CCGT 120404	0.1-5 mm	0.03-0.5 mm/r	890	●
CCGT 120408	0.1-5.5 mm	0.04-0.8 mm/r	891	●

Prod. Gr. 1GF

p. 664 p. 696

DC.. Indexable inserts - for longitudinal and copy turning





ATORN DCMT finishing positive

ISO P CVD coating

		Carbide type	HC7610		HC7620	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	160-380 m/min		110-320 m/min	
		Vc in cast iron ●	140-280 m/min		140-260 m/min	
		Chip breaker code	FP		FP	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DCMT 070202	0.1-1 mm	0.04-0.12 mm/r	047	●	048	●
DCMT 070204	0.1-1.5 mm	0.05-0.16 mm/r	049	●	050	●
DCMT 11T302	0.1-1 mm	0.04-0.12 mm/r	051	●	052	●
DCMT 11T304	0.1-1.5 mm	0.05-0.16 mm/r	053	●	054	●
DCMT 11T308	0.1-2.5 mm	0.08-0.2 mm/r	-	-	056	●

Prod. Gr. 1GA

FP

p. 664 p. 665 p. 696

ATORN DCMT smoothing, positive

ISO P CVD coating

		Carbide type	ACP25T-1		ACP15T-1	
		Machining conditions for indexable insert	Medium		Good	
		Vc in steel ●	115-400 m/min		125-400 m/min	
		Vc in cast iron ●	135-370 m/min		150-395 m/min	
		Chip breaker code	FP1		FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
DCMT 070202	0.06-1.5 mm	0.03-0.11 mm/r	150	●	-	-
DCMT 070204	0.08-1.5 mm	0.05-0.17 mm/r	152	●	151	●
DCMT 11T304	0.11-2 mm	0.06-0.23 mm/r	159	●	158	●
DCMT 11T308	0.15-2 mm	0.08-0.3 mm/r	163	●	162	●
DCMT 11T302	0.08-2 mm	0.05-0.4 mm/r	157	●	-	-

Prod. Gr. 1GA

FP1

p. 664 p. 665 p. 696

ORION® DCMT smoothing positive

ISO P CVD coating

		Carbide type	OHC8615		OHC7625	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	180-410 m/min		140-310 m/min	
		Vc in stainless steel ●	-		70-180 m/min	
		Vc in cast iron ●	180-360 m/min		130-290 m/min	
		Vc in special alloys ●	-		20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17864... Ident. No.	
DCMT 070202	0.2-2.5 mm	0.05-0.2 mm/r	709	●	144	●
DCMT 070204	0.4-2.5 mm	0.05-0.2 mm/r	710	●	146	●
DCMT 11T302	0.2-2.5 mm	0.05-0.2 mm/r	711	●	148	●
DCMT 11T304	0.4-2.5 mm	0.05-0.2 mm/r	780	●	273	●
DCMT 11T308	0.8-2.5 mm	0.05-0.2 mm/r	782	●	274	●

Prod. Gr. 1GE

FU

p. 664 p. 665 p. 696

ORION® DCMT finishing positive

ISO P CVD coating

		Carbide type	OHC6610		OHC6620	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	200-380 m/min		170-450 m/min	
		Vc in cast iron ●	200-300 m/min		140-260 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DCMT 070202	0.1-1.5 mm	0.05-0.2 mm/r	169	●	170	●
DCMT 070204	0.08-1.5 mm	0.05-0.15 mm/r	171	●	190	●
DCMT 11T302	0.08-2 mm	0.04-0.18 mm/r	160	●	192	●
DCMT 11T304	0.08-2.5 mm	0.05-0.3 mm/r	205	●	161	●

Prod. Gr. 1GE

FP3

p. 664 p. 665 p. 696

ATORN DCMT medium machining, positive

ISO P CVD coating

			Carbide type	HC7610		HC7620	HC7630	
			Machining conditions for indexable insert	Good		Medium	Unfavourable	
			Vc in steel ●	160-380 m/min		110-320 m/min	80-220 m/min	
			Vc in cast iron ●	140-280 m/min		140-260 m/min		
			Chip breaker code	MP		MP	MP	
ISO-Code Rotating	min./max. ap	f min./max.		17864... Ident. No.		17864... Ident. No.	17864... Ident. No.	
DCMT 070204	0.4-2 mm	0.12-0.2 mm/r		061	●	062	●	063	●
DCMT 070208	0.6-2 mm	0.16-0.25 mm/r		064	●	068	●	066	●
DCMT 11T304	0.4-3 mm	0.12-0.25 mm/r		-	-	072	●	073	●
DCMT 11T308	0.6-4 mm	0.16-0.3 mm/r		-	-	079	●	080	●

Prod. Gr. 1GA

MP

p. 664 p. 665 p. 696

ATORN DCMT medium machining, positive

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	130-295 m/min		115-270 m/min	
		Vc in cast iron ●	150-395 m/min		135-370 m/min	
		Chip breaker code	MP1		MP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
DCMT 070204	0.08-2.5 mm	0.05-0.35 mm/r	153	●	154	●
DCMT 070208	0.08-2.5 mm	0.05-0.35 mm/r	155	○	156	●
DCMT 11T304	0.1-3 mm	0.05-0.4 mm/r	160	●	161	●
DCMT 11T308	0.5-3 mm	0.1-0.4 mm/r	164	●	165	●
DCMT 11T312	0.6-3 mm	0.12-0.6 mm/r	-	-	166	●

Prod. Gr. 1GA

Ident. No. 153, 155, 160, 164

MP1

p. 664 p. 665 p. 696

ORION® DCMT medium machining positive

ISO P CVD coating

		Carbide type	OHC8615		OHC7625	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	180-410 m/min		140-310 m/min	
		Vc in stainless steel ●	-		70-180 m/min	
		Vc in cast iron ●	180-360 m/min		130-290 m/min	
		Vc in special alloys ●	-		20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17864... Ident. No.	
DCMT 11T304	0.4-4 mm	0.15-0.35 mm/r	713	●	264	●
DCMT 11T308	0.8-4 mm	0.15-0.35 mm/r	715	●	295	●

Prod. Gr. 1GE

MU

p. 664 p. 665 p. 696

ORION® DCMT medium machining, positive

ISO P CVD coating

		Carbide type	OHC6610		OHC6620	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	200-380 m/min		170-450 m/min	
		Vc in cast iron ●	200-300 m/min		140-260 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DCMT 070204	0.5-2.5 mm	0.1-0.20 mm/r	175	●	176	●
DCMT 11T304	0.22-3 mm	0.05-0.3 mm/r	078	●	184	●
DCMT 11T308	0.22-3 mm	0.08-0.3 mm/r	082	●	186	●

Prod. Gr. 1GE

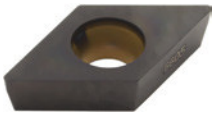
p. 664 p. 665 p. 696

ORION® DCMT medium machining, positive

ISO P CVD coating

		Carbide type	OHC6605	
		Machining conditions for indexable insert	Good	
		Vc in steel ●	280-450 m/min	
		Vc in cast iron ●	300-400 m/min	
		Vc in hardened steel ●	50-90 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17996... Ident. No.	
DCMW 070202	0.1-1.5 mm	0.05-0.2 mm/r	050	●
DCMW 070204	0.1-1.5 mm	0.05-0.2 mm/r	055	●
DCMW 11T304	0.1-1.5 mm	0.05-0.2 mm/r	060	●
DCMW 11T308	0.1-1.5 mm	0.05-0.2 mm/r	065	●

Prod. Gr. 1GE



OHC6605 medium machining for hard materials up to 55 HRC

p. 664 p. 665 p. 696

ATORN DCMT finishing, positive

ISO M CVD coating

		Carbide type	HC7520	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	140-220 m/min	
		Vc in special alloys ●	30-60 m/min	
		Chip breaker code	FP	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DCMT 070202	0.1-1.0 mm	0.04-0.12 mm/r	017	●
DCMT 070204	0.1-1.5 mm	0.05-0.16 mm/r	019	●
DCMT 11T302	0.1-1.0 mm	0.04-0.12 mm/r	172	●
DCMT 11T304	0.1-1.5 mm	0.05-0.16 mm/r	173	●
DCMT 11T308	0.1-1.5 mm	0.08-0.20 mm/r	183	●

Prod. Gr. 1GA

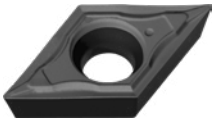
p. 664 p. 665 p. 696

ATORN DCMT finishing, positive

ISO M PVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	70-130 m/min	
		Vc in stainless steel ●	130-210 m/min	
		Vc in cast iron ●	70-130 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	FM	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DCMT 070202	0.1-1.0 mm	0.04-0.12 mm/r	386	●
DCMT 070204	0.1-1.5 mm	0.05-0.16 mm/r	387	●
DCMT 11T302	0.1-1.0 mm	0.04-0.12 mm/r	388	●
DCMT 11T304	0.1-1.5 mm	0.05-0.16 mm/r	389	●
DCMT 11T308	0.1-1.5 mm	0.08-0.20 mm/r	393	●

Prod. Gr. 1GA



p. 664 p. 665 p. 696

ATORN DCMT finishing, positive
ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	FM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
DCMT 070204	0.1-1.5 mm	0.03-0.3 mm/r	161	●
DCMT 11T304	0.1-2 mm	0.03-0.3 mm/r	162	●
DCMT 11T308	0.2-2 mm	0.03-0.3 mm/r	163	●

Prod. Gr. 1GA

p. 664 p. 665 p. 696

ATORN DCMT finishing positive
ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	FM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
DCMT 070202	0.06-1.5 mm	0.03-0.3 mm/r	119	●
DCMT 070204	0.08-1.5 mm	0.03-0.3 mm/r	120	●
DCMT 11T302	0.08-2 mm	0.03-0.3 mm/r	122	●
DCMT 11T304	0.11-2 mm	0.03-0.3 mm/r	123	●
DCMT 11T308	0.15-2 mm	0.03-0.3 mm/r	124	●

Prod. Gr. 1GA

p. 664 p. 665 p. 696

ATORN DCGT finishing positive
ISO M PVD coating

		Carbide type	HC7820		HC7810	
		Machining conditions for indexable insert	Medium		Good	
		Vc in steel ●	50-130 m/min		80-160 m/min	
		Vc in stainless steel ●	100-210 m/min		130-220 m/min	
		Vc in special alloys ●	40-60 m/min		40-70 m/min	
		Chip breaker code	FU1		FU1	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DCGT 070101	0.1-1.5 mm	0.02-0.06 mm/r	289	●	-	-
DCGT 070202	0.2-2.0 mm	0.05-0.12 mm/r	309	●	359	●
DCGT 070204	0.2-2.5 mm	0.08-0.25 mm/r	345	●	366	●
DCGT 11T301	0.1-1.5 mm	0.02-0.06 mm/r	349	●	-	-
DCGT 11T302	0.2-2.0 mm	0.05-0.12 mm/r	356	●	367	●
DCGT 11T304	0.2-2.5 mm	0.08-0.25 mm/r	357	●	368	●
DCGT 11T308	0.3-3.0 mm	0.10-0.30 mm/r	358	●	369	●

Prod. Gr. 1GA

p. 664 p. 665 p. 696

ORION DCMT smoothing positive
ISO M PVD coating

			Carbide type	OHC8515		OHC8530	OHC7535	
			Machining conditions for indexable insert	Good		Good	Unfavourable	
			Vc in steel ●	130-290 m/min		130-290 m/min	100-230 m/min	
			Vc in stainless steel ●	70-220 m/min		70-180 m/min	60-135 m/min	
			Vc in special alloys ●	20-70 m/min		20-70 m/min	20-65 m/min	
ISO-Code Rotating	min./max. ap	f min./max.		17874... Ident. No.		17874... Ident. No.	17864... Ident. No.	
DCMT 070202	0.2-2.5 mm	0.05-0.2 mm/r		611	●	- -	-	-
DCMT 070204	0.4-2.5 mm	0.05-0.2 mm/r		612	●	644 ●	-	-
DCMT 11T302	0.2-2.5 mm	0.05-0.2 mm/r		613	●	645 ●	-	-
DCMT 11T304	0.4-2.5 mm	0.05-0.2 mm/r		614	●	646 ●	279	●
DCMT 11T308	0.8-2.5 mm	0.05-0.2 mm/r		615	●	648 ●	288	●

Prod. Gr. 1GE

p. 664 p. 665 p. 696

ORION® DCMT finishing positive

ISO M PVD coating

		Carbide type	OHC7510		OHC7520	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	130-245 m/min			
		Vc in stainless steel ●	90-220 m/min		80-240 m/min	
		Vc in special alloys ●			30-60 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DCMT 070202	0.2-1 mm	0.05-0.18 mm/r	215	●	224	●
DCMT 070204	0.2-1 mm	0.05-0.2 mm/r	225	●	226	●
DCMT 11T302	0.2-2 mm	0.05-0.2 mm/r	229	●	230	●
DCMT 11T304	0.2-2 mm	0.05-0.2 mm/r	231	●	232	●

Prod. Gr. 1GE

p. 664 p. 665 p. 696

ATORN DCMT medium machining, positive

ISO M CVD coating

		Carbide type	HC7520		HC7530	
		Machining conditions for indexable insert	Medium		Unfavourable	
		Vc in stainless steel ●	80-210 m/min		90-160 m/min	
		Vc in special alloys ●	30-60 m/min		20-50 m/min	
		Chip breaker code	MPX		MPX	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DCMT 070204	0.4-2.0 mm	0.12-0.20 mm/r	606	●	607	●
DCMT 070208	0.6-2.0 mm	0.16-0.25 mm/r	608	●	-	-
DCMT 11T304	0.4-2.0 mm	0.16-0.25 mm/r	609	●	610	●
DCMT 11T308	0.6-4.0 mm	0.16-0.30 mm/r	611	●	612	●

Prod. Gr. 1GA

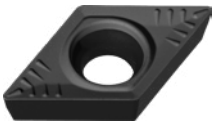
p. 664 p. 665 p. 696

ATORN DCMT medium machining, positive

ISO M PVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	50-130 m/min	
		Vc in stainless steel ●	100-210 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	MM	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DCMT 070204	0.1-1.5 mm	0.05-0.16 mm/r	331	●
DCMT 070208	0.1-1.5 mm	0.05-0.16 mm/r	332	●
DCMT 11T304	0.4-3.0 mm	0.12-0.25 mm/r	395	●
DCMT 11T308	0.6-4.0 mm	0.16-0.30 mm/r	407	●

Prod. Gr. 1GA



p. 664 p. 665 p. 696

ATORN DCMT medium machining, positive

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	MM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
DCMT 070204	0.19-2.25 mm	0.06-0.6 mm/r	294	●
DCMT 070208	0.38-2.25 mm	0.06-0.6 mm/r	295	●
DCMT 11T304	0.25-3 mm	0.06-0.6 mm/r	296	●
DCMT 11T308	0.5-3 mm	0.06-0.6 mm/r	297	●
DCMT 11T312	0.6-3 mm	0.06-0.6 mm/r	298	●

Prod. Gr. 1GA

p. 664 p. 665 p. 696

ATORN DCMT medium machining, positive

ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel	90-240 m/min	
		Vc in special alloys	20-160 m/min	
		Chip breaker code	MM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
DCMT 070204	0.19-2.25 mm	0.06-0.6 mm/r	260	●
DCMT 070208	0.38-2.25 mm	0.06-0.6 mm/r	261	●
DCMT 11T304	0.25-3 mm	0.06-0.6 mm/r	262	●
DCMT 11T308	0.5-3 mm	0.06-0.6 mm/r	263	●
DCMT 11T312	0.6-3 mm	0.06-0.6 mm/r	264	●

Prod. Gr. 1GA

p. 664 p. 665 p. 696

ORION DCMT medium machining positive

ISO M PVD coating

		Carbide type	OHC8530	
		Machining conditions for indexable insert	Good	
		Vc in steel	140-310 m/min	
		Vc in stainless steel	70-220 m/min	
		Vc in cast iron	130-290 m/min	
		Vc in special alloys	20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.	
DCMT 11T304	0.4-4 mm	0.15-0.35 mm/r	647	●
DCMT 11T308	0.8-4 mm	0.15-0.35 mm/r	649	●

Prod. Gr. 1GE

p. 664 p. 665 p. 696

ORION DCMT medium machining, positive

ISO M PVD coating

		Carbide type	OHC7510		OHC7520	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel	130-245 m/min			
		Vc in stainless steel	90-220 m/min		80-240 m/min	
		Vc in special alloys			30-60 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.		17864... Ident. No.	
DCMT 070204	0.2-2.5 mm	0.06-0.25 mm/r	227	●	228	●
DCMT 11T304	0.25-3 mm	0.08-0.22 mm/r	233	●	234	●
DCMT 11T308	0.5-3.2 mm	0.1-0.35 mm/r	235	●	236	●

Prod. Gr. 1GE

p. 664 p. 665 p. 696

ORION DCMT medium machining, positive

ISO K CVD coating

		Carbide type	OHC6410	
		Machining conditions for indexable insert	Good	
		Vc in steel	170-400 m/min	
		Vc in cast iron	170-320 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DCMT 11T304	0.3-3 mm	0.06-0.2 mm/r	502	●
DCMT 11T308	0.5-3 mm	0.08-0.3 mm/r	506	●

Prod. Gr. 1GF

p. 664 p. 665 p. 696

ATORN DCGT medium machining, positive

ISO N

		Carbide type	HW6310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	130-1300 m/min	
		Chip breaker code	MN	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DCGT 070202	0.2-1.5 mm	0.04-0.12 mm/r	709	●
DCGT 070204	0.3-1.8 mm	0.05-0.16 mm/r	719	●
DCGT 11T302	0.2-2.0 mm	0.04-0.12 mm/r	729	●
DCGT 11T304	0.3-2.5 mm	0.05-0.16 mm/r	739	●
DCGT 11T308	0.5-3.0 mm	0.08-0.20 mm/r	749	●

Prod. Gr. 1GB

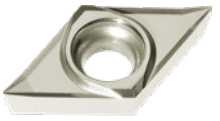
p. 664 p. 665 p. 696

ATORN DCGT medium machining, positive

ISO N PVD coating

		Carbide type	HC8310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	160-1000 m/min	
		Vc in stainless steel ●	120-200 m/min	
		Chip breaker code	MN	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
DCGT 070202	0.2-1.5 mm	0.04-0.12 mm/r	828	●
DCGT 070204	0.3-1.8 mm	0.05-0.16 mm/r	829	●
DCGT 11T302	0.2-2 mm	0.04-0.12 mm/r	830	●
DCGT 11T304	0.3-2.5 mm	0.05-0.16 mm/r	831	●
DCGT 11T308	0.5-3 mm	0.08-0.2 mm/r	832	●

Prod. Gr. 1GB



p. 664 p. 665 p. 696

ATORN DCGT medium machining, positive

ISO N

		Carbide type	APN15T	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	100-3000 m/min	
		Vc in stainless steel ●	50-220 m/min	
		Vc in cast iron ●	120-200 m/min	
		Vc in special alloys ●	18-80 m/min	
		Chip breaker code	MN5	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DCGT 070201	0.1-4.5 mm	0.1-0.5 mm/r	510	●
DCGT 070202	0.1-4.5 mm	0.1-0.5 mm/r	516	●
DCGT 070204	0.1-4.5 mm	0.1-0.5 mm/r	517	●
DCGT 11T302	0.1-4.5 mm	0.1-0.5 mm/r	518	●
DCGT 11T304	0.1-4.5 mm	0.1-0.5 mm/r	519	●
DCGT 11T308	0.1-4.5 mm	0.1-0.5 mm/r	520	●

Prod. Gr. 1GB

p. 664 p. 671 p. 665 p. 696

ATORN DCGT medium machining, positive

ISO N PVD coating

		Carbide type	AWN15T	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	200-950 m/min	
		Vc in cast iron ●	120-200 m/min	
		Vc in special alloys ●	20-50 m/min	
		Chip breaker code	MN5	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DCGT 070201	0.1-4.5 mm	0.1-0.5 mm/r	521	●
DCGT 070202	0.1-4.5 mm	0.1-0.5 mm/r	522	●
DCGT 070204	0.1-4.5 mm	0.1-0.5 mm/r	523	●
DCGT 11T302	0.1-4.5 mm	0.1-0.5 mm/r	525	●
DCGT 11T304	0.1-4.5 mm	0.1-0.5 mm/r	526	●
DCGT 11T308	0.1-4.5 mm	0.1-0.5 mm/r	527	●

Prod. Gr. 1GB

p. 664 p. 665 p. 696

ORION® DCGT medium machining, positive

ISO N

		Carbide type	OHW6310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	110-600 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DCGT 070202	0.3-4 mm	0.05-0.18 mm/r	174	●
DCGT 070204	0.3-4 mm	0.05-0.18 mm/r	102	●
DCGT 11T302	0.3-5 mm	0.05-0.15 mm/r	194	●
DCGT 11T304	0.5-5 mm	0.1-0.3 mm/r	196	●
DCGT 11T308	0.5-5 mm	0.1-0.3 mm/r	210	●

Prod. Gr. 1GF

p. 664 p. 665 p. 696

ORION® DCGT medium machining, positive

ISO N PVD coating

		Carbide type	OHC6310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	110-600 m/min	
		Vc in stainless steel ●	75-110 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DCGT 070202	0.3-4 mm	0.05-0.18 mm/r	191	●
DCGT 070204	0.5-4 mm	0.1-0.3 mm/r	193	●
DCGT 11T302	0.3-5 mm	0.05-0.15 mm/r	195	●
DCGT 11T304	0.5-5 mm	0.1-0.3 mm/r	197	●
DCGT 11T308	0.5-5 mm	0.1-0.3 mm/r	206	●

Prod. Gr. 1GF

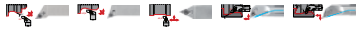
p. 664 p. 665 p. 696

ORION® DCGT medium machining, positive

ISO N

		Carbide type	OHW6310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	110-600 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DCGT 070202	0.3-4 mm	0.05-0.18 mm/r	174	●
DCGT 11T302	0.3-5 mm	0.05-0.15 mm/r	194	●
DCGT 11T304	0.5-5 mm	0.1-0.3 mm/r	196	●

Prod. Gr. 1GF



p. 664 p. 665 p. 696

ORION® DCGT medium machining, positive

ISO N PVD coating

		Carbide type	OHC6310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	110-600 m/min	
		Vc in stainless steel ●	75-110 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DCGT 070202	0.3-4 mm	0.05-0.18 mm/r	191	●
DCGT 070204	0.5-4 mm	0.1-0.3 mm/r	193	●
DCGT 11T302	0.3-5 mm	0.05-0.15 mm/r	195	●
DCGT 11T304	0.5-5 mm	0.1-0.3 mm/r	197	●

Prod. Gr. 1GF

p. 664 p. 665 p. 696

ORION® DCGT medium machining, positive

ISO N

		Carbide type	OHW7310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	300-800 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DCGT 070202	0.1-2.5 mm	0.03-0.5 mm/r	801	●
DCGT 070204	0.1-2.5 mm	0.03-0.5 mm/r	806	●
DCGT 11T302	0.1-4 mm	0.03-0.5 mm/r	811	●
DCGT 11T304	0.1-4 mm	0.03-0.5 mm/r	816	●
DCGT 11T308	0.1-4 mm	0.03-0.5 mm/r	821	●

Prod. Gr. 1GF

p. 664 p. 665 p. 696

ORION® DCGT medium machining, positive

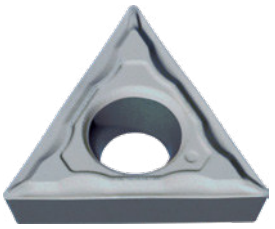
ISO N DLC coating

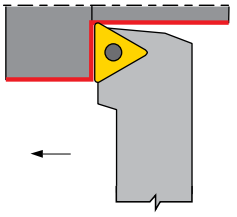
		Carbide type	OHC7310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	150-800 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17864... Ident. No.	
DCGT 070202	0.05-3 mm	0.01-0.2 mm/r	874	●
DCGT 070204	0.1-4 mm	0.02-0.3 mm/r	876	●
DCGT 070208	0.1-4 mm	0.03-0.4 mm/r	878	●
DCGT 11T302	0.05-4 mm	0.02-0.3 mm/r	880	●
DCGT 11T304	0.1-5 mm	0.03-0.5 mm/r	882	●
DCGT 11T308	0.1-5 mm	0.03-0.5 mm/r	884	●

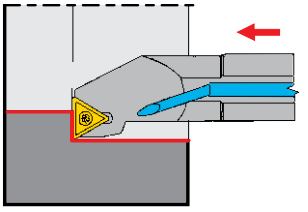
Prod. Gr. 1GF

p. 664 p. 665 p. 696

TC.. Indexable inserts - for longitudinal and copy turning





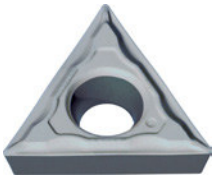


ATORN TCMT finishing positive

ISO P CVD coating

		Carbide type	HC7620	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	110-320 m/min	
		Vc in cast iron ●	140-260 m/min	
		Chip breaker code	FP	
ISO-Code Rotating	min./max. ap	f min./max.	17868... Ident. No.	
TCMT 110202	0.1-1 mm	0.04-0.12 mm/r	068	●
TCMT 110204	0.1-1.5 mm	0.05-0.16 mm/r	072	●
TCMT 16T304	0.1-1.5 mm	0.05-0.16 mm/r	075	●
TCMT 16T308	0.1-2.5 mm	0.08-0.2 mm/r	077	●

Prod. Gr. 1GA



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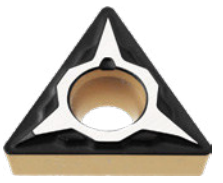
ATORN TCMT smoothing, positive

ISO P CVD coating

		Carbide type	ACP25T-1		ACP15T-1	
		Machining conditions for indexable insert	Medium		Good	
		Vc in steel ●	115-270 m/min		130-295 m/min	
		Vc in cast iron ●	135-370 m/min		150-395 m/min	
		Chip breaker code	FP1		FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
TCMT 06T102	0.06-1.5 mm	0.03-0.11 mm/r	307	●	-	-
TCMT 06T104	0.06-1.5 mm	0.05-0.17 mm/r	309	○	308	○
TCMT 06T108	0.08-1.5 mm	0.06-0.23 mm/r	311	○	310	○
TCMT 110202	0.06-1.7 mm	0.03-0.13 mm/r	312	●	-	-



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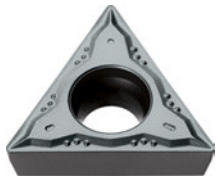
		Carbide type	ACP25T-1		ACP15T-1	
		Machining conditions for indexable insert	Medium		Good	
		Vc in steel ●	115-270 m/min		130-295 m/min	
		Vc in cast iron ●	135-370 m/min		150-395 m/min	
		Chip breaker code	FP1		FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
TCMT 110204	0.06-1.7 mm	0.05-0.19 mm/r	314	●	313	○
TCMT 110208	0.13-1.7 mm	0.07-0.26 mm/r	318	○	317	○
TCMT 16T304	0.11-2 mm	0.06-0.25 mm/r	324	●	323	○

Prod. Gr. 1GA

ORION® TCMT smoothing, positive

ISO P CVD coating

		Carbide type	OHC8615		OHC7625	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	180-410 m/min		140-310 m/min	
		Vc in stainless steel ●	-		70-180 m/min	
		Vc in cast iron ●	180-360 m/min		130-290 m/min	
		Vc in special alloys ●	-		20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17868... Ident. No.	
TCMT 110202	0.2-2.5 mm	0.05-0.2 mm/r	805	●	541	●
TCMT 110204	0.4-2.5 mm	0.05-0.2 mm/r	738	●	542	●
TCMT 110208	0.8-2.5 mm	0.05-0.2 mm/r	739	●	137	●
TCMT 16T304	0.4-2.5 mm	0.05-0.2 mm/r	740	●	543	●
TCMT 16T308	0.8-2.5 mm	0.05-0.2 mm/r	741	●	544	●



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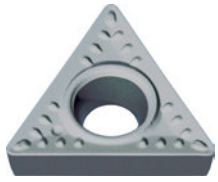
p. 665 p. 696

Prod. Gr. 1GE

ATORN TCMT medium machining, positive

ISO P CVD coating

			Carbide type	HC7610		HC7620	HC7630	
			Machining conditions for indexable insert	Good		Medium	Unfavourable	
			Vc in steel ●	160-340 m/min		110-320 m/min	80-220 m/min	
			Vc in cast iron ●	140-240 m/min		140-260 m/min		
			Chip breaker code	MP		MP	MP	
ISO-Code Rotating	min./max. ap	f min./max.		17868... Ident. No.		17868... Ident. No.	17868... Ident. No.	
TCMT 110204	0.4-3 mm	0.12-0.25 mm/r		081	●	082 ●	083	●
TCMT 16T304	0.4-3 mm	0.16-0.25 mm/r		084	●	085 ●	086	●
TCMT 16T308	0.6-4 mm	0.16-0.3 mm/r		087	●	088 ●	089	●



MP

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Prod. Gr. 1GA

ATORN TCMT medium machining positive

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	130-295 m/min		115-270 m/min	
		Vc in cast iron ●	150-395 m/min		135-370 m/min	
		Chip breaker code	MP1		MP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
TCMT 110204	0.2-2.5 mm	0.08-0.25 mm/r	315	○	316	●
TCMT 110208	0.42-2.5 mm	0.1-0.26 mm/r	319	●	320	○
TCMT 110212	0.5-2.5 mm	0.1-0.4 mm/r	321	○	322	○
TCMT 16T304	0.25-3 mm	0.08-0.25 mm/r	325	○	326	●
TCMT 16T308	0.5-3 mm	0.1-0.45 mm/r	327	●	328	●

MP1

p. 665 p. 696

Prod. Gr. 1GA

ORION® TCMW medium machining, positive

ISO P CVD coating

		Carbide type	OHC6605		
		Machining conditions for indexable insert	Good		
		Vc in steel ●	280-450 m/min		
		Vc in cast iron ●	300-400 m/min		
		Vc in hardened steel ●	50-90 m/min		
ISO-Code Rotating	min./max. ap	f min./max.	17996... Ident. No.		
TCMW 110204	0.1-1.5 mm	0.05-0.2 mm/r	080	●	
TCMW 16T304	0.1-1.5 mm	0.05-0.2 mm/r	085	●	
TCMW 16T308	0.1-1.5 mm	0.12-0.2 mm/r	090	●	

OHC6605 medium machining for hard materials up to 55 HRC

p. 665 p. 696

Prod. Gr. 1GE

ATORN TCMT finishing, positive

ISO M CVD coating

		Carbide type	HC7520	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	80-220 m/min	
		Vc in special alloys ●	30-60 m/min	
		Chip breaker code	FP	
ISO-Code Rotating	min./max. ap	f min./max.	17868... Ident. No.	
TCMT 110202	0.1-1.0 mm	0.4-0.12 mm/r	641	●
TCMT 110204	0.1-1.5 mm	0.5-0.16 mm/r	642	●
TCMT 16T302	0.1-1.0 mm	0.4-0.12 mm/r	646	●
TCMT 16T304	0.1-1.5 mm	0.5-0.16 mm/r	647	●

Prod. Gr. 1GA

FP

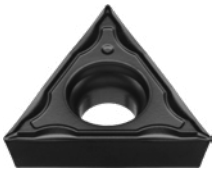
p. 665 p. 696

ATORN TCMT finishing positive

ISO M PVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	70-130 m/min	
		Vc in stainless steel ●	150-220 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	FM	
ISO-Code Rotating	min./max. ap	f min./max.	17868... Ident. No.	
TCMT 110202	0.1-1.0 mm	0.4-0.12 mm/r	656	●
TCMT 110204	0.1-1.5 mm	0.5-0.16 mm/r	657	●
TCMT 16T302	0.1-1.0 mm	0.4-0.12 mm/r	667	●
TCMT 16T304	0.1-1.5 mm	0.5-0.16 mm/r	668	●

Prod. Gr. 1GA



FM

p. 665 p. 696

ATORN TCMT finishing, positive

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	FM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
TCMT 06T102	0.1-1.5 mm	0.03-0.26 mm/r	166	●
TCMT 06T104	0.1-1.5 mm	0.03-0.26 mm/r	167	●
TCMT 06T108	0.1-1.5 mm	0.03-0.26 mm/r	168	●
TCMT 090202	0.1-1.7 mm	0.03-0.26 mm/r	169	●
TCMT 090204	0.1-1.7 mm	0.03-0.26 mm/r	170	●
TCMT 110202	0.1-1.7 mm	0.03-0.26 mm/r	171	●
TCMT 110204	0.1-1.7 mm	0.03-0.26 mm/r	172	●
TCMT 110208	0.1-1.7 mm	0.03-0.26 mm/r	173	●
TCMT 16T304	0.1-2 mm	0.03-0.26 mm/r	177	●

Prod. Gr. 1GA

FM2

p. 665 p. 696

ATORN TCMT finishing positive

ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	FM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
TCMT 06T102	0.1-1.5 mm	0.03-0.26 mm/r	128	●
TCMT 06T104	0.08-1.5 mm	0.03-0.26 mm/r	129	●
TCMT 090202	0.06-1.7 mm	0.03-0.26 mm/r	130	●
TCMT 090204	0.1-1.7 mm	0.03-0.26 mm/r	132	●
TCMT 110202	0.06-1.7 mm	0.03-0.26 mm/r	133	●
TCMT 110204	0.1-1.7 mm	0.03-0.26 mm/r	134	●
TCMT 110208	0.1-1.7 mm	0.03-0.26 mm/r	136	●
TCMT 16T304	0.11-2 mm	0.03-0.26 mm/r	140	●

Prod. Gr. 1GA

FM2

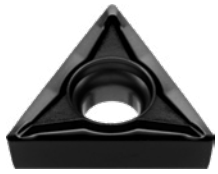
p. 665 p. 696

ATORN TCGT finishing, positive

ISO M CVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	50-130 m/min	
		Vc in stainless steel ●	110-220 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	FU1	
ISO-Code Rotating	min./max. ap	f min./max.	17868... Ident. No.	
TCGT 110202	0.2-2.0 mm	0.05-0.12 mm/r	635	●
TCGT 110204	0.2-2.5 mm	0.05-0.12 mm/r	636	●
TCGT 16T304	0.2-2.5 mm	0.05-0.12 mm/r	637	●
TCGT 16T308	0.3-3.0 mm	0.05-0.12 mm/r	638	●

Prod. Gr. 1GA



FU1

p. 665 p. 696

ORION TCGT smoothing, positive

ISO M CVD coating

			Carbide type	OHC8515		OHC8530		OHC7535	
			Machining conditions for indexable insert	Good		Good		Unfavourable	
			Vc in steel ●	130-290 m/min		130-290 m/min		130-185 m/min	
			Vc in stainless steel ●	110-220 m/min		70-180 m/min		75-110 m/min	
			Vc in special alloys ●	20-70 m/min		20-70 m/min		25-55 m/min	
ISO-Code Rotating	min./max. ap	f min./max.		17874... Ident. No.		17874... Ident. No.		17868... Ident. No.	
TCMT 110202	0.2-2.5 mm	0,05-0,2 mm/U		630	●	669	●	-	-
TCMT 110204	0.4-2.5 mm	0,05-0,2 mm/U		631	●	670	●	-	-
TCMT 110208	0.8-2.5 mm	0,05-0,2 mm/U		-	-	671	●	-	-
TCMT 16T304	0.4-2.5 mm	0,05-0,2 mm/U		632	●	672	●	-	-
TCMT 16T308	0.8-2.5 mm	0,05-0,2 mm/U		633	●	673	●	-	-
TCMT 110204	0.4-2.5 mm	0.05-0.2 mm/r		-	-	-	-	562	●
TCMT 16T308	0.8-2.5 mm	0.05-0.2 mm/r		-	-	-	-	563	●

Prod. Gr. 1GE

FU

p. 665 p. 696

ATORN TCMT medium machining positive

ISO M CVD coating

		Carbide type	HC7520		HC7530	
		Machining conditions for indexable insert	Medium		Unfavourable	
		Vc in stainless steel ●	80-210 m/min		90-160 m/min	
		Vc in special alloys ●	30-60 m/min		20-50 m/min	
		Chip breaker code	MPX		MPX	
ISO-Code Rotating	min./max. ap	f min./max.	17868... Ident. No.		17868... Ident. No.	
TCMT 110204	0.4-3 mm	0.12-0.25 mm/r	615	●	616	●
TCMT 16T304	0.4-3 mm	0.12-0.25 mm/r	617	●	-	-
TCMT 16T308	0.6-4 mm	0.18-0.35 mm/r	618	●	619	●

Prod. Gr. 1GA

MP

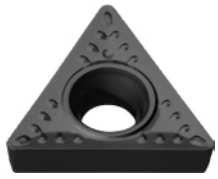
p. 665 p. 696

ATORN TCMT medium machining, positive

ISO M PVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	40-110 m/min	
		Vc in stainless steel ●	100-190 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	MM	
ISO-Code Rotating	min./max. ap	f min./max.	17868... Ident. No.	
TCMT 110204	0.4-3.0 mm	0.12-0.25 mm/r	670	●
TCMT 110208	0.6-3.0 mm	0.16-0.30 mm/r	671	●
TCMT 16T304	0.4-3.0 mm	0.12-0.25 mm/r	675	●
TCMT 16T308	0.6-4.0 mm	0.16-0.30 mm/r	676	●

Prod. Gr. 1GA



MM

p. 665 p. 696

ATORN TCMT medium machining positive

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	MM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
TCMT 110304	0.42-2.5 mm	0.06-0.6 mm/r	304	●
TCMT 110308	0.42-2.5 mm	0.06-0.6 mm/r	305	●
TCMT 16T304	0.25-3 mm	0.06-0.6 mm/r	306	●
TCMT 16T308	0.5-3 mm	0.06-0.6 mm/r	307	●
TCMT 16T312	0.6-3 mm	0.06-0.6 mm/r	308	●

Prod. Gr. 1GA

p. 665 p. 696

ATORN TCMT medium machining positive

ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	MM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
TCMT 090204	0.19-2.25 mm	0.06-0.6 mm/r	270	●
TCMT 090208	0.38-2.25 mm	0.06-0.6 mm/r	271	●
TCMT 110204	0.21-2.5 mm	0.06-0.6 mm/r	272	●
TCMT 110208	0.42-2.5 mm	0.06-0.6 mm/r	275	●
TCMT 16T304	0.25-3 mm	0.06-0.6 mm/r	276	●
TCMT 16T308	0.5-3 mm	0.06-0.6 mm/r	277	●
TCMT 16T312	0.6-3 mm	0.06-0.6 mm/r	278	●

Prod. Gr. 1GA

p. 665 p. 696

ATORN TCGT medium machining, positive

ISO N PVD coating

		Carbide type	HC8310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	160-1000 m/min	
		Vc in stainless steel ●	80-220 m/min	
		Chip breaker code	MN	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
TCGT 110204	0.3-1.8 mm	0.1-0.35 mm/r	835	●
TCGT 16T302	0.3-2.5 mm	0.1-0.35 mm/r	836	●
TCGT 16T304	0.3-2.5 mm	0.1-0.35 mm/r	837	●

Prod. Gr. 1GB

p. 665 p. 696

ATORN TCGT medium machining positive

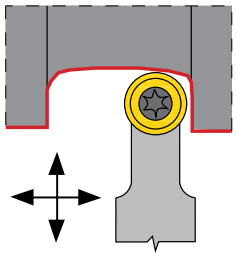
ISO N PVD coating

		Carbide type	AWN15T	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	100-2000 m/min	
		Vc in cast iron ●	120-200 m/min	
		Vc in special alloys ●	18-50 m/min	
		Chip breaker code	MN5	
ISO-Code Rotating	min./max. ap	f min./max.	17868... Ident. No.	
TCGT 110204	0.1-4.5 mm	0.1-0.4 mm/r	215	●
TCGT 16T304	0.1-4.5 mm	0.1-0.4 mm/r	216	●
TCGT 16T308	0.1-4.5 mm	0.1-0.4 mm/r	217	●

Prod. Gr. 1GB

p. 665 p. 696

RC.. Indexable inserts - for longitudinal and copy turning



ATORN RCMT medium machining, positive

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	110-350 m/min		100-300 m/min	
		Chip breaker code	MP6		MP6	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
RCMT 0602M0	0.5-2.4 mm	0.04-3 mm/r	227	○	228	●
RCMT 0803M0	0.8-3.2 mm	0.04-3 mm/r	229	○	230	●
RCMT 1003M0	1-4 mm	0.04-3 mm/r	231	●	233	●
RCMT 10T3M0	1-4 mm	0.04-3 mm/r	235	○	236	○
RCMT 1204M0	1.2-4.8 mm	0.04-3 mm/r	237	○	238	●
RCMT 1606M0	1.6-6.4 mm	0.04-3 mm/r	239	●	240	●
RCMT 2006M0	2-8 mm	0.04-3 mm/r	241	○	242	○

Prod. Gr. 1GA

MP6

p. 665

ATORN RCMT medium machining, positive

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	110-350 m/min		100-300 m/min	
		Chip breaker code	MP6		MP6	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
RCMX 2006M0	2-8 mm	0.12-2.5 mm/r	246	○	247	○
RCMX 2507M0	2.5-10 mm	0.12-2.5 mm/r	248	○	249	○
RCMX 1003M0	1-4 mm	0.12-2.5 mm/r	-	-	243	○
RCMX 1204M0	1.2-4.8 mm	0.12-2.5 mm/r	-	-	244	○
RCMX 1606M0	1.5-6 mm	0.12-2.5 mm/r	-	-	245	○

Prod. Gr. 1GA

MP6

p. 665

ATORN RCMT medium machining positive

ISO P CVD coating

		Carbide type	HC6620	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	190-340 m/min	
		Vc in cast iron ●	180-310 m/min	
		Chip breaker code	MP	
ISO-Code Rotating	min./max. ap	f min./max.	17865... Ident. No.	
RCMT 0602M0	1-1.5 mm	0.15-0.4 mm/r	014	●
RCMT 0803M0	1-2 mm	0.15-0.4 mm/r	019	●
RCMT 10T3M0	1-2.5 mm	0.15-0.4 mm/r	024	●
RCMT 1204M0	1-3 mm	0.15-0.4 mm/r	034	●

Prod. Gr. 1GA

MP

p. 665

ORION® RCMT medium machining, positive

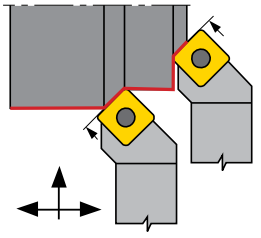
ISO N

		Carbide type	OHW6310	
		Machining conditions for indexable insert	Medium	
		Vc in non-ferrous metals ●	95-680 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17865... Ident. No.	
RCGT 0803M0	0.8-3.0 mm	0.2-1.5 mm/r	750	●
RCGT 1003M0	1.0-4.0 mm	0.2-2.0 mm/r	752	●

Prod. Gr. 1GF

p. 665

SC.. Indexable inserts - for longitudinal turning and facing



ATORN SCMT finishing, positive

ISO P CVD coating

		Carbide type	HC7620	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	110-320 m/min	
		Vc in cast iron ●	140-240 m/min	
		Chip breaker code	FP	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.	
SCMT 09T304	0.1-1.5 mm	0.05-0.15 mm/r	142	●
SCMT 09T308	0.1-1.8 mm	0.05-0.18 mm/r	144	●

Prod. Gr. 1GA

p. 665

ATORN SCMT finishing positive

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	130-295 m/min		115-270 m/min	
		Vc in cast iron ●	150-395 m/min		135-370 m/min	
		Chip breaker code	FP1		FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
SCMT 09T304	0.11-2 mm	0.06-0.3 mm/r	250	●	251	●
SCMT 09T308	0.11-2 mm	0.06-0.3 mm/r	254	●	255	○

Prod. Gr. 1GA

p. 665

ORION® SCMT finishing positive

ISO P CVD coating

		Carbide type	OHC8615		OHC7625	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	180-410 m/min		140-310 m/min	
		Vc in stainless steel ●	-		70-180 m/min	
		Vc in cast iron ●	180-360 m/min		130-290 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17867... Ident. No.	
SCMT 09T304	0.4-2.5 mm	0.05-0.2 mm/r	725	●	640	●
SCMT 09T308	0.8-2.5 mm	0.05-0.2 mm/r	726	●	644	●
SCMT 120404	0.4-2.5 mm	0.05-0.2 mm/r	728	●	511	●
SCMT 120408	0.8-2.5 mm	0.05-0.2 mm/r	729	●	646	●

Prod. Gr. 1GE

p. 665

ATORN SCMT medium machining, positive

ISO P CVD coating

		Carbide type	HC7620		HC7630	
		Machining conditions for indexable insert	Medium		Unfavourable	
		Vc in steel ●	110-320 m/min		80-220 m/min	
		Vc in cast iron ●	140-240 m/min			
		Chip breaker code	MP		MP	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.		17867... Ident. No.	
SCMT 09T304	0.4-3 mm	0.12-0.25 mm/r	147	●	148	●
SCMT 09T308	0.6-4 mm	0.16-0.35 mm/r	152	●	153	●
SCMT 120404	0.4-3 mm	0.12-0.25 mm/r	157	●	-	-
SCMT 120408	0.6-4 mm	0.16-0.4 mm/r	160	●	-	-

Prod. Gr. 1GA

p. 665

ATORN SCMT medium machining, positive

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	130-295 m/min		115-270 m/min	
		Vc in cast iron ●	150-395 m/min		135-370 m/min	
		Chip breaker code	MP1		MP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
SCMT 09T304	0.25-3 mm	0.06-0.3 mm/r	252	●	253	○
SCMT 09T308	0.5-3 mm	0.06-0.3 mm/r	256	○	257	●
SCMT 120404	0.3-3.6 mm	0.1-0.3 mm/r	258	○	259	●
SCMT 120408	0.6-3.6 mm	0.12-0.45 mm/r	260	●	261	●
SCMT 120412	0.72-3.6 mm	0.14-0.6 mm/r	262	○	263	○

Prod. Gr. 1GA

p. 665

ORION SCMT medium machining, positive

ISO P CVD coating

		Carbide type	OHC8615		OHC7625	
		Machining conditions for indexable insert	Good		Good	
		Vc in steel ●	180-410 m/min		140-310 m/min	
		Vc in stainless steel ●	-		70-180 m/min	
		Vc in cast iron ●	180-360 m/min		130-290 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17867... Ident. No.	
SCMT 09T308	0.8-4 mm	0.15-0.35 mm/r	727	●	509	●
SCMT 120408	0.8-4 mm	0.15-0.35 mm/r	730	●	513	●

Prod. Gr. 1GE

p. 665

ATORN SCMT medium machining positive

ISO M CVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	50-120 m/min	
		Vc in stainless steel ●	100-210 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	FU1	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.	
SCGT 09T304	0.2-2.5 mm	0.08-0.25 mm/r	490	●
SCGT 09T308	0.3-3.0 mm	0.10-0.30 mm/r	491	●
SCGT 120408	0.3-3.5 mm	0.10-0.30 mm/r	492	●

Prod. Gr. 1GA

p. 665

ATORN SCMT medium machining positive

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	FM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
SCMT 09T304	0.1-2 mm	0.08-0.3 mm/r	164	●
SCMT 09T308	0.2-2 mm	0.08-0.3 mm/r	165	●

Prod. Gr. 1GA

p. 665

ATORN SCMT medium machining positive

ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	FM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
SCMT 09T308	0.2-2 mm	0.08-0.3 mm/r	127	●

Prod. Gr. 1GA

p. 665

ORION® SCMT medium machining, positive

ISO M PVD coating

		Carbide type	OHC8515		OHC8530		OHC7535	
		Machining conditions for indexable insert	Good		Good		Unfavourable	
		Vc in steel ●	130-290 m/min		130-290 m/min		120-235 m/min	
		Vc in stainless steel ●	110-220 m/min		70-180 m/min		75-140 m/min	
		Vc in special alloys ●	20-70 m/min		20-70 m/min		25-65 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.		17867... Ident. No.	
SCMT 09T304	0.4-2.5 mm	0.05-0.2 mm/r	621	●	658	●	661	●
SCMT 09T308	0.8-2.5 mm	0.05-0.2 mm/r	622	●	659	●	663	●
SCMT 120404	0.4-2.5 mm	0.05-0.2 mm/r	623	●	661	●	-	-
SCMT 120408	0.8-2.5 mm	0.05-0.2 mm/r	624	●	662	●	667	●

Prod. Gr. 1GE

p. 665

ATORN SCMT medium machining positive

ISO M CVD coating

		Carbide type	HC7520	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	80-240 m/min	
		Vc in special alloys ●	30-60 m/min	
		Chip breaker code	MPX	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.	
SCMT 09T304	0.4-3 mm	0.12-0.25 mm/r	650	●
SCMT 09T308	0.6-4 mm	0.16-0.35 mm/r	654	●
SCMT 120404	0.6-5 mm	0.16-0.4 mm/r	656	●
SCMT 120408	0.6-5 mm	0.16-0.4 mm/r	657	●

Prod. Gr. 1GA

p. 665

ATORN SCMT medium machining positive
ISO M PVD coating

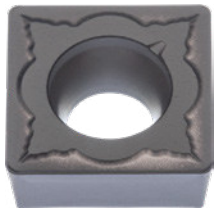
		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	40-110 m/min	
		Vc in stainless steel ●	80-190 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	MM	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.	
SCMT 09T304	0.4-3.0 mm	0.12-0.25 mm/r	494	●
SCMT 09T308	0.6-4.0 mm	0.16-0.35 mm/r	495	●
SCMT 120404	0.4-3.0 mm	0.12-0.25 mm/r	496	●
SCMT 120408	0.6-5.0 mm	0.16-0.40 mm/r	497	●

p. 665

Prod. Gr. 1GA

ATORN SCMT medium machining positive
ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	MM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
SCMT 09T304	0.15-2.55 mm	0.1-0.4 mm/r	299	●
SCMT 09T308	0.5-3 mm	0.1-0.4 mm/r	300	●
SCMT 120404	0.5-3 mm	0.1-0.4 mm/r	301	●
SCMT 120408	0.5-3 mm	0.1-0.4 mm/r	302	●
SCMT 120412	0.5-3 mm	0.1-0.4 mm/r	303	●



p. 665

Prod. Gr. 1GA

ATORN SCMT medium machining positive
ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	MM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
SCMT 09T304	0.15-2.55 mm	0.1-0.4 mm/r	265	●
SCMT 09T308	0.5-3 mm	0.1-0.4 mm/r	266	●
SCMT 120404	0.5-3 mm	0.1-0.4 mm/r	267	●
SCMT 120408	0.5-3 mm	0.1-0.4 mm/r	268	●
SCMT 120412	0.5-3 mm	0.1-0.4 mm/r	269	●

p. 665

Prod. Gr. 1GA

ORION® SCMT medium machining, positive
ISO M PVD coating

		Carbide type	OHC8530	
		Machining conditions for indexable insert	Good	
		Vc in steel ●	130-290 m/min	
		Vc in stainless steel ●	70-180 m/min	
		Vc in special alloys ●	20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.	
SCMT 09T308	0.8-4 mm	0.15-0.35 mm/r	660	●
SCMT 120408	0.8-4 mm	0.15-0.35 mm/r	663	●

p. 665

Prod. Gr. 1GE

ORION® SCMT medium machining positive

ISO K CVD coating

		Carbide type	OHC6410	
		Machining conditions for indexable insert	Good	
		Vc in steel ●	170-320 m/min	
		Vc in cast iron ●	220-400 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.	
SCMT 09T308	0.3-3.5 mm	0.08-0.25 mm/r	506	●

Prod. Gr. 1GF

p. 665

ORION® SCMT medium machining positive

ISO K CVD coating

		Carbide type	OHC6410	
		Machining conditions for indexable insert	Good	
		Vc in steel ●	170-320 m/min	
		Vc in cast iron ●	220-400 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.	
SCMT 120408	0.5-4 mm	0.1-0.4 mm/r	510	●

Prod. Gr. 1GF

p. 665

ATORN SCGT medium machining, positive

ISO N

		Carbide type	HC8310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	160-1000 m/min	
		Vc in stainless steel ●	80-220 m/min	
		Chip breaker code	MN	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
SCGT 09T304	0.7-4 mm	0.1-0.35 mm/r	833	●
SCGT 09T308	0.7-4 mm	0.1-0.35 mm/r	834	●

Prod. Gr. 1GB

p. 665

ATORN SCGT medium machining positive

ISO N PVD coating

		Carbide type	HW6310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	130-2400 m/min	
		Chip breaker code	MN	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.	
SCGT 09T308	0.7-4 mm	0.1-0.35 mm/r	701	●

Prod. Gr. 1GB

p. 665

ATORN SCGT medium machining positive
ISO N CVD coating

		Carbide type	APN15T	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	100-3000 m/min	
		Vc in stainless steel ●	50-140 m/min	
		Vc in cast iron ●	120-200 m/min	
		Vc in special alloys ●	18-45 m/min	
		Chip breaker code	MN5	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.	
SCGT 09T304	0.1-4.5 mm	0.1-0.5 mm/r	370	●
SCGT 09T308	0.1-4.5 mm	0.1-0.5 mm/r	371	●
SCGT 120408	0.1-4.5 mm	0.1-0.5 mm/r	372	●

Prod. Gr. 1GB

p. 665

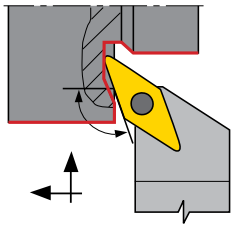
ATORN SCGT medium machining, positive
ISO N

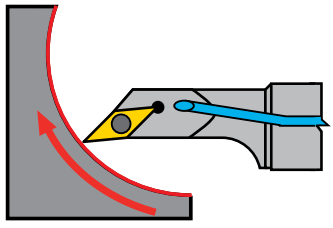
		Carbide type	AWN15T	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	100-2000 m/min	
		Vc in cast iron ●	120-200 m/min	
		Vc in special alloys ●	18-50 m/min	
		Chip breaker code	MN5	
ISO-Code Rotating	min./max. ap	f min./max.	17867... Ident. No.	
SCGT 09T304	0.1-4.5 mm	0.1-0.5 mm/r	373	●
SCGT 09T308	0.1-4.5 mm	0.1-0.5 mm/r	374	●

Prod. Gr. 1GB

p. 665

VC.. Indexable inserts - for longitudinal and copy turning





ATORN VCMT finishing positive
ISO P CVD coating

		Carbide type	HC7610		HC7620	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	160-380 m/min		110-320 m/min	
		Vc in cast iron ●	140-280 m/min		140-260 m/min	
		Chip breaker code	FP		FP	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.		17866... Ident. No.	
VCMT 110302	0.1-1 mm	0.04-0.12 mm/r	025	●	027	●
VCMT 110304	0.1-1.5 mm	0.05-0.16 mm/r	029	●	033	●
VCMT 160402	0.1-1 mm	0.04-0.12 mm/r	035	●	037	●
VCMT 160404	0.1-1.5 mm	0.05-0.16 mm/r	039	●	045	●

Prod. Gr. 1GA

p. 665 p. 683 p. 717 p. 696

ATORN VCMT finishing positive

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	FP1		FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
VCMT 110304	0.1-1.8 mm	0.03-0.2 mm/r	385	○	386	●
VCMT 160404	0.1-1.8 mm	0.03-0.27 mm/r	392	●	393	●
VCMT 160408	0.1-1.8 mm	0.03-0.27 mm/r	396	●	397	●
VCMT 110302	0.1-1.8 mm	0.03-0.2 mm/r	-	-	384	●
VCMT 160402	0.1-1.8 mm	0.03-0.27 mm/r	-	-	391	●

Prod. Gr. 1GA

p. 665 p. 683 p. 717 p. 696

ORION VCMT finishing positive

ISO P CVD coating

		Carbide type	OHC8615		OHC7625	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	180-410 m/min		140-310 m/min	
		Vc in stainless steel ●	-		70-180 m/min	
		Vc in cast iron ●	180-360 m/min		130-290 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17866... Ident. No.	
VCMT 160404	0.4-2.5 mm	0.05-0.2 mm/r	754	●	763	●
VCMT 160408	0.8-2.5 mm	0.05-0.2 mm/r	755	●	765	●

Prod. Gr. 1GE

p. 665 p. 683 p. 717 p. 696

ORION VCMT finishing positive

ISO P CVD coating

		Carbide type	OHC7625	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	140-310 m/min	
		Vc in stainless steel ●	70-180 m/min	
		Vc in cast iron ●	130-290 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCMT 110304	0.4-4 mm	0.15-0.35 mm/r	761	●
VCMT 160404	0.4-4 mm	0.15-0.35 mm/r	762	●

Prod. Gr. 1GE

p. 665 p. 683 p. 717 p. 696

ATORN VCMT medium machining positive

ISO P CVD coating

		Carbide type	HC7610		HC7620		HC7630	
		Machining conditions for indexable insert	Good		Medium		Unfavourable	
		Vc in steel ●	160-380 m/min		110-320 m/min		80-220 m/min	
		Vc in cast iron ●	140-280 m/min		140-260 m/min			
		Chip breaker code	MP		MP		MP	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.		17866... Ident. No.		17866... Ident. No.	
VCMT 110304	0.4-2.5 mm	0.12-0.2 mm/r	051	●	052	●	055	●
VCMT 110308	0.6-3 mm	0.16-0.25 mm/r	057	●	060	●	061	●
VCMT 160404	0.4-2.5 mm	0.12-0.25 mm/r	062	●	063	●	064	●
VCMT 160408	0.6-3 mm	0.16-0.3 mm/r	065	●	066	●	067	●

Prod. Gr. 1GA

p. 665 p. 683 p. 717 p. 696

ATORN VCMT medium machining positive
ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	MP1		MP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
VCMT 110304	0.2-2.5 mm	0.04-0.26 mm/r	387	○	388	●
VCMT 110308	0.2-2.5 mm	0.04-0.26 mm/r	389	○	390	●
VCMT 160404	0.2-2.7 mm	0.07-0.45 mm/r	394	○	395	●
VCMT 160408	0.2-2.7 mm	0.07-0.45 mm/r	398	●	399	●
VCMT 160412	0.2-2.7 mm	0.07-0.45 mm/r	-	-	400	●

Prod. Gr. 1GA

p. 665 p. 683 p. 717 p. 696

ORION VCMT medium machining positive
ISO P CVD coating

		Carbide type	OHC7625	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	140-310 m/min	
		Vc in stainless steel ●	70-180 m/min	
		Vc in cast iron ●	130-290 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCMT 160404	0.4-2.5 mm	0.05-0.2 mm/r	763	●
VCMT 160408	0.8-2.5 mm	0.05-0.2 mm/r	765	●

Prod. Gr. 1GE

p. 665 p. 683 p. 717 p. 696

ORION VCMT medium machining positive
ISO P CVD coating

		Carbide type	OHC7625	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	140-310 m/min	
		Vc in stainless steel ●	70-180 m/min	
		Vc in cast iron ●	130-290 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCMT 110304	0.4-4 mm	0.15-0.35 mm/r	761	●
VCMT 160404	0.4-4 mm	0.15-0.35 mm/r	762	●

Prod. Gr. 1GE

p. 665 p. 683 p. 717 p. 696

ATORN VCMT finishing positive
ISO M CVD coating

		Carbide type	HC7520	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	130-220 m/min	
		Vc in special alloys ●	30-60 m/min	
		Chip breaker code	FP	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCMT 110302	0.1-1.0 mm	0.04-0.12 mm/r	076	●
VCMT 110304	0.1-1.5 mm	0.05-0.16 mm/r	077	●
VCMT 160402	0.1-1.0 mm	0.04-0.12 mm/r	078	●
VCMT 160404	0.1-1.5 mm	0.05-0.16 mm/r	079	●
VCMT 160408	0.1-1.5 mm	0.08-0.20 mm/r	080	●

Prod. Gr. 1GA

p. 665 p. 683 p. 717 p. 696

ATORN VCMT finishing, positive

ISO M PVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	50-130 m/min	
		Vc in stainless steel ●	110-210 m/min	
		Vc in special alloys ●	40-60 m/min	
		Chip breaker code	FM	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCMT 110302	0.1-1.0 mm	0.04-0.12 mm/r	090	●
VCMT 110304	0.1-1.5 mm	0.05-0.16 mm/r	091	●
VCMT 160402	0.1-1 mm	0.04-0.12 mm/r	111	●
VCMT 160404	0.1-1.5 mm	0.05-0.16 mm/r	092	●
VCMT 160408	0.1-1.5 mm	0.08-0.20 mm/r	093	●

Prod. Gr. 1GA

FM

p. 665 p. 683 p. 717 p. 696

ATORN VCMT finishing, positive

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel ●	110-240 m/min	
		Chip breaker code	FM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VCMT 110302	0.1-1.5 mm	0.03-0.32 mm/r	185	●
VCMT 110304	0.1-1.5 mm	0.03-0.32 mm/r	186	●
VCMT 160402	0.1-1.8 mm	0.03-0.32 mm/r	187	●
VCMT 160404	0.1-1.8 mm	0.03-0.32 mm/r	188	●
VCMT 160408	0.1-1.8 mm	0.03-0.32 mm/r	189	●
VCMT 160412	0.1-1.8 mm	0.03-0.32 mm/r	190	●

Prod. Gr. 1GA

FM2

p. 665 p. 683 p. 717 p. 696

ATORN VCMT finishing positive

ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	FM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VCMT 110302	0.07-1.5 mm	0.03-0.32 mm/r	148	●
VCMT 110304	0.1-1.5 mm	0.03-0.32 mm/r	149	●
VCMT 160402	0.07-1.8 mm	0.03-0.32 mm/r	150	●
VCMT 160404	0.1-1.8 mm	0.03-0.32 mm/r	151	●
VCMT 160408	0.14-1.8 mm	0.03-0.32 mm/r	152	●
VCMT 160412	0.14-1.8 mm	0.03-0.32 mm/r	153	●

Prod. Gr. 1GA

FM2

p. 665 p. 683 p. 717 p. 696

ATORN VCMT finishing positive

ISO M PVD coating

		Carbide type	HC7820		HC7810	
		Machining conditions for indexable insert	Medium		Good	
		Vc in steel ●	60-160 m/min		80-160 m/min	
		Vc in stainless steel ●	110-220 m/min		110-220 m/min	
		Vc in special alloys ●	40-60 m/min		40-60 m/min	
		Chip breaker code	FU1		FU1	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.		17866... Ident. No.	
VCGT 110301	0.1-2.0 mm	0.02-0.06 mm/r	081	●	-	-
VCGT 110302	0.2-2.0 mm	0.05-0.12 mm/r	082	●	086	●
VCGT 110304	0.2-2.0 mm	0.08-0.25 mm/r	083	●	087	●
VCGT 160402	0.2-2.5 mm	0.05-0.12 mm/r	084	●	088	●
VCGT 160404	0.2-2.5 mm	0.08-0.25 mm/r	085	●	089	●

Prod. Gr. 1GA

FU1

p. 665 p. 683 p. 717 p. 696

ORION® VCMT finishing positive

ISO M PVD coating

		Carbide type	OHC8530	
		Machining conditions for indexable insert	Good	
		Vc in steel	140-310 m/min	
		Vc in stainless steel	70-180 m/min	
		Vc in cast iron	130-290 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.	
VCMT 160404	0.4-2.5 mm	0.05-0.2 mm/r	687	●
VCMT 160408	0.8-2.5 mm	0.05-0.2 mm/r	688	●

Prod. Gr. 1GE

FU

p. 665 p. 683 p. 717 p. 696

ATORN VCMT medium machining positive

ISO M CVD coating

		Carbide type	HC7520		HC7530	
		Machining conditions for indexable insert	Medium		Unfavourable	
		Vc in stainless steel	80-240 m/min		90-160 m/min	
		Vc in special alloys	30-60 m/min		20-50 m/min	
		Chip breaker code	MPX		MPX	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.		17866... Ident. No.	
VCMT 110304	0.4-2.5 mm	0.12-0.3 mm/r	602	●	603	●
VCMT 110308	0.6-3 mm	0.16-0.3 mm/r	604	●	-	-
VCMT 160404	0.4-2.5 mm	0.16-0.25 mm/r	605	●	606	●
VCMT 160408	0.6-3.0 mm	0.12-0.3 mm/r	607	●	608	●

Prod. Gr. 1GA

MP

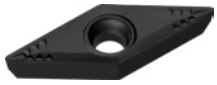
p. 665 p. 683 p. 717 p. 696

ATORN VCMT medium machining positive

ISO M PVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel	50-200 m/min	
		Vc in stainless steel	110-210 m/min	
		Vc in special alloys	40-60 m/min	
		Chip breaker code	MM	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCMT 110304	0.1-1.5 mm	0.05-0.16 mm/r	130	●
VCMT 110308	0.6-3 mm	0.16-0.25 mm/r	133	●
VCMT 160404	0.1-1.5 mm	0.05-0.16 mm/r	148	●
VCMT 160408	0.6-3 mm	0.16-0.25 mm/r	150	●

Prod. Gr. 1GA



MM

p. 665 p. 683 p. 717 p. 696

ATORN VCMT medium machining positive

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel	110-240 m/min	
		Chip breaker code	MM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VCMT 110304	0.31-2.55 mm	0.07-0.33 mm/r	316	●
VCMT 110308	0.61-2.55 mm	0.07-0.33 mm/r	317	●
VCMT 160404	0.23-2.7 mm	0.07-0.33 mm/r	318	●
VCMT 160408	0.45-2.7 mm	0.07-0.33 mm/r	319	●
VCMT 160412	0.54-2.7 mm	0.07-0.33 mm/r	320	●

Prod. Gr. 1GA

MM2

p. 665 p. 683 p. 717 p. 696

ATORN VCMT medium machining positive

ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel ●	90-240 m/min	
		Vc in special alloys ●	20-160 m/min	
		Chip breaker code	MM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VCMT 110304	0.31-2.55 mm	0.07-0.33 mm/r	282	●
VCMT 110308	0.61-2.55 mm	0.07-0.33 mm/r	283	●
VCMT 160404	0.23-2.7 mm	0.07-0.33 mm/r	284	●
VCMT 160408	0.45-2.7 mm	0.07-0.33 mm/r	285	●
VCMT 160412	0.54-2.7 mm	0.07-0.33 mm/r	286	●

Prod. Gr. 1GA

p. 665 p. 683 p. 717 p. 696

ORION® VCMT medium machining positive

ISO M PVD coating

		Carbide type	OHC7530	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	70-120 m/min	
		Vc in stainless steel ●	40-70 m/min	
		Vc in special alloys ●	30-50 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCMT 160404	0.5-4 mm	0.15-0.2 mm/r	782	●

Prod. Gr. 1GE

p. 665 p. 683 p. 717 p. 696

ATORN VCGT medium machining, positive

ISO N

		Carbide type	HW6310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	130-1300 m/min	
		Chip breaker code	MN	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCGT 110302	0.2-1 mm	0.04-0.12 mm/r	709	●
VCGT 110304	0.3-1.5 mm	0.05-0.16 mm/r	719	●
VCGT 160404	0.3-2 mm	0.05-0.16 mm/r	739	●
VCGT 160408	0.5-3 mm	0.08-0.2 mm/r	749	●

Prod. Gr. 1GB

p. 665 p. 683 p. 717 p. 696

ATORN VCGT medium machining, positive

ISO N CVD coating

		Carbide type	HC8310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	160-1000 m/min	
		Vc in stainless steel ●	120-200 m/min	
		Chip breaker code	MN	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VCGT 110302	0.2-1 mm	0.04-0.12 mm/r	838	●
VCGT 110304	0.3-1.5 mm	0.05-0.16 mm/r	839	●
VCGT 160404	0.3-2 mm	0.05-0.16 mm/r	840	●
VCGT 160408	0.5-3 mm	0.08-0.2 mm/r	841	●

Prod. Gr. 1GB

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ORION® VCGT medium machining, positive

ISO N PVD coating

		Carbide type	OHC6310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	110-600 m/min	
		Vc in stainless steel ●	75-110 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCGT 110302	0.3-3 mm	0.05-0.15 mm/r	251	●
VCGT 160402	-	0.1-0.3 mm/r	256	●
VCGT 160404	0.5-3 mm	0.1-0.3 mm/r	254	●
VCGT 160408	-	0.1-0.3 mm/r	261	●

Prod. Gr. 1GF

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ORION® VCGT medium machining, positive

ISO N

		Carbide type	OHW6310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	110-600 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCGT 110301	0.1-3 mm	0.1-0.3 mm/r	250	●
VCGT 110302	0.2-3 mm	0.1-0.3 mm/r	253	●
VCGT 160404	0.5-3 mm	0.1-0.3 mm/r	255	●
VCGT 160402	0.5-3 mm	0.1-0.3 mm/r	257	●
VCGT 160408	0.5-3 mm	0.1-0.3 mm/r	262	●

Prod. Gr. 1GF

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ATORN VCGT medium machining, positive

ISO N PVD coating

		Carbide type	APN15T	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	100-3000 m/min	
		Vc in stainless steel ●	50-220 m/min	
		Vc in cast iron ●	120-200 m/min	
		Vc in special alloys ●	18-80 m/min	
		Chip breaker code	MN5	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCGT 110302	0.1-4.5 mm	0.1-0.5 mm/r	620	●
VCGT 110304	0.1-4.5 mm	0.1-0.5 mm/r	621	●
VCGT 130302	0.1-4.5 mm	0.1-0.5 mm/r	622	●
VCGT 130304	0.1-4.5 mm	0.1-0.5 mm/r	623	●
VCGT 160404	0.1-4.5 mm	0.1-0.5 mm/r	624	●
VCGT 160408	0.1-4.5 mm	0.1-0.5 mm/r	625	●

Prod. Gr. 1GB

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ATORN VCGT medium machining, positive

ISO N

		Carbide type	AWN15T	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	100-2000 m/min	
		Vc in cast iron ●	120-200 m/min	
		Vc in special alloys ●	20-50 m/min	
		Chip breaker code	MN5	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCGT 110302	0.1-4.5 mm	0.1-0.5 mm/r	627	●
VCGT 110304	0.1-4.5 mm	0.1-0.5 mm/r	628	●
VCGT 130302	0.1-4.5 mm	0.1-0.5 mm/r	629	●
VCGT 130304	0.1-4.5 mm	0.1-0.5 mm/r	630	●
VCGT 160404	0.1-4.5 mm	0.1-0.5 mm/r	631	●
VCGT 160408	0.1-4.5 mm	0.1-0.5 mm/r	632	●
VCGT 160412	0.1-4.5 mm	0.1-0.5 mm/r	633	●

Prod. Gr. 1GB

p. 665 p. 683 p. 717 p. 696

ORION® VCGT medium machining, positive

ISO N

		Carbide type	OHW7310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	300-800 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCGT 110302	0.1-3 mm	0.03-0.5 mm/r	801	●
VCGT 110304	0.1-3 mm	0.03-0.5 mm/r	806	●
VCGT 160402	0.1-3.5 mm	0.03-0.5 mm/r	811	●
VCGT 160404	0.1-3.5 mm	0.03-0.5 mm/r	816	●
VCGT 160408	0.1-3.5 mm	0.03-0.5 mm/r	821	●

Prod. Gr. 1GF

p. 665 p. 683 p. 717 p. 696

ORION® VCGT medium machining, positive

ISO N DLC coating

		Carbide type	OHC7310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	150-800 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VCGT 110302	0.05-3 mm	0.02-0.15 mm/r	851	●
VCGT 110308	0.1-4.5 mm	0.03-0.2 mm/r	853	●
VCGT 160402	0.05-4 mm	0.03-0.3 mm/r	854	●
VCGT 160404	0.1-4 mm	0.03-0.3 mm/r	862	●
VCGT 160408	0.05-3 mm	0.03-0.3 mm/r	856	●

Prod. Gr. 1GF

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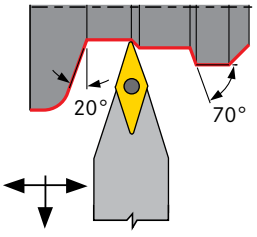
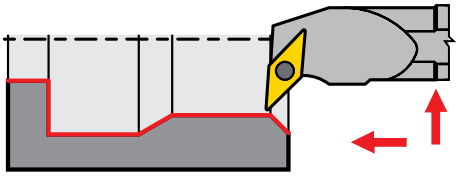
VB.. Indexable inserts - for longitudinal and copy turning





ATORN VBMT finishing positive

ISO P CVD coating

			Carbide type	HC7610		HC7620
			Machining conditions for indexable insert	Good		Medium
			Vc in steel ●	200-380 m/min		140-320 m/min
			Vc in cast iron ●	180-280 m/min		160-260 m/min
			Chip breaker code	SP		SP
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.		17866... Ident. No.	
VBMT 160404	0.3-2 mm	0.08-0.25 mm/r	001	●	002	●
VBMT 160408	0.6-2.5 mm	0.12-0.3 mm/r	004	●	005	●
VBMT 160412	1-2.5 mm	0.15-0.3 mm/r	-	-	008	●

Prod. Gr. 1GA

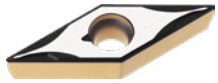
p. 665 p. 696

ATORN VBMT finishing positive

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	FP1		FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
VBMT 110304	0.06-1.8 mm	0.03-0.26 mm/r	371	●	372	○
VBMT 110308	0.06-1.8 mm	0.03-0.26 mm/r	373	○	374	●
VBMT 160404	0.06-1.8 mm	0.03-0.26 mm/r	376	●	377	●
VBMT 160408	0.06-1.8 mm	0.03-0.26 mm/r	380	○	381	●
VBMT 110302	0.06-1.8 mm	0.03-0.26 mm/r	-	-	370	○
VBMT 160402	0.06-1.8 mm	0.03-0.26 mm/r	-	-	375	●

Prod. Gr. 1GA



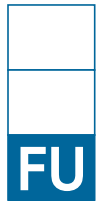
p. 665 p. 696

ORION VBMT finishing positive

ISO P CVD coating

		Carbide type	OHC7625		OHC8615	
		Machining conditions for indexable insert	Medium		Good	
		Vc in steel ●	140-310 m/min		180-410 m/min	
		Vc in cast iron ●	130-290 m/min		180-360 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17863... Ident. No.		17874... Ident. No.	
VBMT 110302	0.2-2.5 mm	0.05-0.2 mm/r	788	●	-	-
VBMT 110304	0.4-2.5 mm	0.05-0.2 mm/r	789	●	746	●
VBMT 110308	0.8-2.5 mm	0.05-0.2 mm/r	790	●	815	●
VBMT 160402	0.2-2.5 mm	0.05-0.2 mm/r	791	●	748	●
VBMT 160404	0.4-2.5 mm	0.05-0.2 mm/r	794	●	817	●
VBMT 160408	0.8-2.5 mm	0.05-0.2 mm/r	795	●	819	●

Prod. Gr. 1GE



p. 665 p. 696

ATORN VBMT medium machining, positive

ISO P CVD coating

		Carbide type	ACP15T-1		ACP25T-1	
		Machining conditions for indexable insert	Good		Medium	
		Vc in steel ●	115-295 m/min		115-295 m/min	
		Vc in cast iron ●	135-395 m/min		135-395 m/min	
		Chip breaker code	MP1		MP1	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.	
VBMT 160404	0.20-2.7 mm	0.05-0.27 mm/r	378	●	379	●
VBMT 160408	0.20-2.7 mm	0.05-0.27 mm/r	382	●	383	●

Prod. Gr. 1GA

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ORION VBMT medium machining, positive

ISO P CVD coating

		Carbide type	OHC8615		OHC7625	
		Machining conditions for indexable insert	Good		Good	
		Vc in steel ●	180-410 m/min		140-310 m/min	
		Vc in cast iron ●	180-360 m/min		130-290 m/min	
ISO-Code Rotating	min./max. ap		17874... Ident. No.		17863... Ident. No.	
VBMT 160404	0.4-4 mm		750	●	808	●
VBMT 160408	0.8-4 mm		820	●	809	●

Prod. Gr. 1GE

No. 17863

p. 665 p. 696

ATORN VBMT finishing, positive

ISO M CVD coating

		Carbide type	HC7520	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel	80-210 m/min	
		Vc in special alloys	30-60 m/min	
		Chip breaker code	SM	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VBMT 110304	0.3-2.0 mm	0.08-0.25 mm/r	561	●
VBMT 160404	0.3-2.0 mm	0.08-0.25 mm/r	609	●
VBMT 160408	0.6-2.5 mm	0.12-0.25 mm/r	610	●

Prod. Gr. 1GA

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ATORN VBMT finishing positive

ISO M PVD coating

		Carbide type	HC7820	
		Machining conditions for indexable insert	Medium	
		Vc in steel	60-130 m/min	
		Vc in stainless steel	120-200 m/min	
		Vc in special alloys	40-60 m/min	
		Chip breaker code	SM	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VBMT 110304	0.3-2.0 mm	0.06-0.18 mm/r	569	●
VBMT 160404	0.3-2.0 mm	0.08-0.20 mm/r	574	●
VBMT 160408	0.5-2.0 mm	0.10-0.25 mm/r	575	●

Prod. Gr. 1GA

p. 665 p. 696

ATORN VBMT finishing, positive

ISO M CVD coating

		Carbide type	ACM25T-1	
		Machining conditions for indexable insert	Medium	
		Vc in stainless steel	110-240 m/min	
		Chip breaker code	FM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VBMT 110302	0.1-1.7 mm	0.03-0.32 mm/r	178	●
VBMT 110304	0.1-1.7 mm	0.03-0.32 mm/r	179	●
VBMT 110308	0.1-1.7 mm	0.03-0.32 mm/r	180	●
VBMT 160402	0.1-1.8 mm	0.03-0.32 mm/r	181	●
VBMT 160404	0.1-1.8 mm	0.03-0.32 mm/r	182	●
VBMT 160408	0.1-1.8 mm	0.03-0.32 mm/r	183	●
VBMT 160412	0.1-1.8 mm	0.03-0.32 mm/r	184	●

Prod. Gr. 1GA

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ATORN VBMT finishing positive

ISO M PVD coating

		Carbide type	APM20T-1	
		Machining conditions for indexable insert	Good	
		Vc in stainless steel	90-240 m/min	
		Vc in special alloys	20-160 m/min	
		Chip breaker code	FM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VBMT 110302	0.06-1.7 mm	0.03-0.32 mm/r	141	●
VBMT 110304	0.1-1.7 mm	0.03-0.32 mm/r	142	●
VBMT 110308	0.13-1.7 mm	0.03-0.32 mm/r	143	●
VBMT 160402	0.07-1.8 mm	0.03-0.32 mm/r	144	●
VBMT 160404	0.1-1.8 mm	0.03-0.32 mm/r	145	●
VBMT 160408	0.14-1.8 mm	0.03-0.32 mm/r	146	●
VBMT 160412	0.14-1.8 mm	0.03-0.32 mm/r	147	●

Prod. Gr. 1GA

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ORION® VBMT finishing positive
ISO M PVD coating

Carbide type			OHC8515		OHC8530		OHC7535	
Machining conditions for indexable insert			Good		Good		Unfavourable	
Vc in steel ●			130-290 m/min		130-290 m/min		95-185 m/min	
Vc in stainless steel ●			110-220 m/min		70-180 m/min		55-110 m/min	
Vc in special alloys ●			20-70 m/min		20-70 m/min		20-55 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.		17874... Ident. No.		17863... Ident. No.	
VBMT 110302	0.2-2.5 mm	0.05-0.2 mm/r	636	●	677	●	-	-
VBMT 110304	0.4-2.5 mm	0.05-0.2 mm/r	637	●	678	●	-	-
VBMT 110308	0.8-2.5 mm	0.05-0.2 mm/r	-	-	679	●	-	-
VBMT 160402	0.2-2.5 mm	0.05-0.2 mm/r	-	-	680	●	-	-
VBMT 160404	0.4-2.5 mm	0.05-0.2 mm/r	638	●	681	●	806	●
VBMT 160408	0.8-2.5 mm	0.05-0.2 mm/r	639	●	684	●	807	●

Prod. Gr. 1GE

p. 665 p. 696

ATORN VBMT medium machining, positive
ISO M CVD coating

Carbide type			ACM25T-1	
Machining conditions for indexable insert			Medium	
Vc in stainless steel ●			110-240 m/min	
Chip breaker code			MM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VBMT 160404	0.23-2.7 mm	0.07-0.32 mm/r	310	●
VBMT 160408	0.45-2.7 mm	0.07-0.32 mm/r	312	●
VBMT 160412	0.54-2.7 mm	0.07-0.32 mm/r	314	●

Prod. Gr. 1GA

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ATORN VBMT medium machining, positive
ISO M PVD coating

Carbide type			APM20T-1	
Machining conditions for indexable insert			Good	
Vc in stainless steel ●			90-240 m/min	
Vc in special alloys ●			20-160 m/min	
Chip breaker code			MM2	
ISO-Code Rotating	min./max. ap	f min./max.	17870... Ident. No.	
VBMT 160404	0.23-2.7 mm	0.07-0.32 mm/r	279	●
VBMT 160408	0.45-2.7 mm	0.07-0.32 mm/r	280	●
VBMT 160412	0.54-2.7 mm	0.07-0.32 mm/r	281	●

Prod. Gr. 1GA

p. 665 p. 696

ORION® VBMT medium machining, positive
ISO M CVD coating

Carbide type			OHC8530	
Machining conditions for indexable insert			Good	
Vc in steel ●			20-70 m/min	
Vc in stainless steel ●			70-180 m/min	
Vc in special alloys ●			20-70 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17874... Ident. No.	
VBMT 160404	0.4-4 mm	0,1-0,2 mm/U	683	●
VBMT 160408	0.8-4 mm	0,1-0,2 mm/U	685	●
VBMT 160412	1.2-4 mm	0,1-0,2 mm/U	686	●

Prod. Gr. 1GE

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ORION® VBMT finishing positive

ISO K

		Carbide type	OHC7310	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	150-800 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17866... Ident. No.	
VBGT 110302	0.05-3 mm	0.02-0.15 mm/r	794	●
VBGT 110304	0.1-4 mm	0.02-0.15 mm/r	795	●
VBGT 110308	0.15-4.5 mm	0.03-0.2 mm/r	654	●
VBGT 160402	0.05-4 mm	0.03-0.3 mm/r	796	●
VBGT 160404	0.1-5 mm	0.03-0.4 mm/r	797	●
VBGT 160408	0.1-5 mm	0.03-0.5 mm/r	657	●

Prod. Gr. 1GF

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ORION® CCGT Cermet indexable insert finishing

W/o Cermet coating for high-performance finishing

		Carbide type	OHW6601	
		Machining conditions for indexable insert	Good	
		Vc in steel ●	110-510 m/min	
		Vc in cast iron ●	110-510 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17995... Ident. No.	
CCGT 060202	0.05-2 mm	0.05-0.35 mm/r	004	●
CCGT 060204	0.05-2 mm	0.05-0.35 mm/r	008	●
CCGT 09T302	0.05-2 mm	0.05-0.35 mm/r	013	●
CCGT 09T304	0.05-2 mm	0.05-0.35 mm/r	023	●
CCGT 120404	0.05-2 mm	0.05-0.35 mm/r	027	●

Prod. Gr. 1GF

p. 665 p. 696

ORION® CCGT Cermet indexable insert finishing

With Cermet coating for high-speed finishing

		Carbide type	OHC6601	
		Machining conditions for indexable insert	Good	
		Vc in steel ●	110-510 m/min	
		Vc in cast iron ●	110-510 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17995... Ident. No.	
CCGT 060202	0.05-2 mm	0.05-0.35 mm/r	007	●
CCGT 060204	0.05-2 mm	0.05-0.35 mm/r	009	●
CCGT 09T302	0.05-2 mm	0.05-0.35 mm/r	015	●
CCGT 09T304	0.05-2 mm	0.05-0.35 mm/r	016 025	● ●
CCGT 120404	0.05-2 mm	0.05-0.35 mm/r	028	●

17995 016 = Prod. Gr. 1GE, 17995 007 = Prod. Gr. 1GF, 17995 009 = Prod. Gr. 1GF, 17995 015 = Prod. Gr. 1GF, 17995 025 = Prod. Gr. 1GF, 17995 028 = Prod. Gr. 1GF

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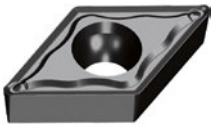
ORION® DCGT cermet indexable insert

W/o Cermet coating for high-performance finishing

		Carbide type	OHW6601	
		Machining conditions for indexable insert	Good	
		Vc in steel ●	110-510 m/min	
		Vc in cast iron ●	110-510 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17995... Ident. No.	
DCGT 070202	0.05-2 mm	0.05-0.35 mm/r	003	●
DCGT 070208	0.05-2 mm	0.05-0.35 mm/r	033	●
DCGT 11T302	0.05-2 mm	0.05-0.35 mm/r	035	●
DCGT 11T304	0.05-2 mm	0.05-0.35 mm/r	037	●
DCGT 11T308	0.05-2 mm	0.05-0.35 mm/r	053	●

Prod. Gr. 1GF



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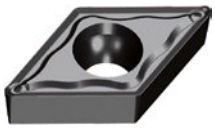
ORION® DCGT cermet indexable insert

With Cermet coating for high-speed finishing

		Carbide type	OHC6601	
		Machining conditions for indexable insert	Good	
		Vc in steel ●	110-510 m/min	
		Vc in cast iron ●	110-510 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17995... Ident. No.	
DCGT 070208	0.5-2 mm	0.05-0.3 mm/r	034	●
DCGT 11T302	0.5-2 mm	0.05-0.3 mm/r	036	●
DCGT 11T304	0.5-2 mm	0.05-0.3 mm/r	038	●
DCGT 11T308	0.5-2 mm	0.05-0.3 mm/r	054	●

Prod. Gr. 1GF



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ORION® VCGT Cermet indexable insert finishing

W/o Cermet coating for high-performance finishing

		Carbide type	OHW6601		OHC6601	
		Machining conditions for indexable insert	Good		Good	
		Vc in steel ●	110-510 m/min		110-510 m/min	
		Vc in cast iron ●	110-510 m/min		110-510 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17995... Ident. No.		17995... Ident. No.	
VCGT 110302	0.5-1.5 mm	0.05-0.3 mm/r	021	●	022	●
VCGT 110304	0.5-1.5 mm	0.05-0.3 mm/r	040	●	024	●

17995 022 = Prod. Gr. 1GE
17995 024 = Prod. Gr. 1GE
17995 021 = Prod. Gr. 1GF
17995 040 = Prod. Gr. 1GF

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ORION® VCGT Cermet indexable insert finishing

With Cermet coating for high-speed finishing

		Carbide type	OHC6601	
		Machining conditions for indexable insert	Good	
		Vc in steel ●	110-510 m/min	
		Vc in cast iron ●	110-510 m/min	
ISO-Code Rotating	min./max. ap	f min./max.	17995... Ident. No.	
VCGT 110302	0.5-1.5 mm	0.05-0.3 mm/r	039	●
VCGT 110304	0.5-1.5 mm	0.05-0.3 mm/r	041	●

Prod. Gr. 1GF

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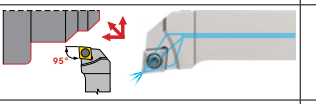
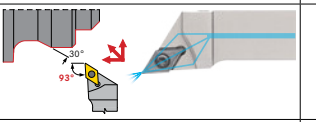
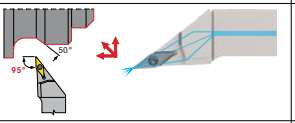
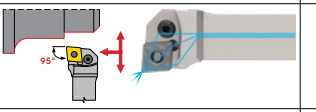
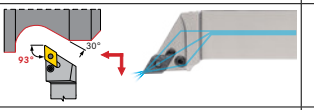
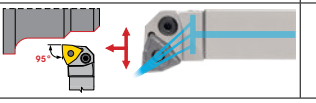
Heavy-duty clamp holder range with internal cooling

The newly developed ATORN high-performance clamp holders ensure an improvement in service life of up to 30 % in series production.

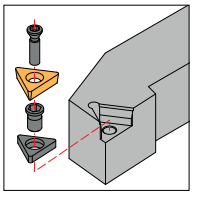
The advantages include:

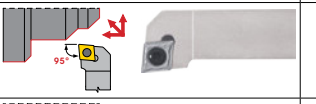
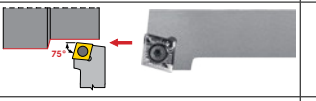
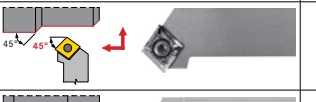
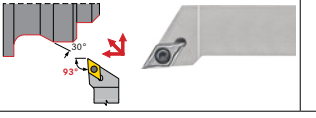
- Three cooling channels directly aligned to the cutting edges ensure optimal cooling for cutting edges and excellent chip breaking
- Individual connection options (bore at the bottom of the holder or connection to coolant hose)
- Very compact holder design ensures good accessibility to the component and reliable chip removal processes

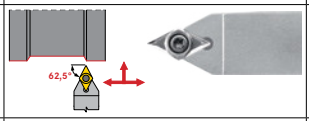
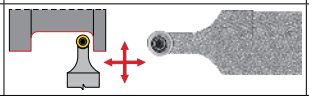
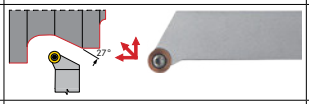
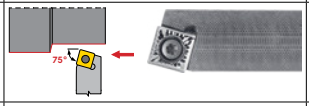
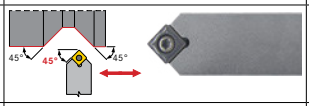
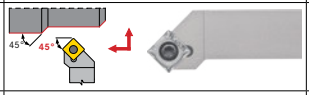
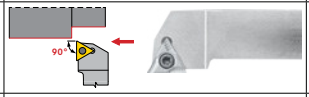
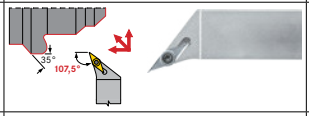
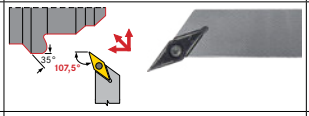
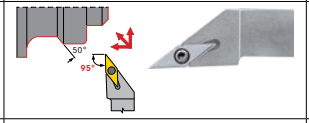
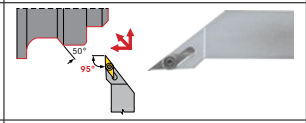
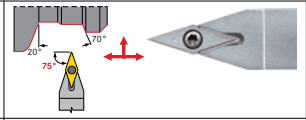
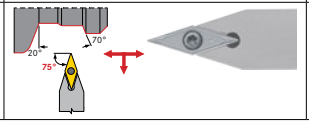
			page
17830700-725	SCLC clamp holder with internal cooling, positive For facing and longitudinal turning using CC indexable inserts		670
17835700-725	SDJC clamp holder with internal cooling, positive for longitudinal and copy turning with DC indexable insert		673
17833700-735	SVJC clamp holder with internal cooling, positive For copy and longitudinal turning and facing with VC indexable insert		682
17837705-730	PCLN clamp holder with internal cooling, negative For facing and longitudinal turning using CN indexable inserts		691
17838705-730	PDJN clamp holder with internal cooling, negative for copy and longitudinal lathing with DN indexable insert		692
17839715-730	PWLN clamp holder with internal cooling, negative For copy and longitudinal turning and facing with WN indexable insert		695

clamp holder external – clamping system S
for positive indexable inserts with hole

clamping positive indexable inserts which are pulled into the insert setting via a central clamping screw. modern and reliable clamping system for positive lathe machining. the advantage of this system is the high level of accessibility due to the compact design. chips can be removed reliably with this system.

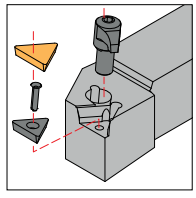


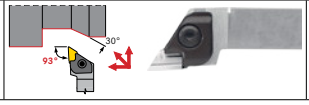
			page
17830012-092	SCLC clamp holder positive, right-hand For face and longitudinal turning with CC indexable insert		669
17830800-825	SSRC clamping holder, positive, right For longitudinal turning with CC indexable insert		670
17830830-845	SCSC clamping holder, positive, right For longitudinal turning with CC indexable insert		671
17835001-041	SDHC clamp holder, positive, right For copy and longitudinal turning with DC indexable insert		671
17831012-072	SDJC clamp holder positive, right-hand For longitudinal and copy turning with DC indexable insert		672

			page
17861	SDNC clamp holder, positive, neutral For longitudinal turning with DC indexable insert		673
17924	SRDC clamp holder, positive, neutral For copy and longitudinal turning and facing with RC indexable insert		674
17850500-519	SRGC clamping holder, positive, right For copy, longitudinal turning and facing with RC indexable insert		675
17849130-135	SSBC clamping holder, positive, right For longitudinal turning with SC indexable insert		675
17849150-155	SSDC clamping holder, positive neutral For longitudinal turning with SC indexable insert		676
17834012-062	SSSC clamp holder positive, right-hand For facing and longitudinal turning using SC indexable inserts		676
17834110-125	STGC Clamp holder, positive, right For longitudinal turning with TC indexable insert		677
17836002-041	SVHC clamp holder, positive, right For copy and longitudinal turning and facing with VC indexable insert		678
17836300-309	SVHB clamp holder, positive For copy, longitudinal turning and facing with VB indexable insert		678
17836110-325	SVJB clamp holder, positive, right For copy and longitudinal turning and facing with VB indexable insert		681
17833012-062	SVJC clamp holder positive, right-hand For copy and longitudinal turning and facing with VC indexable insert		681
17836200-205	SVVB clamp holder, positive neutral For copy, longitudinal turning and facing with VB indexable insert		683
17832	SVVC clamp holder positive, neutral For copy and longitudinal turning and facing with VC indexable insert		683-684

clamp holder external - clamping system C
for positive indexable inserts without hole

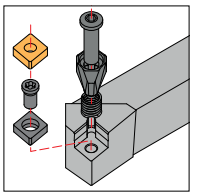
clamping positive indexable inserts without hole. classic clamping system for positive indexable inserts in sinter versions with and without chip breaker.

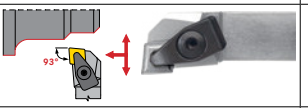
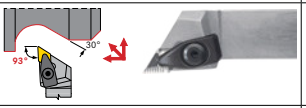
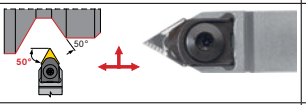
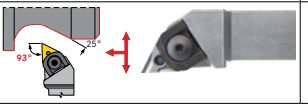


			page
17825010-030	CKJN clamp holder, negative, right For copy and longitudinal turning and facing with KNUX indexable insert		684

clamp holder external - clamping system D
for negative indexable inserts with hole

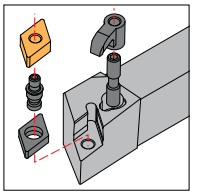
clamping negative indexable inserts using clamping lever and adjustable clamp. the system avoids vibrations of the indexable insert at high feed rate or with severely interrupted machining.

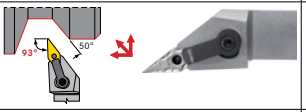
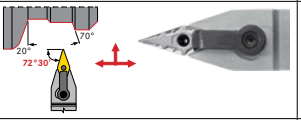
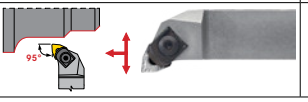


			page
17826010-021	DCLN clamp holder, negative, right For face and longitudinal turning with CN indexable insert		684
17826100-115	DDJN clamp holder, negative, right For copy and longitudinal turning with DN indexable insert		685
17859001-002	MTEN clamp holder, negative, neutral For copy and longitudinal turning with TN indexable insert		686
17859010-015	MTJN clamp holder, negative, right For copy and longitudinal turning with TN indexable insert		687

clamp holder external - clamping system M
for negative indexable inserts with hole

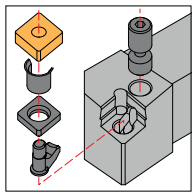
clamping negative indexable inserts using clamping lever and adjustable clamp. the system minimises vibration of the indexable insert. it is the first choice for negative ceramic inserts with central hole and also for cermet indexable inserts.



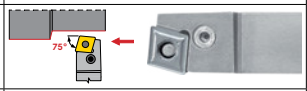
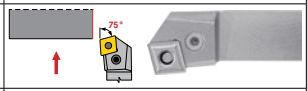
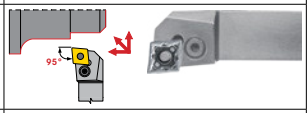
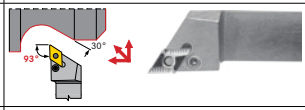
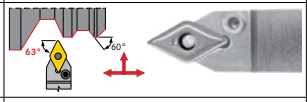
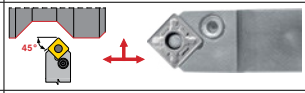
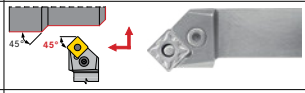
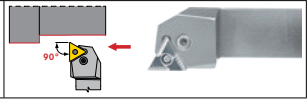
			page
17859110-120	MVJN clamp holder, negative, right For copy and longitudinal turning with VN indexable insert		687
17859200-205	MVVN clamp holder, negative, neutral For copy and longitudinal turning with VN indexable insert		688
17860020-060	MWLN clamp holder, negative, right For copy and longitudinal turning and facing with WN indexable insert		688

clamp holder external - clamping system P
for negative indexable inserts with hole

clamping negative indexable inserts using clamping lever. clamping system P allows a wide range of applications. it is the first choice for general turning operations. the advantage of this system is the high level of accessibility due to the compact design. chips can be removed reliably with this system.



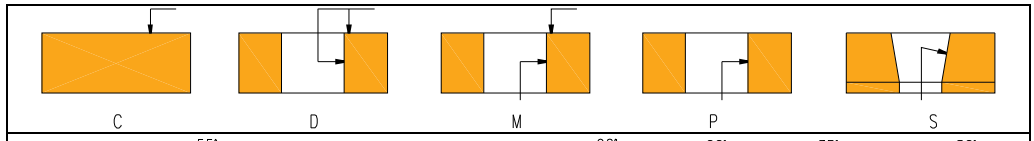
Overview of ISO insert holders

			page
17837110-130	PCBN clamp holder, negative, right For longitudinal turning using CN indexable insert		689
17837210-220	PCKN clamp holder, negative, right For face turning using CN indexable insert		689
17837001-057	PCLN clamp holder, negative, right For face and longitudinal turning with CN indexable insert		690
17838001-061	PDJN clamp holder, negative, right For copy turning and longitudinal turning using DN indexable insert		691-692
17856002-010	PDNN clamp holder, neutral For copy turning and longitudinal turning using DN indexable insert		693
17857	PSNN clamp holder, neutral For chamfering and longitudinal turning using SN indexable insert		693
17840020-040	PSNN clamp holder, right For copy turning and longitudinal turning using SN indexable insert		693-694
17839011-031	PTGN clamp holder, right For copy turning and longitudinal turning using TN indexable insert		694-695

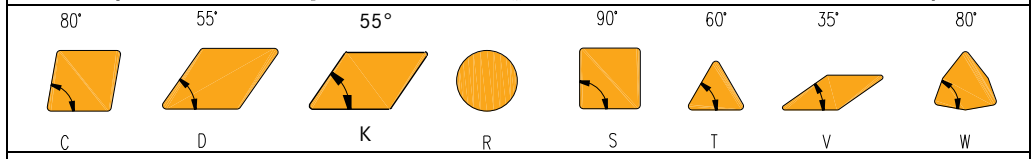
Clamp holder for turning for outside machining
Clamping system, dimensions and tolerances

Designations
Clamping holder for turning according to DIN 4983

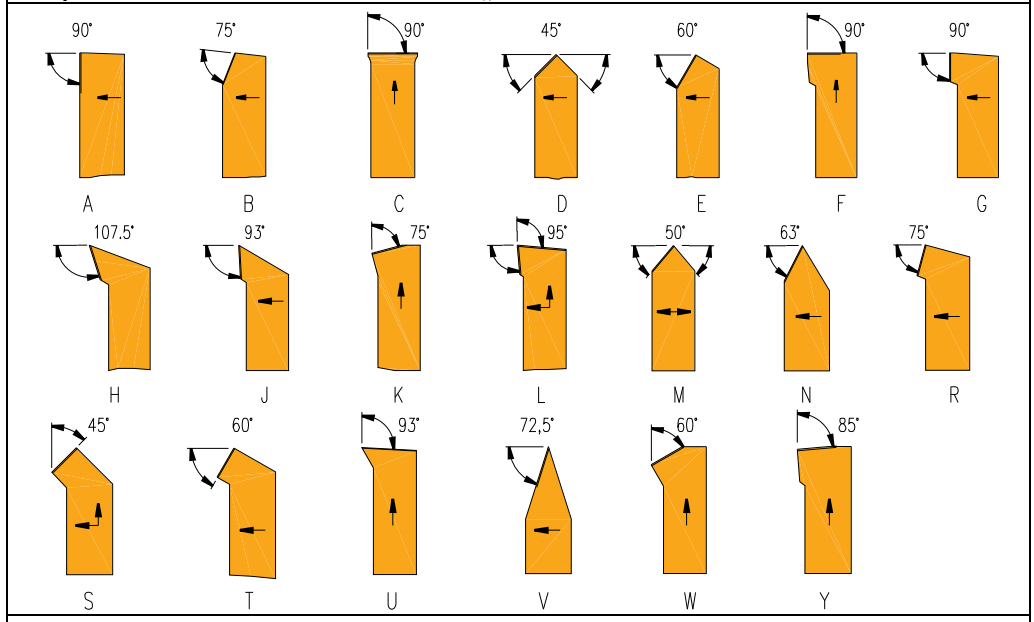
Clamping system ①



Insert shape ②

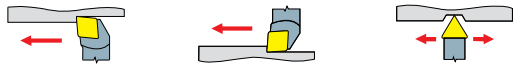


Holder shape ③

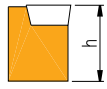


Clearance angle indexable insert ④

Cut direction ⑤



Cut direction ⑥



As basic number, the height of the cutter edge h in mm is indicated.
For clamping holders, the height of the cutter edge h equals the shank height.

Shank width ⑦

Clamping holder: Indication of the shank width b in mm.

Holder length ⑧

	A	B	C	D	E	F	G	H	J	K	L	M	N
mm	32	40	50	60	70	80	90	100	110	125	140	150	160

	P	Q	R	S	T	U	V	W	X	Y	–
mm	170	180	200	250	300	350	400	450		500	

Cutter length ⑨

Indication of the cutter length in mm without decimal point, in case of one-digit numerals with leading 0 (e. g. 08).
In case of round indexable inserts, the diameter is always indicated.

Additional indications

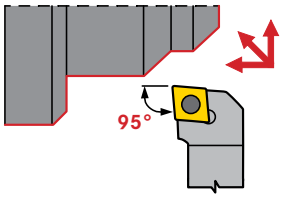
These indications do not form part of the standard and are facultative, e. g. "-U" stands: with shim.

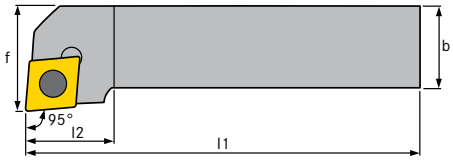
Example

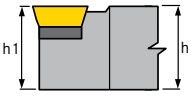
①	②	③	④	⑤	⑥	⑦	⑧	⑨
S	C	L	C	R	16	16	H	09

ATORN SCLC 90° R/L insert holder, positive (DIN 4983)

for facing and longitudinal turning using CC indexable inserts







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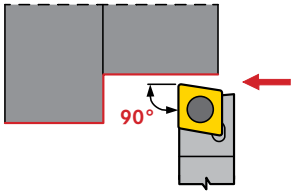
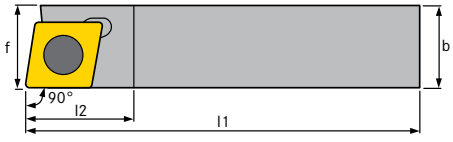
						SCLC 90° R/L insert holder, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17830... Ident. No.		17830... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SCLC R/L 0808 D06	8	60	9	10	CC.. 0602..	012	●	017	○	022	●	-	-	-	-
SCLC R/L 1010 E06	10	70	10	9	CC.. 0602..	022	●	027	●	022	●	-	-	-	-
SCLC R/L 1212 F09	12	80	15	16	CC.. 09T3..	032	●	037	●	023	●	-	-	-	-
SCLC R/L 1616 H09	16	100	15	17	CC.. 09T3..	042	●	047	●	023	●	004	●	230	●
SCLC R/L 2020 K09	20	125	17	25	CC.. 09T3..	052	●	057	●	023	●	004	●	230	●
SCLC R/L 2525 M09	25	150	20	32	CC.. 09T3..	062	●	067	●	023	●	004	●	230	●
SCLC R/L 1616 H12	16	100	20	32	CC.. 1204..	072	●	077	●	026	●	005	●	232	●
SCLC R/L 2020 K12	20	125	20	25	CC.. 1204..	086	●	091	●	026	●	005	●	232	●
SCLC R/L 2525 M12	25	150	20	32	CC.. 1204..	092	●	097	●	026	●	005	●	232	●

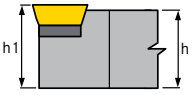
Prod. Gr. 1AQ

ATORN SCAC 90° R/L insert holder for longitudinal lathes, positive (DIN 4983)

for facing and longitudinal turning using CC indexable inserts







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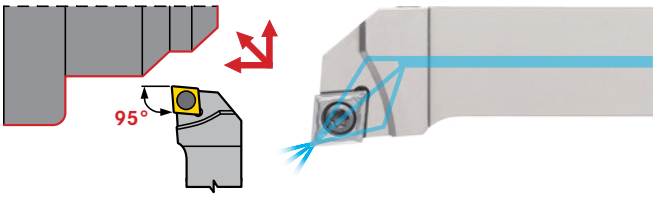
					SCAC 90° R/L insert holder for longitudinal lathes, positive				clamping screw for indexable insert	
				Tool design	Right		Left			
ISO name	h=h1=b (mm)	l1 (mm)	f (mm)	ISO	17829... Ident. No.		17829... Ident. No.		17841... Ident. No.	
SCAC R/L 0808 X06-A	8	115	8	CC.. 0602..	001	○	002	○	022	●
SCAC R/L 1010 X06-A	10	115	10	CC.. 0602..	003	●	004	○	022	●
SCAC R/L 1212 X06-A	12	130	12	CC.. 0602..	005	○	006	○	022	●
SCAC R/L 1212 X09-A	12	130	12	CC.. 09T3..	007	○	008	○	044	●
SCAC R/L 1616 X09-A	16	130	16	CC.. 09T3..	009	○	010	○	044	●

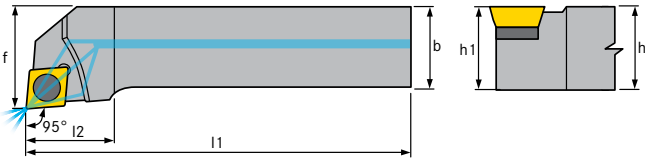
Prod. Gr. 1AQ

ATORN SCLC 95° insert holder with internal cooling, positive (DIN 4983)

for facing and longitudinal turning using CC indexable inserts

IK





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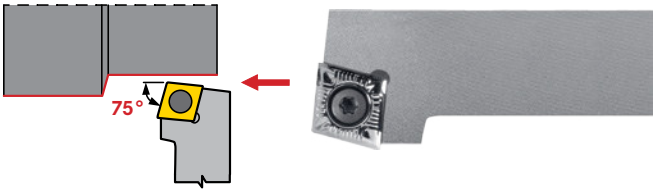
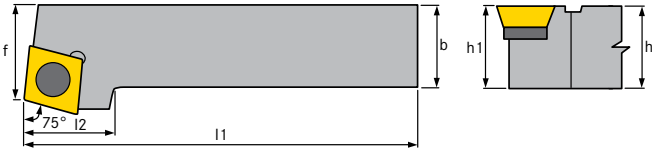
						SCLC 95° insert holder with internal cooling, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17830... Ident. No.		17830... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SCLC R/L 1616 H09 IK G1/8	16	100	15	17	CC.. 09T3..	700	●	705	○	023	●	004	●	230	●
SCLC R/L 2020 K09 IK G1/8	20	125	17	25	CC.. 09T3..	710	●	715	○	023	●	004	●	230	●
SCLC R/L 2525 M12 IK G1/8	25	150	20	32	CC.. 1204..	720	○	725	○	026	●	005	●	232	●

Prod. Gr. 1BM

ATORN SCRC 75° insert holder, positive

for facing and longitudinal turning using CC indexable inserts





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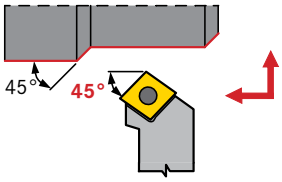
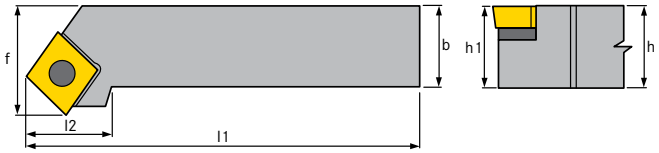
						SCRC 75° insert holder, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17830... Ident. No.		17830... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SCRC R/L 0808 D06	8	60	14	9	CC.. 0602..	800	○	801	○	022	●	-	-	-	-
SCRC R/L 1010 E06	10	70	14	11	CC.. 0602..	802	○	803	○	022	●	-	-	-	-
SCRC R/L 1212 F09	12	80	20	13	CC.. 09T3..	804	○	805	○	023	●	-	-	-	-
SCRC R/L 1616 H09	16	100	20	17	CC.. 09T3..	806	○	807	○	023	●	004	●	230	●
SCRC R/L 2020 K09	20	125	21	22	CC.. 09T3..	808	○	809	○	023	●	004	●	230	●
SCRC R/L 1616 H12	16	100	24	17	CC.. 1204..	820	○	821	○	026	●	005	●	232	●
SCRC R/L 2020 K12	20	125	24	22	CC.. 1204..	822	○	823	○	026	●	005	●	232	●
SCRC R/L 2525 M12	25	150	24	27	CC.. 1204..	824	○	825	○	026	●	005	●	232	●

Prod. Gr. 1AQ

ATORN SCSC 45° insert holder, positive

for facing and longitudinal turning using CC indexable inserts





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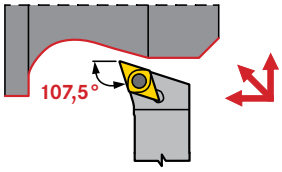
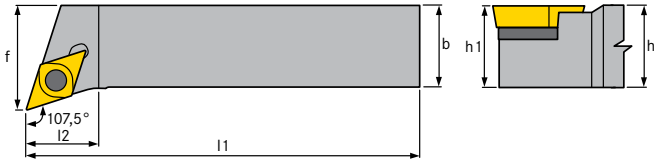
						SCSC 45° insert holder, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17830... Ident. No.		17830... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SCSC R/L 0808 D06	8	60	12	10	CC.. 0602..	830	○	831	○	022	●	-	-	-	-
SCSC R/L 1010 E06	10	70	12	12	CC.. 0602..	832	○	833	●	022	●	-	-	-	-
SCSC R/L 1212 F09	12	80	19	16	CC.. 09T3..	834	●	835	○	023	●	-	-	-	-
SCSC R/L 1616 H09	16	100	20	20	CC.. 09T3..	836	●	837	○	023	●	004	●	230	●
SCSC R/L 2020 K09	20	125	22	25	CC.. 09T3..	838	●	839	○	023	●	004	●	230	●
SCSC R/L 1616 H12	16	100	22	20	CC.. 1204..	840	●	841	○	026	●	005	●	232	●
SCSC R/L 2020 K12	20	125	24	25	CC.. 1204..	842	●	843	○	026	●	005	●	232	●
SCSC R/L 2525 M12	25	150	27	32	CC.. 1204..	844	●	845	○	026	●	005	●	232	●

Prod. Gr. 1AQ

ATORN SDHC 107.7° R/L insert holder, positive (DIN 4983)

for copy and longitudinal turning using DC indexable inserts





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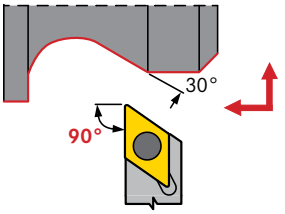
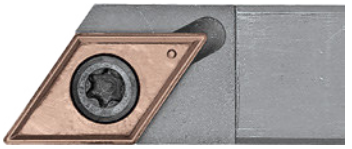
						SDHC 107.7° R/L insert holder, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17835... Ident. No.		17835... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SDHC R/L 1010 E07	10	70	5.5	12	DC.. 0702..	001	○	006	○	022	●	-	-	-	-
SDHC R/L 1212 F07	12	80	12	16	DC.. 0702..	011	●	016	●	022	●	-	-	-	-
SDHC R/L 1616 H11	16	100	20	10.4	DC.. 11T3..	021	●	026	●	023	●	062	●	230	●
SDHC R/L 2020 K11	20	125	14	25	DC.. 11T3..	031	●	036	●	023	●	062	●	230	●
SDHC R/L 2525 M11	25	150	20	32	DC.. 11T3..	041	●	046	●	023	●	062	●	230	●

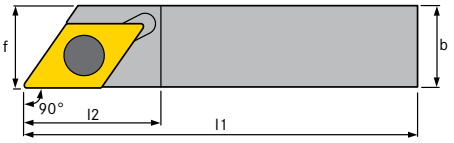
Prod. Gr. 1AQ

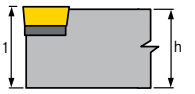
ATORN SDAC 90° R/L insert holder for longitudinal lathes, positive (DIN 4983)

for copy and longitudinal turning using DC indexable inserts









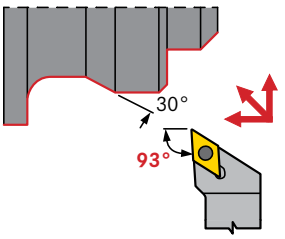
p. 632

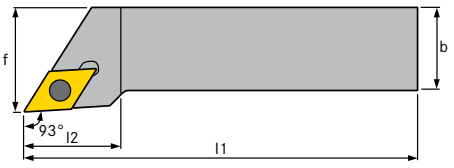
					SDAC 90° R/L insert holder for longitudinal lathes, positive				clamping screw for indexable insert	
				Tool design	Right		Left			
ISO name	h=h1=b (mm)	l1 (mm)	f (mm)	ISO	17829... Ident. No.		17829... Ident. No.		17841... Ident. No.	
SDAC R/L 0808 X07-A	8	115	8	DC.. 0702..	030	○	031	○	022	●
SDAC R/L 1010 X07-A	10	115	10	DC.. 0702..	032	○	033	○	022	●
SDAC R/L 1212 X07-A	12	130	12	DC.. 0702..	034	●	035	○	022	●
SDAC R/L 1616 X07-A	16	130	16	DC.. 0702..	036	○	037	○	022	●
SDAC R/L 1212 X11-A	12	130	12	DC.. 11T3..	050	○	051	○	044	●
SDAC R/L 1616 X11-A	16	130	16	DC.. 11T3..	052	●	053	●	044	●

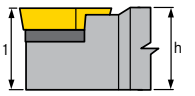
Prod. Gr. 1AQ

ATORN SDJC 93° R/L insert holder, positive (DIN 4983)

for longitudinal and copy turning using DC indexable inserts







p. 632

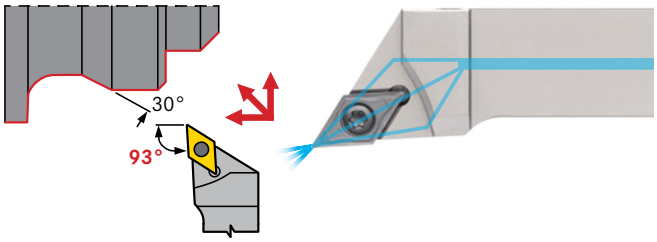
						SDJC 93° R/L insert holder, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17831... Ident. No.		17831... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SDJC R/L 0808 D07	8	60	13	10	DC.. 0702..	012	●	017	○	022	●	-	-	-	-
SDJC R/L 1010 E07	10	70	13	12	DC.. 0702..	022	●	027	●	022	●	-	-	-	-
SDJC R/L 1212 F07	12	80	14.5	16	DC.. 0702..	032	●	037	●	022	●	-	-	-	-
SDJC R/L 1616 H11	16	100	20	20	DC.. 11T3..	052	●	057	●	023	●	062	●	230	●
SDJC R/L 2020 K11	20	125	20.5	25	DC.. 11T3..	062	●	067	●	023	●	062	●	230	●
SDJC R/L 2525 M11	25	150	21.5	32	DC.. 11T3..	072	●	077	●	023	●	062	●	230	●

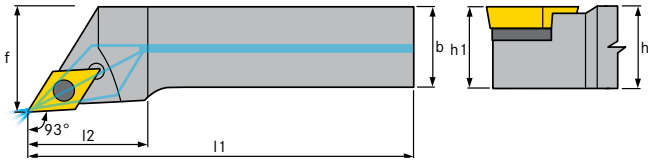
Prod. Gr. 1AQ

ATORN SDJC 93° insert holder with internal cooling, positive (DIN 4983)

for longitudinal and copy turning using DC indexable inserts

IK





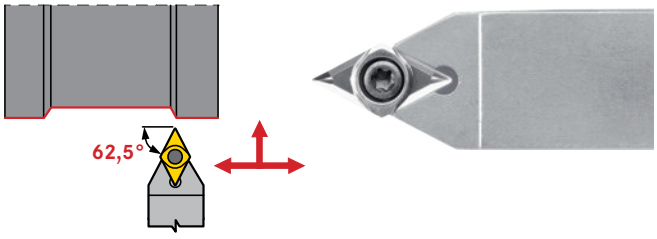
p. 632

						SDJC 93° insert holder with internal cooling, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17835... Ident. No.		17835... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SDJC R/L 1616 H11 IK G1/8	16	100	20	20	DC.. 11T3..	700	●	705	●	023	●	062	●	230	●
SDJC R/L 2020 K11 IK G1/8	20	125	20.5	25	DC.. 11T3..	710	●	715	○	023	●	062	●	230	●
SDJC R/L 2525 M11 IK G1/8	25	150	21.5	32	DC.. 11T3..	720	●	725	○	023	●	062	●	230	●

Prod. Gr. 1BM

ATORN SDNC 62.5° insert holder, positive neutral (DIN 4983)

for copy and longitudinal turning using DC indexable inserts



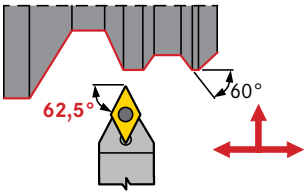
p. 632

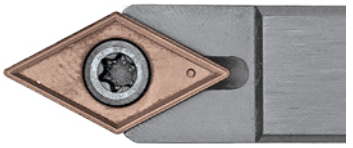
						SDNC 62.5° insert holder, positive neutral		clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Neutral							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17861... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SDNC N 0808 D07	8	60	16	4	DC.. 0702..	010	○	159	●	-	-	-	-
SDNC N 1010 E07	10	70	16	5	DC.. 0702..	015	●	159	●	-	-	-	-
SDNC N 1212 F07	12	80	16	6	DC.. 0702..	016	○	022	●	-	-	-	-
SDNC N 1616 H11	16	100	22	8	DC.. 11T3..	020	●	160	●	245	●	050	●
SDNC N 2020 K11	20	125	22	10	DC.. 11T3..	025	●	160	●	245	●	050	●
SDNC N 2525 M11	25	150	22	12.5	DC.. 11T3..	030	●	160	●	245	●	050	●

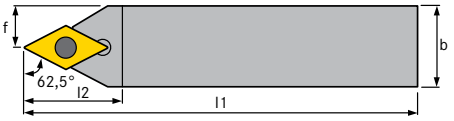
Prod. Gr. 1AQ

ATORN SDNC 62.5° insert holder for longitudinal lathes, positive neutral (DIN 4983)

for copy and longitudinal turning using DC indexable inserts







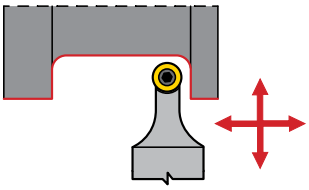
p. 632

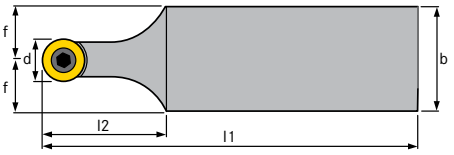
					SDNC 62.5° insert holder for longitudinal lathes, positive neutral		clamping screw for indexable insert	
				Tool design	Neutral			
ISO name	h=h1=b (mm)	l1 (mm)	f (mm)	ISO	17829... Ident. No.		17841... Ident. No.	
SDNC N 1010 X07-A	10	115	10	DC.. 0702..	060	○	022	●
SDNC N 1212 X11-A	12	130	12	DC.. 11T3..	061	○	044	●
SDNC N 1616 X11-A	16	130	16	DC.. 11T3..	062	○	044	●

Prod. Gr. 1AQ

ATORN SRDC 45° insert holder, positive neutral

for copy and longitudinal turning using RC indexable inserts





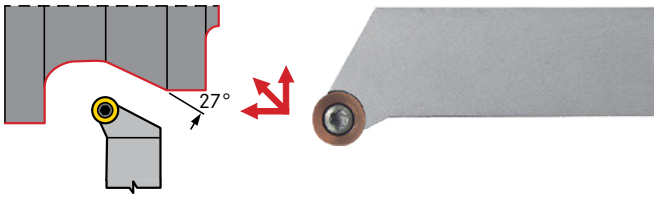
p. 645

						SRDC 45° insert holder, positive neutral		clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Neutral							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17924... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SRDC N 1212 F06	12	80	12.4	6	RC.. 0602..	005	●	022	●	-	-	-	-
SRDC N 1616 H06	16	100	12.4	8	RC.. 0602..	010	●	022	●	-	-	-	-
SRDC N 2020 K06	20	125	12.4	10	RC.. 0602..	015	●	022	●	-	-	-	-
SRDC N 2525 M06	25	150	12.4	12.5	RC.. 0602..	020	●	022	●	-	-	-	-
SRDC N 1616 H08	16	100	16.4	8	RC.. 0803..	025	●	019	●	-	-	-	-
SRDC N 2020 K08	20	125	16.4	10	RC.. 0803..	030	●	019	●	-	-	-	-
SRDC N 2525 M08	25	150	16.4	12.5	RC.. 0803..	035	●	019	●	-	-	-	-
SRDC N 1616 H10	16	100	20.3	8	RC.. 1003..	040	●	023	●	242	●	230	●
SRDC N 2020 K10	20	125	20.3	10	RC.. 1003..	045	●	023	●	242	●	230	●
SRDC N 2525 M10	25	150	20.3	12.5	RC.. 1003..	050	●	023	●	242	●	230	●
SRDC N 2020 K12	20	125	20.3	10	RC.. 1204..	051	●	023	●	037	○	230	●
SRDC N 2525 M12	25	150	20.3	12.5	RC.. 1204..	052	●	023	●	037	○	230	●

Prod. Gr. 1AQ

ATORN SRGC 45° insert holder, positive

for longitudinal turning and facing using RC indexable inserts



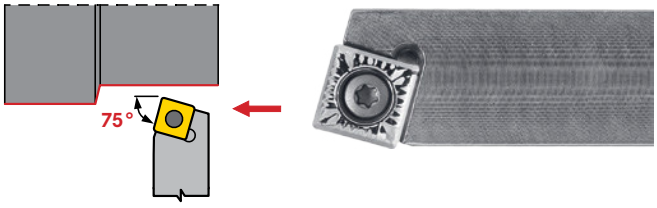
p. 645

						SRGC 45° insert holder, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17850... Ident. No.		17850... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SRGC R/L 1212 F06	12	80	13.6	16	RC.. 0602..	500	○	501	○	023	●	-	-	-	-
SRGC R/L 1616 H06	16	100	13.6	20	RC.. 0602..	502	○	503	○	023	●	-	-	-	-
SRGC R/L 2020 K06	20	125	15.3	25	RC.. 0602..	504	○	505	●	023	●	-	-	-	-
SRGC R/L 2525 M06	25	150	18.8	32	RC.. 0602..	506	○	507	○	023	●	-	-	-	-
SRGC R/L 1616 H08	16	100	14.7	20	RC.. 0803..	508	○	509	●	019	●	-	-	-	-
SRGC R/L 2020 K08	20	125	16.4	25	RC.. 0803..	510	○	511	●	019	●	-	-	-	-
SRGC R/L 2525 M08	25	150	19.8	32	RC.. 0803..	512	●	513	○	019	●	-	-	-	-
SRGC R/L 1616 H10	16	100	15.5	20	RC.. 1003..	514	○	515	○	023	●	242	●	230	●
SRGC R/L 2020 K10	20	125	17.2	25	RC.. 1003..	516	●	517	○	023	●	242	●	230	●
SRGC R/L 2525 M10	25	150	20.7	32	RC.. 1003..	518	○	519	○	023	●	242	●	230	●

Prod. Gr. 1AQ

ATORN SSBC 75° insert holder, positive

for longitudinal turning and facing using SC indexable inserts



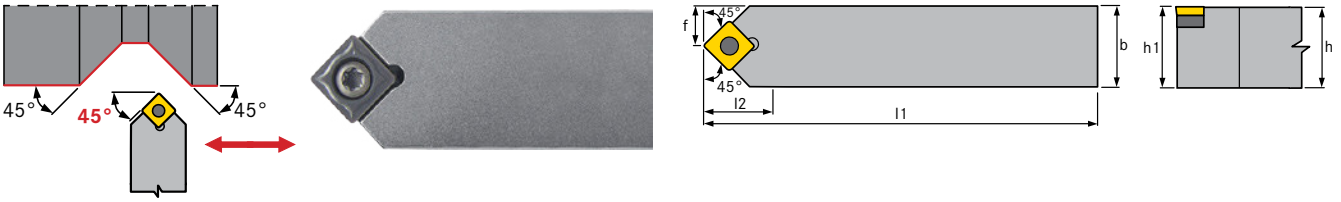
p. 646

						SSBC 75° insert holder, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17849... Ident. No.		17849... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SSBC R/L 1616 H09	16	100	20	13	SC.. 09T3..	130	○	131	●	023	●	-	-	-	-
SSBC R/L 2020 K12	20	125	20	17	SC.. 1204..	132	○	133	●	-	-	229	●	232	●
SSBC R/L 2525 M12	25	150	20	22	SC.. 1204..	134	●	135	●	-	-	229	●	232	●

Prod. Gr. 1AQ

ATORN SSDC 45° insert holder, positive neutral

for longitudinal and copy turning using SC indexable inserts



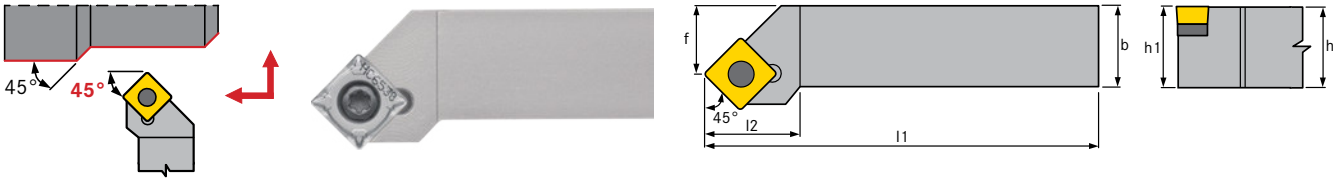
p. 646

						SSDC 45° insert holder, positive neutral		clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Neutral							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17849... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SSDC N 1212 F09	12	80	16	6	SC.. 09T3..	150	●	023	●	-	-	-	-
SSDC N 1616 H09	16	100	20	8	SC.. 09T3..	151	●	023	●	228	●	230	●
SSDC N 2020 K09	20	125	20	10	SC.. 09T3..	152	○	023	●	228	●	230	●
SSDC N 1616 H12	16	100	25	8	SC.. 1204..	153	●	026	●	229	●	232	●
SSDC N 2020 K12	20	125	25	10	SC.. 1204..	154	○	026	●	229	●	232	●
SSDC N 2525 M12	25	150	25	12.5	SC.. 1204..	155	●	026	●	229	●	232	●

Prod. Gr. 1AQ

ATORN SSSC R 45° insert holder, positive

for facing and longitudinal turning using SC indexable inserts



p. 646

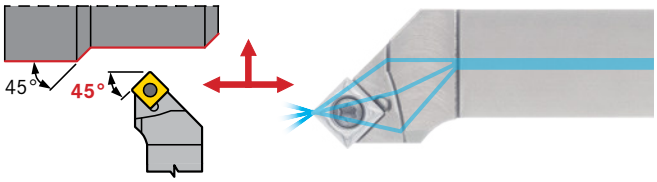
						SSSC R 45° insert holder, positive				clamping screw for indexable insert		Insert nut		Shim	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17834... Ident. No.		17834... Ident. No.		17841... Ident. No.		17844... Ident. No.		17842... Ident. No.	
SSSC R/L 0808 D09	8	60	21	13	SC.. 09T3..	001	●	002	●	127	○	-	-	-	-
SSSC R/L 1010 E09	10	70	21	14	SC.. 09T3..	003	●	004	●	127	○	-	-	-	-
SSSC R/L 1212 F09	12	80	18	16	SC.. 09T3..	012	●	017	○	023	●	230	●	-	-
SSSC R/L 1616 H09	16	100	20	20	SC.. 09T3..	022	●	027	●	023	●	230	●	228	●
SSSC R/L 2020 K09	20	125	20	25	SC.. 09T3..	032	●	037	●	023	●	230	●	228	●
SSSC R/L 1616 H12	16	100	25	20	SC.. 1204..	042	●	047	●	026	●	232	●	229	●
SSSC R/L 2020 K12	20	125	25	25	SC.. 1204..	052	●	057	●	026	●	232	●	229	●
SSSC R/L 2525 M12	25	150	25	32	SC.. 1204..	062	●	067	●	026	●	232	●	229	●

Prod. Gr. 1AQ

ATORN SSSC 45° insert holder with internal cooling, positive

for facing and longitudinal turning using SC indexable inserts

IK



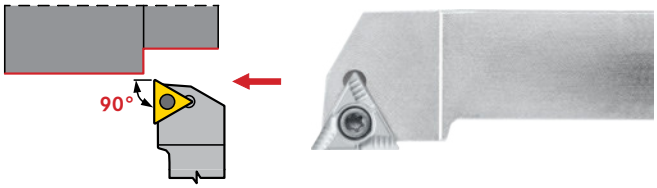
p. 646

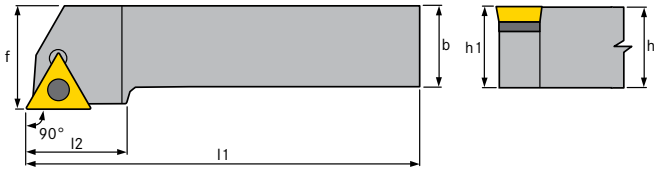
						SSSC 45° insert holder with internal cooling, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17834... Ident. No.		17834... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SSSC R/L 1616 H09 IK G1/8	16	100	20	20	SC.. 09T3..	200	○	202	○	023	●	228	●	230	●
SSSC R/L 2020 K09 IK G1/8	20	125	20	25	SC.. 09T3..	204	○	206	○	023	●	228	●	230	●
SSSC R/L 2525 M12 IK G1/8	25	150	25	32	SC.. 1204..	208	○	210	○	026	●	229	●	232	●

Prod. Gr. 1AQ

ATORN STGC 90° R/L insert holder, positive (DIN 4983)

for longitudinal turning with TC indexable inserts





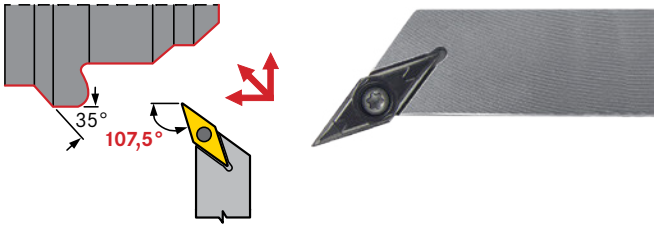
p. 640

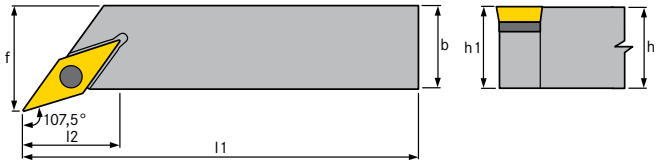
						STGC 90° R/L insert holder, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17834... Ident. No.		17834... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
STGC R/L 1212 F11	12	80	18	16	TC.. 1102..	110	○	111	○	159	●	-	-	-	-
STGC R/L 1616 H11	16	100	22	20	TC.. 1102..	115	●	116	○	159	●	-	-	-	-
STGC R/L 2020 K16	20	125	22	25	TC.. 16T3..	120	○	121	○	160	●	055	●	050	●
STGC R/L 2525 M16	25	150	22	32	TC.. 16T3..	125	○	126	○	160	●	055	●	050	●

Prod. Gr. 1AQ

ATORN SVHB 107.5° R/L insert holder, positive

for copy, longitudinal turning and facing using VB indexable inserts





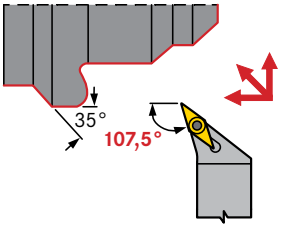
p. 658

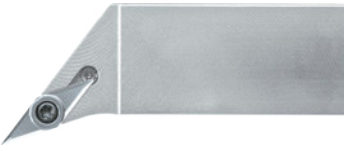
						SVHB 107.5° R/L insert holder, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17836... Ident. No.		17836... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SVHB R/L 1212 F11	12	80	13.4	16	VB.. 1103..	300	●	301	●	022	●	-	-	-	-
SVHB R/L 1616 H11	16	100	13.4	20	VB.. 1103..	302	○	303	●	022	●	-	-	-	-
SVHB R/L 2020 K11	20	125	16.6	25	VB.. 1103..	304	●	305	○	022	●	-	-	-	-
SVHB R/L 2020 K16	20	125	15.9	25	VB.. 1604..	306	●	307	●	023	●	230	●	230	●
SVHB R/L 2525 M16	25	150	20.6	32	VB.. 1604..	308	●	309	●	023	●	230	●	230	●

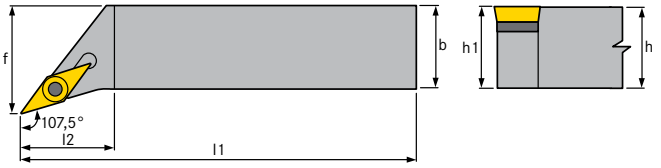
Prod. Gr. 1AQ

ATORN SVHC 107.5° R/L insert holder, positive (DIN 4983)

for copy and longitudinal facing using VC indexable inserts







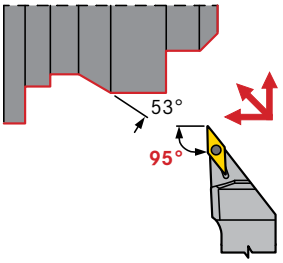
p. 651

						SVHC 107.5° R/L insert holder, positive				clamping screw for indexable insert		Shim	
					Tool design	Right		Left					
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17836... Ident. No.		17836... Ident. No.		17841... Ident. No.		17842... Ident. No.	
SVHC R/L 1212 F11	12	80	11.4	16	VC.. 1103..	002	●	003	●	022	●	-	-
SVHC R/L 1616 H11	16	100	11.4	20	VC.. 1103..	004	●	005	○	022	●	-	-
SVHC R/L 2020 K11	20	125	14.6	25	VC.. 1103..	011	●	016	●	022	●	-	-
SVHC R/L 2525 M11	25	150	20.9	32	VC.. 1103..	021	●	026	●	022	●	-	-
SVHC R/L 2020 K16	20	125	13.2	25	VC.. 1604..	031	○	036	●	023	●	230	●
SVHC R/L 2525 M16	25	150	19.6	32	VC.. 1604..	041	●	046	●	023	●	230	●

Prod. Gr. 1AQ

ATORN SVGC 90° R/L insert holder, positive

for copy and longitudinal facing using VC indexable inserts



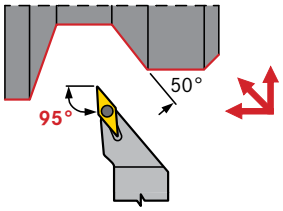
p. 746 p. 747 p. 651

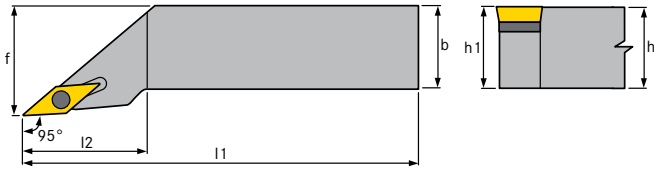
						SVGC 90° R/L insert holder, positive				clamping screw for indexable insert	
					Tool design	Right		Left			
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17836... Ident. No.		17836... Ident. No.		17827... Ident. No.	
SVGC R/L 0808 K07	8	125	15	8.5	VC.. 0702..	250	●	252	○	904	●
SVGC R/L 1010 M07	10	150	15	10.5	VC.. 0702..	254	○	256	●	904	●
SVGC R/L 1212 M07	12	150	18	12.5	VC.. 0702..	258	○	260	●	904	●

Prod. Gr. 1AQ

ATORN SVLC 95° R/L insert holder, positive

for copy and longitudinal facing using VC indexable inserts





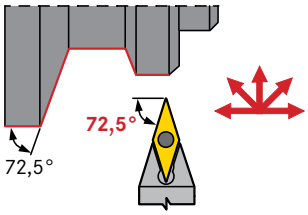
p. 746 p. 747 p. 651

						SVLC 95° R/L insert holder, positive				clamping screw for indexable insert	
					Tool design	Right		Left			
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17836... Ident. No.		17836... Ident. No.		17827... Ident. No.	
SVLC R/L 0808 D07	8	60	15	10	VC.. 0702..	262	○	264	○	904	●
SVLC R/L 1010 E07	10	70	15	12	VC.. 0702..	266	○	268	○	904	●
SVLC R/L 1212 F07	12	80	18	16	VC.. 0702..	270	○	272	●	904	●

Prod. Gr. 1AQ

ATORN SVVC 72.5° N insert holder, positive

for copy and longitudinal facing using VC indexable inserts



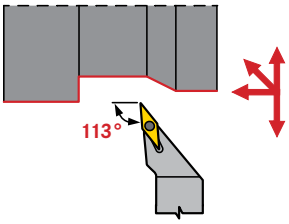
p. 747 p. 651

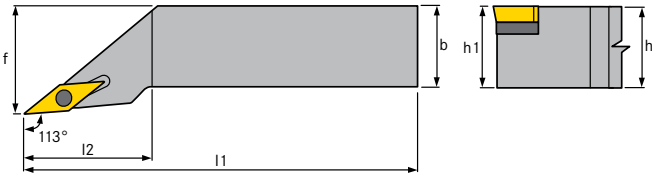
						SVVC 72.5° N insert holder, positive		clamping screw for indexable insert	
					Tool design	Neutral			
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17836... Ident. No.		17827... Ident. No.	
SVVC N 0808 K07	8	125	15	4	VC.. 0702..	274	○	904	●
SVVC N 1010 M07	10	150	15	5	VC.. 0702..	276	○	904	●
SVVC N 1212 M07	12	150	18	6	VC.. 0702..	278	●	904	●

Prod. Gr. 1AQ

ATORN SVXC 113° R/L insert holder, positive

for copy and longitudinal facing using VC indexable inserts





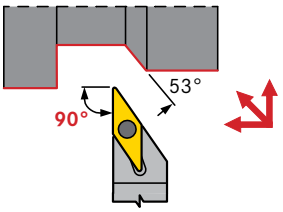
p. 746 p. 747 p. 651

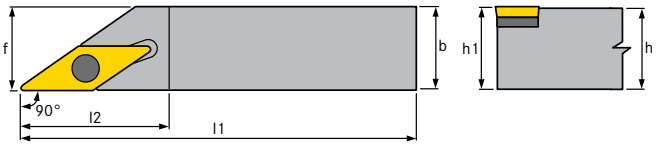
						SVXC 113° R/L insert holder, positive				clamping screw for indexable insert	
					Tool design	Right		Left			
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17836... Ident. No.		17836... Ident. No.		17827... Ident. No.	
SVXC R/L 0808 D07	8	60	15	10	VC.. 0702..	280	○	282	○	904	●
SVXC R/L 1010 E07	10	70	15	12	VC.. 0702..	284	○	286	○	904	●
SVXC R/L 1212 F07	12	80	18	16	VC.. 0702..	288	○	290	●	904	●

Prod. Gr. 1AQ

ATORN SVAC 90° R/L insert holder for longitudinal lathes, positive (DIN 4983)

for copy and longitudinal facing using VC indexable inserts





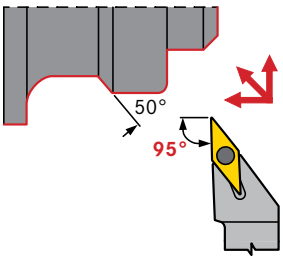
p. 651

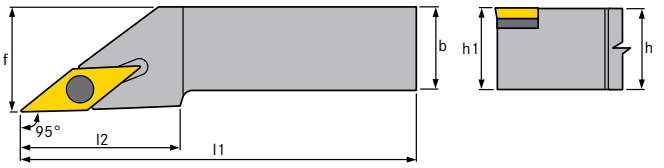
					SVAC 90° R/L insert holder for longitudinal lathes, positive				clamping screw for indexable insert	
				Tool design	Right		Left			
ISO name	h=h1=b (mm)	l1 (mm)	f (mm)	ISO	17829... Ident. No.		17829... Ident. No.		17841... Ident. No.	
SVAC R/L 0808 X11-A	8	115	8	VC.. 1103..	080	○	081	○	022	●
SVAC R/L 1010 X11-A	10	115	10	VC.. 1103..	082	○	083	○	022	●
SVAC R/L 1212 X11-A	12	130	12	VC.. 1103..	084	○	085	○	022	●
SVAC R/L 1616 X11-A	16	130	16	VC.. 1103..	086	○	087	○	022	●
SVAC R/L 1212 X16-A	12	130	12	VC.. 1604..	088	○	089	○	044	●
SVAC R/L 1616 X16-A	16	130	16	VC.. 1604..	090	○	091	○	044	●

Prod. Gr. 1AQ

ATORN SVJB 107.5° R/L insert holder, positive

for copy and longitudinal facing using VB indexable inserts





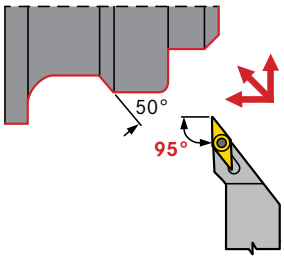
p. 658

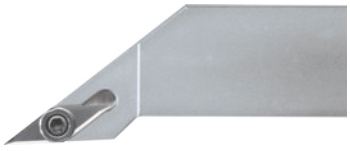
						SVJB 107.5° R/L insert holder, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17836... Ident. No.		17836... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SVJB R/L 1212 F11	12	80	21.5	16	VB.. 1103..	320	●	321	○	022	●	-	-	-	-
SVJB R/L 1616 H11	16	100	21.5	20	VB.. 1103..	322	●	323	●	022	●	-	-	-	-
SVJB R/L 2020 K11	20	125	23	25	VB.. 1103..	324	●	325	●	022	●	-	-	-	-
SVJB R/L 2020 K16	20	125	37	25	VB.. 1604..	110	●	111	●	160	●	050	●	050	●
SVJB R/L 2525 M16	25	150	37	32	VB.. 1604..	115	●	116	●	160	●	050	●	050	●

Prod. Gr. 1AQ

ATORN SVJC 93° R/L insert holder, positive (DIN 4983)

for copy and longitudinal facing using VC indexable inserts





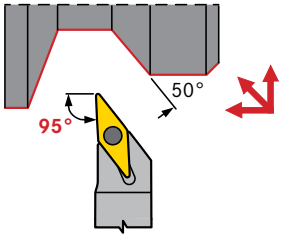
p. 651

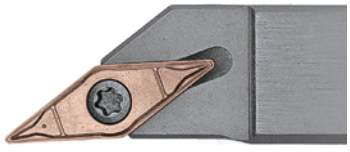
						SVJC 93° R/L insert holder, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17833... Ident. No.		17833... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SVJC R/ L1212 F11	12	80	21.5	16	VC.. 1103..	012	●	017	●	022	●	-	-	-	-
SVJC R/ L1616 H11	16	100	21.5	20	VC.. 1103..	022	●	027	●	022	●	-	-	-	-
SVJC R/ L2020 K11	20	125	23	25	VC.. 1103..	032	●	037	●	022	●	-	-	-	-
SVJC R/ L2525 M11	25	150	25.5	32	VC.. 1103..	042	●	047	●	022	●	-	-	-	-
SVJC R/ L2020 K16	20	125	29.5	25	VC.. 1604..	052	●	057	●	023	●	230	●	230	●
SVJC R/ L2525 M16	25	150	32.5	32	VC.. 1604..	062	●	067	●	023	●	230	●	230	●

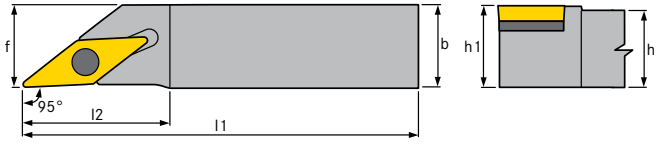
Prod. Gr. 1AQ

ATORN SVJC 93° R/L insert holder for longitudinal turning tool holders, positive (DIN 4983)

for copy and longitudinal facing using VC indexable inserts







p. 651

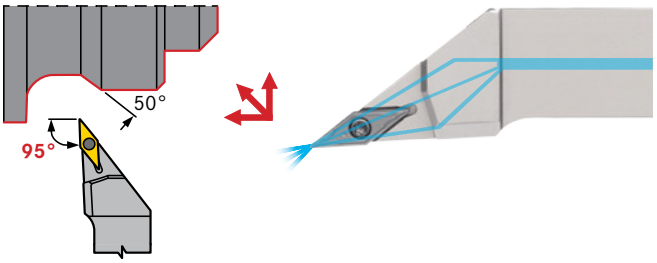
					SVJC 93° R/L insert holder for longitudinal turning tool holders, positive				clamping screw for indexable insert	
				Tool design	Right		Left			
ISO name	h=h1=b (mm)	l1 (mm)	f (mm)	ISO	17829... Ident. No.		17829... Ident. No.		17841... Ident. No.	
SVJC R/L 0808 X11-A	8	115	8	VC.. 1103..	100	○	101	○	022	●
SVJC R/L 1010 X11-A	10	115	10	VC.. 1103..	102	○	103	○	022	●
SVJC R/L 1212 X11-A	12	130	12	VC.. 1103..	104	●	105	○	022	●
SVJC R/L 1616 X11-A	16	130	16	VC.. 1103..	106	●	107	○	022	●
SVJC R/L 1212 X16-A	12	130	12	VC.. 1604..	108	○	109	○	044	●
SVJC R/L 1616 X16-A	16	130	16	VC.. 1604..	110	○	111	○	044	●

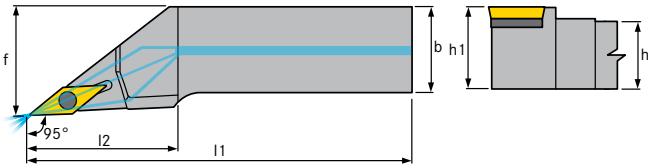
Prod. Gr. 1AQ

ATORN SVJC 93° R/L insert holder, positive (DIN 4983)

for copy and longitudinal facing using VC indexable inserts

IK





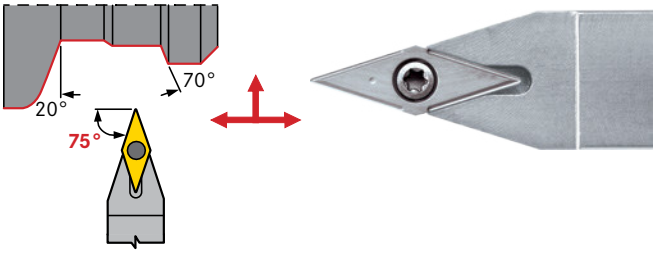
p. 651

						SVJC 93° R/L insert holder, positive				clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Right		Left							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17833... Ident. No.		17833... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SVJC R/L 1616 H11 IK G1/8	16	100	21.5	20	VC.. 1103..	700	●	705	●	022	●	-	-	-	-
SVJC R/L 2020 K11 IK G1/8	20	125	23	25	VC.. 1103..	710	●	715	●	022	●	-	-	-	-
SVJC R/L 2020 K16 IK G1/8	20	125	29.5	25	VC.. 1604..	720	○	725	○	023	●	230	●	230	●
SVJC R/L 2525 M16 IK G1/8	25	150	32.5	32	VC.. 1604..	730	●	735	○	023	●	230	●	230	●

Prod. Gr. 1BM

ATORN SVVB 72.5° insert holder, positive neutral

for copy and longitudinal turning using VB indexable inserts



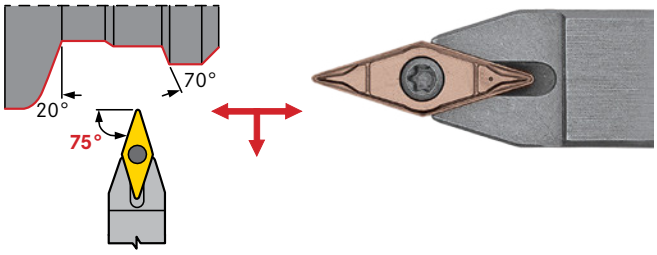
p. 658

						SVVB 72.5° insert holder, positive neutral		clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Neutral							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17836... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SVVB N 1212 F11	12	80	18.5	6.0	VB.. 1103..	194	●	022	●	-	-	-	-
SVVB N 1616 H11	16	100	24.7	8.0	VB.. 1103..	195	○	022	●	-	-	-	-
SVVB N 2020 K11	20	125	32	10.0	VB.. 1103..	196	○	022	●	-	-	-	-
SVVB N 2525 M11	25	150	38.9	12.5	VB.. 1103..	197	○	022	●	-	-	-	-
SVVB N 2020 K16	20	125	37	10.0	VB.. 1604..	200	●	160	●	050	●	050	●
SVVB N 2525 M16	25	150	37	12.5	VB.. 1604..	205	●	160	●	050	●	050	●

Prod. Gr. 1AQ

ATORN SVVC 72.5° insert holder for longitudinal lathes, positive neutral (DIN 4983)

for copy and longitudinal facing using VC indexable inserts



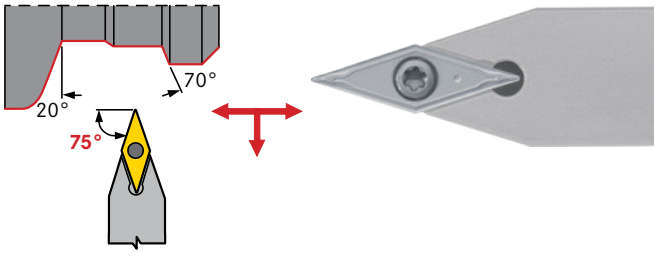
p. 651

					SVVC 72.5° insert holder for longitudinal lathes, positive neutral		clamping screw for indexable insert	
				Tool design	Neutral			
ISO name	h=h1=b (mm)	l1 (mm)	f (mm)	ISO	17829... Ident. No.		17841... Ident. No.	
SVVC N 1010 X11-A	10	115	10	VC.. 1103..	120	○	022	●
SVVC N 1212 X11-A	12	130	12	VC.. 1103..	121	●	022	●
SVVC N 1616 X11-A	16	130	16	VC.. 1103..	122	○	022	●
SVVC N 1212 X16-A	12	130	12	VC.. 1604..	123	○	044	●
SVVC N 1616 X16-A	16	130	16	VC.. 1604..	124	○	044	●

Prod. Gr. 1AQ

ATORN SVVC 72.5° insert holder, positive neutral (DIN 4983)

for copy and longitudinal facing using VC indexable inserts



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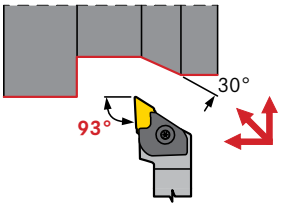
						SVVC 72.5° insert holder, positive neutral		clamping screw for indexable insert		Shim		Insert nut	
					Tool design	Neutral							
ISO name	h=h1=b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17832... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
SVVC N 1212 F11	12	80	19	6	VC.. 1103..	011	●	022	●	-	-	-	-
SVVC N 1616 H11	16	100	25	8	VC.. 1103..	021	●	022	●	-	-	-	-
SVVC N 2020 K11	20	125	32	10	VC.. 1103..	025	●	022	●	-	-	-	-
SVVC N 2525 M11	25	150	40	12.5	VC.. 1103..	027	●	022	●	-	-	-	-
SVVC N 2020 K16	20	125	32	10	VC.. 1604..	033	●	023	●	230	●	230	●
SVVC N 2525 M16	25	150	40	12.5	VC.. 1604..	043	●	023	●	230	●	230	●

Prod. Gr. 1AQ

ATORN CKJN 93° R/L insert holder, negative (DIN 4983)

for copy and longitudinal facing using KNUX indexable inserts



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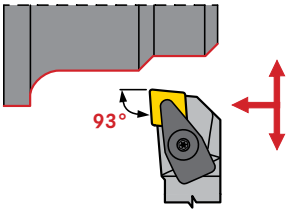
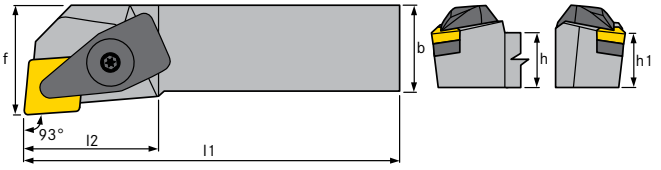
							CKJN 93° R/L insert holder, negative				Adjustable clamp		Shim	
						Tool design	Right		Left					
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17825... Ident. No.		17825... Ident. No.		17842... Ident. No.		17844... Ident. No.	
CKJN R/L 2020 K16	20	20	125	34	30	KNUX 1604..	010	●	011	●	155	●	055	●
CKJN R/L 2525 M16	25	25	150	34	32	KNUX 1604..	015	●	016	●	155	●	055	●
CKJN R/L 3225 P16	32	25	170	34	32	KNUX 1604..	020	○	021	○	155	●	055	●
CKJN R/L 3232 P16	32	32	170	34	40	KNUX 1604..	030	●	031	○	155	●	055	●

Prod. Gr. 1AQ

ATORN DCLN 95° R/L insert holder, negative (DIN 4983)

for facing and longitudinal turning using CN indexable inserts





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							DCLN 95° R/L insert holder, negative			
						Tool design	Right		Left	
ISO name	h=h1 (mm)	b (mm)	l2 (mm)	l1 (mm)	f (mm)	ISO	17826... Ident. No.		17826... Ident. No.	
DCLN R/L 2020 K12	20	20	28	125	25	CN.. 1204..	010	●	011	○
DCLN R/L 2525 M12	25	25	28	150	32	CN.. 1204..	015	●	016	●
DCLN R/L 3232 P12	32	32	28	170	40	CN.. 1204..	017	○	018	○
DCLN R/L 3232 P19	32	32	42	170	40	CN.. 1906..	019	○	020	○
DCLN R/L 4040 S19	40	40	43	250	50	CN.. 1906..	021	○	022	○

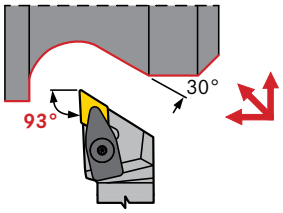
Prod. Gr. 1AQ

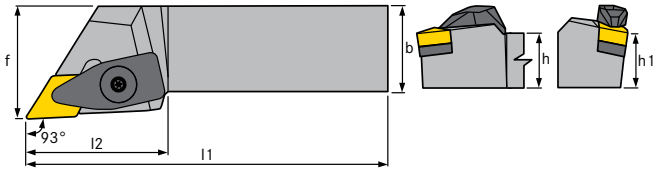
Accessories:

DCLN 95° R/L insert holder, negative		Adjustable clamp		Spring		clamping screw for adjustable clamp		Shim		Clamping screw for shims	
Right	Left										
17826... Ident. No.	17826... Ident. No.	17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.		17845... Ident. No.	
010	011	205	●	160	●	020	●	100	●	040	●
015	016	205	●	160	●	020	●	100	●	040	●
017	018	205	●	160	●	020	●	100	●	040	●
019	020	-	-	160	●	020	●	-	-	-	-
021	022	271	○	160	●	020	●	245	●	041	●

ATORN DDJN 93° R/L insert holder, negative (DIN 4983)

for copy and longitudinal turning using DN indexable inserts





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							DDJN 93° R/L insert holder, negative			
						Tool design	Right		Left	
ISO name	h=h1 (mm)	b (mm)	l2 (mm)	l1 (mm)	f (mm)	ISO	**17826...** Ident. No.		**17826...** Ident. No.	
DDJN R/L 2020 K11	20	20	30	125	25	DN.. 1104..	**100**	○	**101**	○
DDJN R/L 2525 M11	25	25	30	150	32	DN.. 1104..	**105**	●	**106**	○
DDJN R/L 2020 K15	20	20	34	125	25	DN.. 1506..	**110**	●	**111**	○
DDJN R/L 2525 M15	25	25	34	150	32	DN.. 1506..	**115**	●	**116**	●

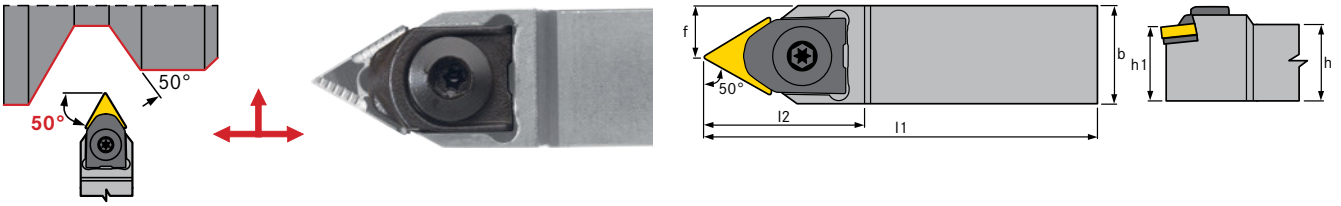
Prod. Gr. 1AQ

Accessories:

DDJN 93° R/L insert holder, negative		Adjustable clamp		Spring		clamping screw for adjustable clamp		Shim		Clamping screw for shims	
Right	Left										
17826... Ident. No.	**17826...** Ident. No.	**17841...** Ident. No.		**17842...** Ident. No.		**17843...** Ident. No.		**17844...** Ident. No.		**17845...** Ident. No.	
100	**101**	**204**	○	**159**	●	**019**	●	**104**	●	**039**	●
105	**106**	**204**	○	**159**	●	**019**	●	**104**	●	**039**	●
110	**111**	**205**	●	**160**	●	**020**	●	**105**	●	**040**	●
115	**116**	**205**	●	**160**	●	**020**	●	**105**	●	**040**	●

ATORN MTEN 93° insert holder, negative neutral (DIN 4983)

For copy and longitudinal turning using TN indexable inserts



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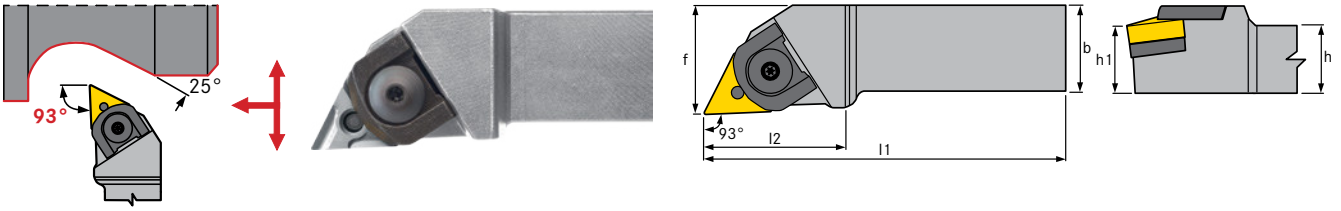
							MTEN 93° insert holder, negative neutral		Adjustable clamp		Shim		Clamping pin		clamping screw for adjustable clamp	
						Tool design	Neutral									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17859... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
MTEN N 2020 K16	20	20	125	34	10.5	TN.. 1604..	001	○	208	●	055	●	210	●	210	●
MTEN N 2525 M16	25	25	150	34	13	TN.. 1604..	002	○	208	●	055	●	210	●	210	●

Prod. Gr. 1AQ

ATORN MTJN 93° R/L insert holder, negative (DIN 4983)

For copy and longitudinal turning using TN indexable inserts



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							MTJN 93° R/L insert holder, negative				Adjustable clamp		Shim		Clamping pin		clamping screw for adjustable clamp	
						Tool design	Right		Left									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17859... Ident. No.		17859... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
MTJN R/L 2020 K16	20	20	125	35	25	TN.. 1604..	010	●	011	○	208	●	055	●	210	●	210	●
MTJN R/L 2525 M16	25	25	150	32	32	TN.. 1604..	015	●	016	●	208	●	055	●	210	●	210	●

Prod. Gr. 1AQ

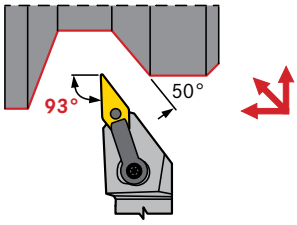
ATORN MVJN 93° R/L insert holder, negative (DIN 4983)

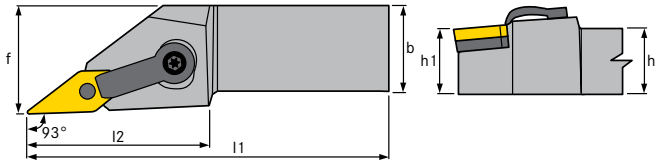
for copy and longitudinal turning using VN indexable inserts

Application:
For copy and longitudinal turning with VN indexable insert, 35°.

Execution:
- Precision-manufactured steel support, burnished, hardened, adjustable clamping system, type V, working angle 93°, tip angle 35°, clearance angle 0°

Advantage:
- Very streamlined geometry, optimised for contour lathe work with large feed depths and unfavourable conditions
- Negative geometry of the body ensures good stability and force absorption at large cutting depths
- Broad range of use: suitable for both finishing and roughing operations
- Adjustable clamp minimises vibrations and ensures good force transfer





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							MVJN 93° R/L insert holder, negative				Adjustable clamp		Double-threaded screw		Shim		Clamping pin	
						Tool design	Right		Left									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17859... Ident. No.		17859... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
MVJN R/L 2020 K16	20	20	125	37	25	VN.. 1604..	110	●	111	●	216	●	041	●	001	●	040	●
MVJN R/L 2525 M16	25	25	150	37	32	VN.. 1604..	115	●	116	●	216	●	041	●	001	●	040	●
MVJN R/L 3225 P16	32	25	170	43	32	VN.. 1604..	120	○	121	○	216	●	041	●	001	●	040	●

Prod. Gr. 1AQ

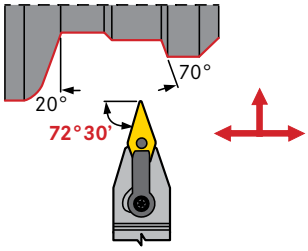
ATORN MVVN 93° insert holder, negative neutral (DIN 4983)

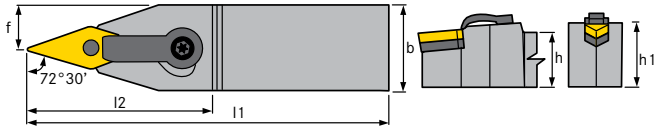
for copy and longitudinal turning using VN indexable inserts

Application:
For copy and longitudinal turning with VN indexable insert, 35°.

Execution:
- Precision-manufactured steel support, burnished, hardened, adjustable clamping system, type V, working angle 93°, tip angle 35°, clearance angle 0°

Advantage:
- Very streamlined geometry, optimised for contour lathe work with large feed depths and unfavourable conditions
- Negative geometry of the body ensures good stability and force absorption at large cutting depths
- Broad range of use: suitable for both finishing and roughing operations
- Adjustable clamp minimises vibrations and ensures good force transfer





p. 611

							MVVN 93° insert holder, negative neutral		Adjustable clamp		Double-threaded screw		Shim		Clamping pin	
						Tool design	Neutral									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17859... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
MVVN N 2020 K16	20	20	125	43	10.0	VN.. 1604..	200	●	216	●	041	●	001	●	040	●
MVVN N 2525 M16	25	25	150	43	12.5	VN.. 1604..	205	●	216	●	041	●	001	●	040	●

Prod. Gr. 1AQ

ATORN MWLN 93° R/L insert holder, negative (DIN 4983)

for copy and longitudinal facing using WN indexable inserts

Application:

Ident. No. 020, 030, 040, 050, 060: For copy and longitudinal turning and facing with WN 80° indexable insert.

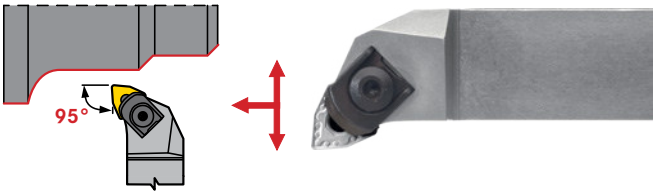
Ident. No. 025, 035, 045, 055, 065: For copy, longitudinal turning and facing with WN 80° indexable insert.

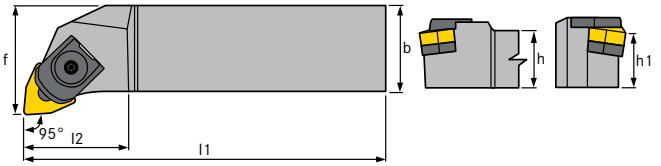
Execution:

- Precision-manufactured steel support, burnished, hardened, adjustable clamping system, type W, working angle 93°, tip angle 80°, clearance angle 0°

Advantage:

- Triple-edge geometry lowers cost per cut
- Negative geometry of the body ensures good stability and force absorption at large cutting depths
- Broad range of use: suitable for both finishing and roughing operations
- Adjustable clamp minimises vibrations and ensures good force transfer





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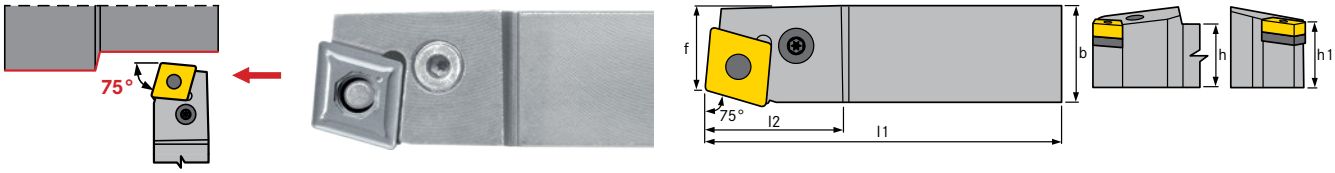
							MWLN 93° R/L insert holder, negative				Adjustable clamp		Shim		Clamping pin		clamping screw for adjustable clamp	
						Tool design	Right		Left									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17860... Ident. No.		17860... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
MWLN R/L 2020 K06	20	20	125	25	25	WN.. 0604..	020	●	025	○	210	●	031	●	210	●	210	●
MWLN R/L 2525 M06	25	25	150	25	32	WN.. 0604..	030	●	035	○	210	●	031	●	210	●	210	●
MWLN R/L 2020 K08	20	20	125	34	25	WN.. 0804..	040	●	045	●	212	●	033	●	212	●	212	●
MWLN R/L 2525 M08	25	25	150	34	32	WN.. 0804..	050	●	055	●	212	●	033	●	212	●	212	●
MWLN R/L 3232 P08	32	32	170	35	40	WN.. 0804..	060	○	065	○	212	●	033	●	212	●	212	●

Prod. Gr. 1AQ

ATORN PCBN 75° R/L insert holder, negative (DIN 4983)

for longitudinal turning with CN indexable inserts



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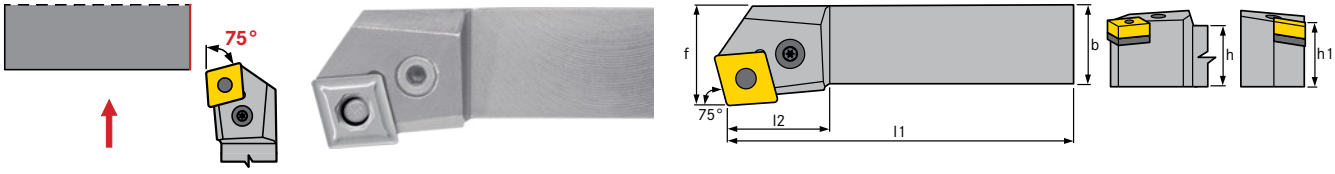
							PCBN 75° R/L insert holder, negative				Clamping screw for toggle lever		Shim		Clamping lever		Clamping sleeve	
						Tool design	Right		Left									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17837... Ident. No.		17837... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
PCBN R/L 2020 K12	20	20	125	28	22	CN.. 1204..	110	○	111	○	141	●	110	●	115	●	115	●
PCBN R/L 2525 M12	25	25	150	28	22	CN.. 1204..	115	●	116	○	141	●	110	●	115	●	115	●
PCBN R/L 2525 M16	25	25	150	34	22	CN.. 1606..	120	○	121	○	146	●	115	●	120	●	125	●
PCBN R/L 3232 P19	32	32	170	42	27	CN.. 1906..	130	○	131	○	254	○	232	○	237	●	237	●

Prod. Gr. 1AQ

ATORN PCKN 75° R/L insert holder, negative (DIN 4983)

for facing using CN indexable inserts



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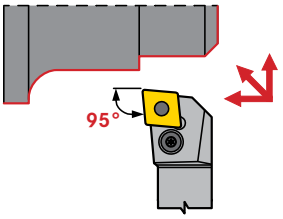
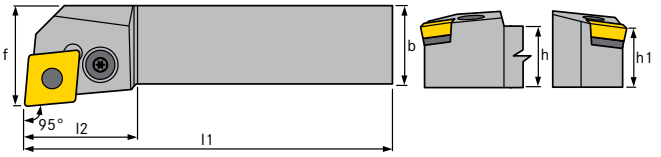
							PCKN 75° R/L insert holder, negative				Clamping screw for toggle lever		Shim		Clamping lever		Clamping sleeve	
						Tool design	Right		Left									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17837... Ident. No.		17837... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
PCKN R/L 2020 K12	20	20	125	28	25	CN.. 1204..	210	●	211	○	141	●	110	●	115	●	115	●
PCKN R/L 2525 M12	25	25	150	28	32	CN.. 1204..	215	●	216	●	141	●	110	●	115	●	115	●
PCKN R/L 3225 P12	32	25	170	28	32	CN.. 1204..	220	○	221	○	141	●	110	●	115	●	115	●

Prod. Gr. 1AQ

ATORN PCLN 95° R/L insert holder, negative (DIN 4983)

for facing and longitudinal turning using CN indexable inserts





p. 584

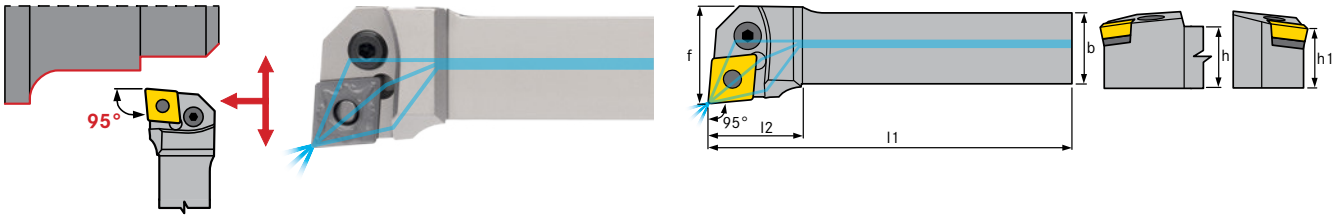
							PCLN 95° R/L insert holder, negative				Clamping screw for toggle lever		Shim		Clamping lever		Clamping sleeve	
						Tool design	Right		Left									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17837... Ident. No.		17837... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
PCLN R/L 1616 H12	16	16	100	26	20	CN.. 1204..	001	●	006	●	136	●	110	●	112	●	115	●
PCLN R/L 2020 K12	20	20	125	28	25	CN.. 1204..	011	●	016	●	141	●	110	●	115	●	115	●
PCLN R/L 2525 M12	25	25	150	28	32	CN.. 1204..	021	●	026	●	141	●	110	●	115	●	115	●
PCLN R/L 3225 P12	32	25	170	28	32	CN.. 1204..	023	●	024	○	141	●	110	●	115	●	115	●
PCLN R/L 3232 P12	32	32	170	28	40	CN.. 1204..	027	●	028	○	141	●	110	●	115	●	115	●
PCLN R/L 2525 M16	25	25	150	34	32	CN.. 1606..	031	●	036	○	146	●	115	●	120	●	125	●
PCLN R/L 3225 P16	32	25	170	34	32	CN.. 1606..	041	○	046	○	146	●	115	●	120	●	125	●
PCLN R/L 3232 P16	32	32	170	34	40	CN.. 1606..	043	●	044	○	146	●	115	●	120	●	125	●
PCLN R/L 4040 S16	40	40	250	34	50	CN.. 1606..	047	○	049	○	146	●	115	●	120	●	125	●
PCLN R/L 2525 M19	25	25	150	42	32	CN.. 1906..	051	○	052	○	254	○	232	○	237	●	237	●
PCLN R/L 3225 P19	32	25	170	42	32	CN.. 1906..	053	○	054	○	254	○	232	○	237	●	237	●
PCLN R/L 4040 S19	40	40	250	45	50	CN.. 1906..	057	○	058	○	254	○	232	○	237	●	237	●

Prod. Gr. 1AQ

ATORN PCLN 95° R/L insert holder, negative (DIN 4983)

for facing and longitudinal turning using CN indexable inserts

IK



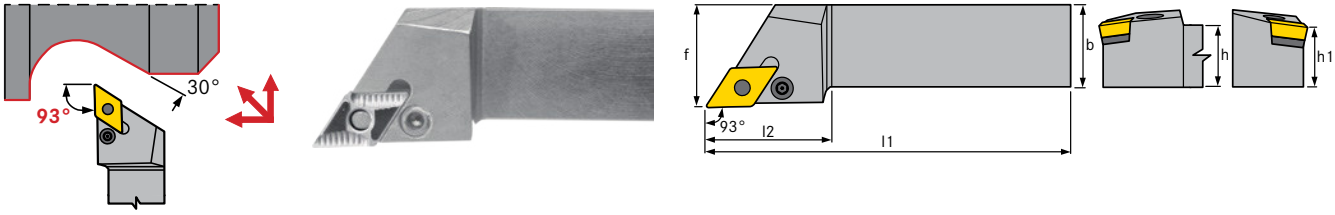
p. 584

							PCLN 95° R/L insert holder, negative				Clamping screw for toggle lever		Shim		Clamping lever		Clamping sleeve	
						Tool design	Right		Left									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17837... Ident. No.		17837... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
PCLN R/L 1616 H12 IK G1/8	16	16	100	26	20	CN.. 1204..	705	○	710	○	162	●	162	●	142	●	142	●
PCLN R/L 2020 K12 IK G1/8	20	20	125	28	25	CN.. 1204..	715	●	720	●	162	●	162	●	142	●	142	●
PCLN R/L 2525 M12 IK G1/8	25	25	150	28	32	CN.. 1204..	725	●	730	●	162	●	162	●	142	●	142	●

Prod. Gr. 1BM

ATORN PDJN 93° R/L insert holder, negative (DIN 4983)

for copy and longitudinal turning using DN indexable inserts



p. 592

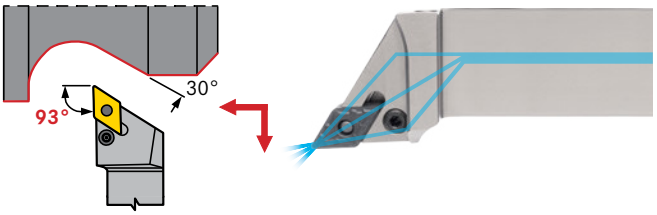
							PDJN 93° R/L insert holder, negative				Clamping screw for toggle lever		Shim		Clamping lever		Clamping sleeve	
						Tool design	Right		Left									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17838... Ident. No.		17838... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
PDJN R/L 1616 H11	16	16	100	28	20	DN.. 1104..	001	●	002	○	126	●	120	●	130	●	135	●
PDJN R/L 2020 K11	20	20	125	28	25	DN.. 1104..	006	●	009	●	126	●	120	●	130	●	135	●
PDJN R/L 2525 M11	25	25	150	28	32	DN.. 1104..	007	●	008	●	126	●	120	●	130	●	135	●
PDJN R/L 2020 K15	20	20	125	34	25	DN.. 1506..	011	●	016	●	151	●	125	●	135	●	115	●
PDJN R/L 2525 M15	25	25	150	34	32	DN.. 1506..	021	●	026	●	151	●	125	●	135	●	115	●
PDJN R/L 3225 P15	32	25	170	24	32	DN.. 1506..	051	○	056	○	151	●	125	●	135	●	115	●
PDJN R/L 3232 P15	32	32	170	34	40	DN.. 1506..	061	●	066	○	151	●	125	●	135	●	115	●

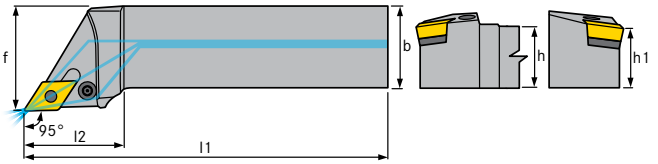
Prod. Gr. 1AQ

ATORN PDJN 93° R/L insert holder, negative (DIN 4983)

for copy and longitudinal turning using DN indexable inserts

IK





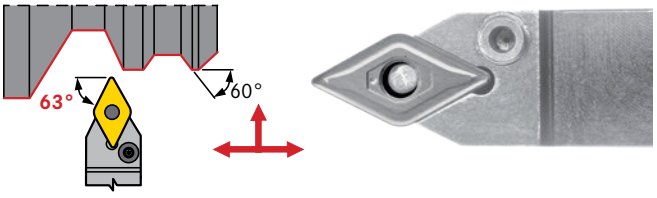
p. 592

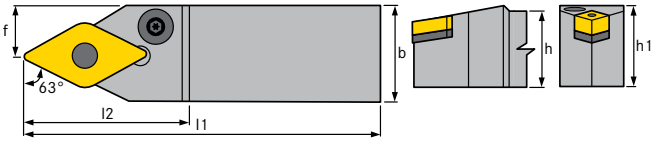
							PDJN 93° R/L insert holder, negative				Shim		Clamping screw for toggle lever		Clamping lever		Clamping sleeve	
						Tool design	Right		Left									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17838... Ident. No.		17838... Ident. No.		17842... Ident. No.		17841... Ident. No.		17843... Ident. No.		17844... Ident. No.	
PDJN R/L 1616 H11 IK G1/8	16	16	100	28	20	DN.. 1104..	705	○	710	○	164	●	-	-	144	○	144	○
PDJN R/L 2020 K15 IK G1/8	20	20	125	28	25	DN.. 1506..	715	○	720	○	166	●	162	●	146	●	142	●
PDJN R/L 2525 M15 IK G1/8	25	25	150	28	32	DN.. 1506..	725	●	730	●	166	●	162	●	146	●	142	●

Prod. Gr. 1BM

ATORN PDNN 93° insert holder, neutral (DIN 4983)

for copy and longitudinal turning using DN indexable inserts





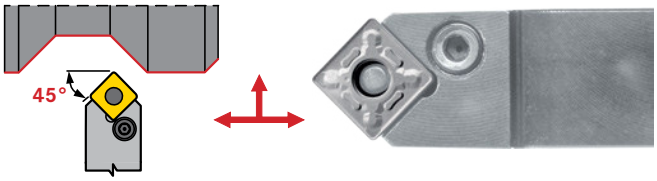
p. 592

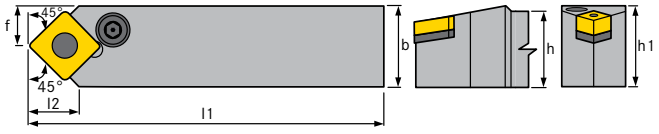
							PDNN 93° insert holder, neutral		Clamping screw for toggle lever		Shim		Clamping lever		Clamping sleeve	
						Tool design	Neutral									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17856... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
PDNN N 2020 K15	20	20	125	34	10	DN.. 1506..	002	○	151	●	125	●	135	●	115	●
PDNN N 2525 M15	25	25	150	34	12.5	DN.. 1506..	004	●	151	●	125	●	135	●	115	●
PDNN N 3232 P15	32	32	170	34	16	DN.. 1506..	006	○	151	●	125	●	135	●	115	●
PDNN N 4025 S15	40	25	250	34	12.5	DN.. 1506..	008	○	151	●	125	●	135	●	115	●
PDNN N 5032 S15	50	32	250	34	16	DN.. 1506..	010	○	151	●	125	●	135	●	115	●

Prod. Gr. 1AQ

ATORN PSNN 90° insert holder, neutral (DIN 4983)

for chamfer and longitudinal turning using SN indexable inserts





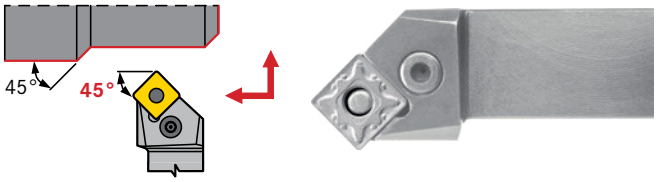
p. 601

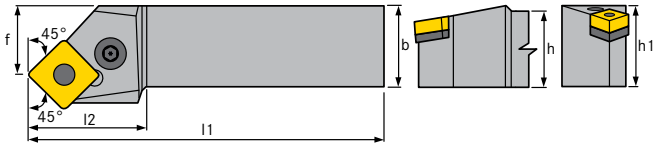
							PSNN 90° insert holder, neutral		Clamping screw for toggle lever		Shim		Clamping lever		Clamping sleeve	
						Tool design	Neutral									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17857... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
PSDN N 2020 K12	20	20	125	28	10	SN.. 1204..	005	●	141	●	112	●	115	●	115	●
PSDN N 2525 M12	25	25	150	28	12.5	SN.. 1204..	010	●	141	●	112	●	115	●	115	●
PSDN N 3232 P12	32	32	170	28	16	SN.. 1204..	015	○	141	●	112	●	115	●	115	●

Prod. Gr. 1AQ

ATORN PSSN 45° R/L insert holder, negative (DIN 4983)

for facing and longitudinal turning using SN indexable inserts





p. 601

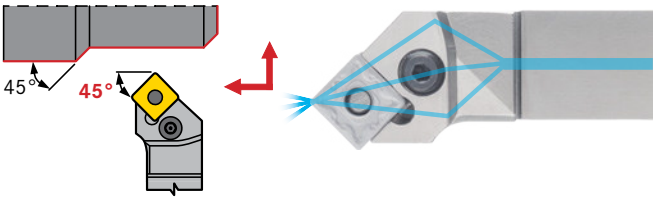
							PSSN 45° R/L insert holder, negative				Clamping screw for toggle lever		Shim		Clamping lever		Clamping sleeve	
						Tool design	Right		Left									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17840... Ident. No.		17840... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
PSSN R/L 2020 K12	20	20	125	28	25	SN.. 1204..	020	●	025	●	141	●	112	●	115	●	115	●
PSSN R/L 2525 M12	25	25	150	28	32	SN.. 1204..	030	●	035	●	141	●	112	●	115	●	115	●
PSSN R/L 3232 P19	32	32	170	42	40	SN.. 1906..	040	●	050	○	254	○	237	○	237	●	237	●

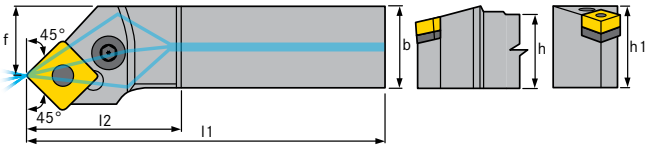
Prod. Gr. 1AQ

ATORN PSSN 45° R/L insert holder, negative

for facing and longitudinal turning using SN indexable inserts

IK





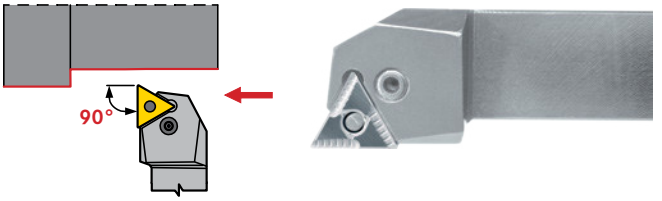
p. 601

							PSSN 45° R/L insert holder, negative				Clamping screw for toggle lever		Shim		Clamping lever		Clamping sleeve	
						Tool design	Right		Left									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17840... Ident. No.		17840... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
PSSN R/L 2020 K12 IK G1/8	20	20	125	29.4	25	SN.. 1204..	100	○	102	○	162	●	170	●	142	●	142	●
PSSN R/L 2525 M12 IK G1/8	25	25	150	29.3	32	SN.. 1204..	104	●	106	○	162	●	170	●	142	●	142	●

17840 100 = Prod. Gr. 1AQ
17840 102 = Prod. Gr. 1AQ
17840 106 = Prod. Gr. 1AQ
17840 104 = Prod. Gr. 107

ATORN PTGN 90° R/L insert holder, negative (DIN 4983)

for copy and longitudinal turning using TN indexable inserts



p. 606

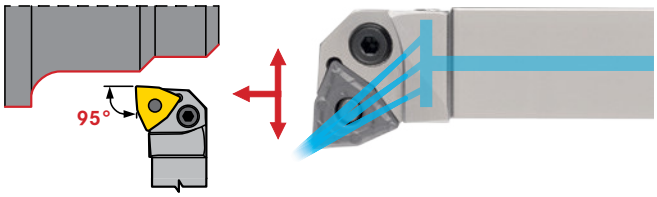
							PTGN 90° R/L insert holder, negative				Clamping screw for toggle lever		Shim		Clamping lever		Clamping sleeve	
						Tool design	Right		Left									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17839... Ident. No.		17839... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
PTGN R/L 1616 H16	16	16	100	22	20	TN.. 1604..	011	●	016	○	126	●	130	●	130	●	135	●
PTGN R/L 2020 K16	20	20	125	22	25	TN.. 1604..	021	●	026	●	126	●	130	●	130	●	135	●
PTGN R/L 2525 M16	25	25	150	22	32	TN.. 1604..	031	●	036	○	126	●	130	●	130	●	135	●

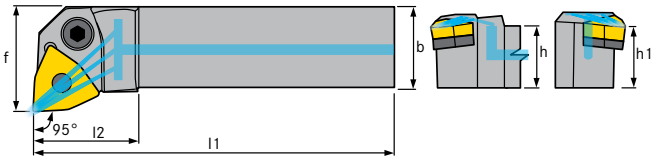
Prod. Gr. 1AQ

ATORN PWLN 93° insert holder with internal cooling, negative (DIN 4983)

for copy and longitudinal facing using WN indexable inserts

IK





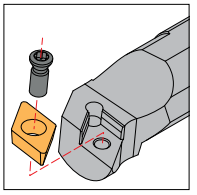
p. 617

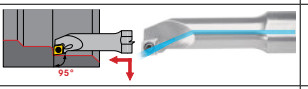
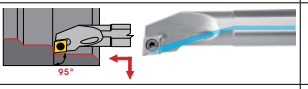
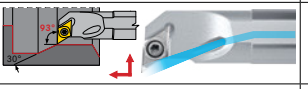
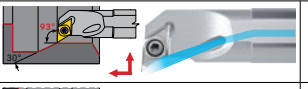
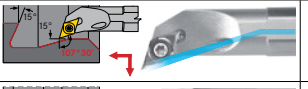
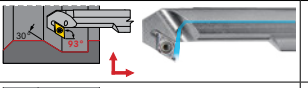
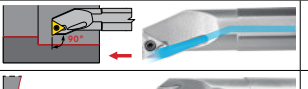
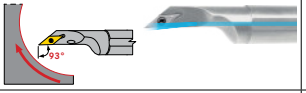
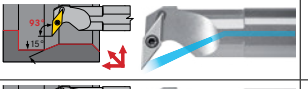
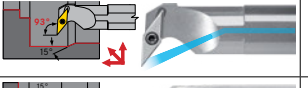
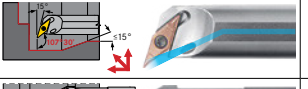
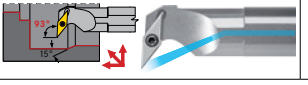
							PWLN 93° insert holder with internal cooling, negative				Clamping screw for toggle lever		Shim		Clamping lever		Clamping sleeve	
						Tool design	Right		Left									
ISO name	h=h1 (mm)	b (mm)	l1 (mm)	l2 (mm)	f (mm)	ISO	17839... Ident. No.		17839... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
PWLN R/L 2020 K08 IK G1/8	20	20	150	34	32	WN.. 0804..	715	●	720	●	162	●	168	●	142	●	142	●
PWLN R/L 2525 M08 IK G1/8	25	25	170	36	40	WN.. 0804..	725	●	730	○	162	●	168	●	142	●	142	●

Prod. Gr. 1BM

boring bars - clamping system S
for positive indexable inserts with hole

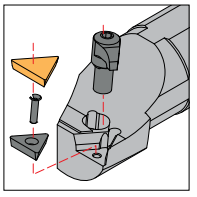
Clamping positive indexable inserts which are pulled into the insert setting via a central clamping screw. Modern and reliable clamping system for positive lathe machining. The advantage of this system is the high level of accessibility due to the compact design. Chips can be removed reliably with this system.

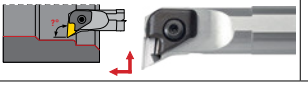


			page
17846168-174	SCLC boring bar, offset, steel, positive, right-hand For face and longitudinal turning with CC indexable insert		701
17846013-083	SCLC steel boring bar, positive right for face and longitudinal turning using CC indexable insert		698
17847210-214	SDUC boring bar, offset, steel, positive, right-hand For longitudinal and copy turning with DC indexable insert		702
17847012-032	SDUC offset steel boring bar, positive, right for longitudinal and copy turning using DC indexable insert		704-705
17848210-218	SDQC offset steel boring bar, positive, right for longitudinal and copy turning with DC indexable insert		707
17848022-072	SDQC steel boring bar, positive right for longitudinal and copy turning using DC indexable insert		708
17827200-212	SDXC steel boring bar, positive For longitudinal and copy turning with DC indexable insert		710
17850021-081	STFC boring bar steel positive, right-hand For longitudinal turning with TC indexable insert		711
17850300-320	SVJC boring bar steel positive, right-hand For blind hole radius turning with VC indexable insert		713
17855050-055	SVUB boring bar steel, positive, right-hand For longitudinal and copy turning with VB indexable insert		715
17849012-052	SVUC boring bar steel positive, right-hand For longitudinal and copy turning with VC indexable insert		716-717
17849098-099	SVVC steel boring bar, positive for longitudinal and copy turning using VC indexable inserts		718
17855100-105	SVQB steel boring bar, positive for longitudinal and copy turning with VB indexable insert		719
17849100-109	SVQC steel boring bar, positive for longitudinal and copy turning using VC indexable inserts		719
17855110-119	SVUB boring bar, steel positive for longitudinal and copy turning with VB indexable insert		720

boring bar - clamping system C
for positive indexable inserts without hole

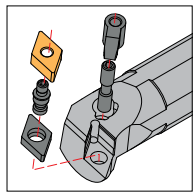
Clamping positive indexable inserts without hole. Classic clamping system for positive indexable inserts in sinter versions with and without chip breaker.

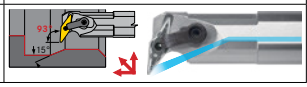


			page
17851010-020	CKUN steel boring bar, negative, right for longitudinal turning with KN indexable insert		721

boring bar - clamping system M
for negative indexable inserts with hole

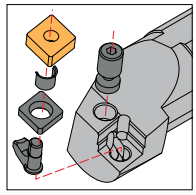
Clamping negative indexable inserts using clamping lever and adjustable clamp. The system minimises vibration of the indexable inserts. It is the first choice for negative ceramic inserts with central holes and also for cermet indexable inserts.

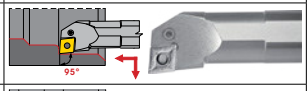
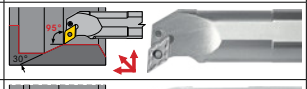
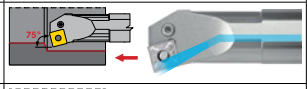
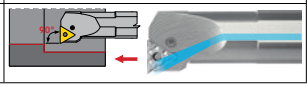


			page
17851110-120	MVUN steel boring bar, negative, right For copy and longitudinal turning using VN indexable insert		721

clamp holder external - clamping system P
for negative indexable inserts with hole

Clamping negative indexable inserts using clamping lever. Clamping system P allows a wide range of applications. It is the first choice for general turning operations. The advantage of this system is the high level of accessibility due to the compact design. Chips can be removed reliably with this system.



			page
17852011-041	PCLN steel boring bar, negative, right for facing and longitudinal turning using CN indexable insert		722
17853001-041	PDUN steel boring bar, negative, right for copy and longitudinal turning using DN indexable insert		723
17854050-075	PWLN steel boring bar, negative, right for facing and longitudinal turning using WN indexable insert		724
17856011-021	PSKN steel boring bar, negative, right for longitudinal turning using SN indexable insert		724
17858111-151	PTFN steel boring bar, negative, right for longitudinal turning using TN indexable insert		725

boring bars
in steel construction

Internal drilling down to a removal depth of up to 3xD.

boring bars
in HSS design

Inner boring up to a drill depth of 4xD. HSS has good vibration-damping properties.

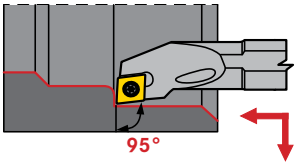
boring bars
in cemented carbide design

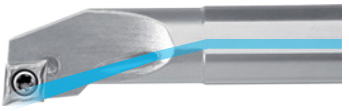
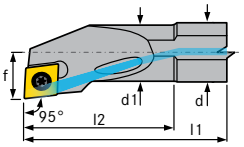
Inner boring up to a drill depth of 5xD. Cemented carbide has very good vibration-damping properties.

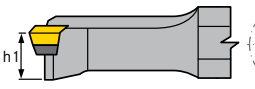
ATORN SCLC boring bar 95° steel, positive steel (DIN 8024)

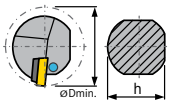
for facing and longitudinal turning using CC indexable inserts 3xD

IK







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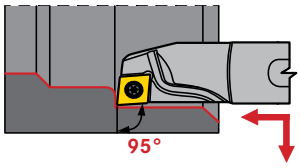
									SCLC boring bar 95° steel, positive steel				clamping screw for indexable insert		Shim		Insert nut	
								Tool design	Right		Left							
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17846... Ident. No.		17846... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
A 08 H SCLC R/L 06	12	8	3.5	12	100	7	6	CC.. 0602..	013	●	018	●	042	●	-	-	-	-
A 10 K SCLC R/L 06	14	10	4.5	16	125	9	7	CC.. 0602..	023	●	028	●	042	●	-	-	-	-
A 12 R SCLC R/L 06	18	12	5.5	20	140	11	9	CC.. 0602..	033	●	038	●	042	●	-	-	-	-
A 16 Q SCLC R/L 09	22	16	7.5	25	180	15	11	CC.. 09T3..	043	●	048	●	044	●	-	-	-	-
A 20 R SCLC R/L 09	26	20	9	32	200	18	13	CC.. 09T3..	053	●	058	●	044	●	-	-	-	-
A 25 R SCLC R/L 12	34	25	11.5	40	200	23	17	CC.. 1204..	063	●	068	●	046	●	-	-	-	-
A 32 S SCLC R/L 12	40	32	15	20	250	30	22	CC.. 1204..	073	●	078	●	026	●	005	●	232	●
A 40 T SCLC R/L 12	50	40	18.5	25	300	37	27	CC.. 1204..	083	●	088	○	026	●	005	●	232	●

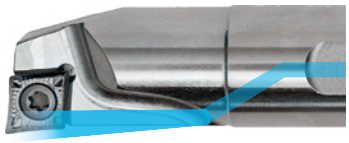
Prod. Gr. 1AQ

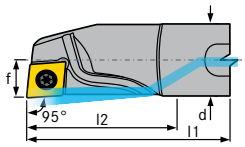
ATORN SCLC boring bar 95°, positive steel

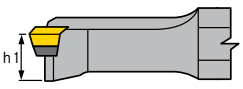
for facing and longitudinal turning using CC indexable inserts 3XD

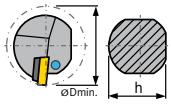
IK











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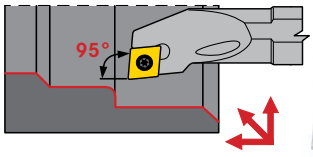
								SCLC boring bar 95°, positive steel				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17840... Ident. No.		17840... Ident. No.		17841... Ident. No.	
A08H SCLC R/L 06 N	10	8	20	100	3.5	5	CC.. 0602..	001	○	002	○	042	●
A10K SCLC R/L 06 N	12	10	20	125	4.5	6	CC.. 0602..	003	○	004	●	042	●
A12L SCLC R/L 06 N	14	12	24.2	140	5.5	7	CC.. 0602..	005	○	006	●	042	●
A16Q SCLC R/L 09 N	18	16	31	180	7.5	9	CC.. 09T3..	007	○	008	○	044	●
A20R SCLC R/L 09 N	22	20	36	200	9	11	CC.. 09T3..	009	○	010	○	044	●
A25R SCLC R/L 09 N	27	25	43	200	11.5	13.5	CC.. 09T3..	011	○	012	●	044	●
A25R SCLC R/L 12 N	27	25	43	200	11.5	13.5	CC.. 1204..	013	●	014	●	046	●

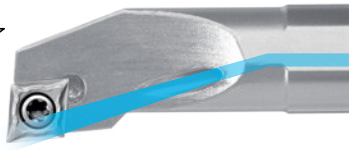
Prod. Gr. 1AQ

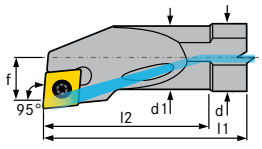
ATORN SCLC boring bar 95° steel, positive HSS (DIN 8024)

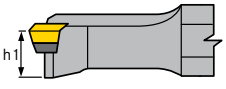
for facing and longitudinal turning using CC indexable inserts 4XD

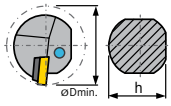
IK











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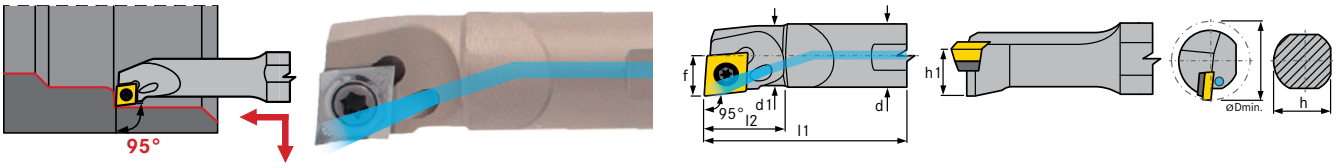
								SCLC boring bar 95° steel, positive HSS				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17846... Ident. No.		17846... Ident. No.		17841... Ident. No.	
AH 08 K SCLC R/L 06	10	8	3.5	20	125	7	5	CC.. 0602..	320	●	325	●	042	●
AH 10 K SCLC R/L 06	12	10	4.5	20	125	9	6	CC.. 0602..	330	●	335	○	042	●
AH 12 M SCLC R/L 06	14	12	5.5	20	150	11	7	CC.. 0602..	340	●	345	●	042	●
AH 16 Q SCLC R/L 09	18	16	7.5	27	180	15	9	CC.. 09T3..	350	○	355	●	044	●
AH 20 R SCLC R/L 09	23	20	9	27	200	18	11.5	CC.. 09T3..	360	●	365	○	044	●
AH 25 R SCLC R/L 12	28	25	11.5	40	200	23	14	CC.. 1204..	370	○	375	○	046	●

Prod. Gr. 1AQ

ATORN SCLC boring bar 95° steel, positive carbide (DIN 8024)

for facing and longitudinal turning using CC indexable inserts 5XD

IK



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									SCLC boring bar 95° steel, positive carbide				clamping screw for indexable insert		Shim		Insert nut	
								Tool design	Right		Left							
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17846... Ident. No.		17846... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
E08K-SCLC R/L 06	10	8	3.5	10	125	7	5	CC.. 0602..	112	●	117	●	042	●	-	-	-	-
E10K-SCLC R/L 06	12	10	4.5	10	125	9	6	CC.. 0602..	122	●	127	●	042	●	-	-	-	-
E12M-SCLC R/L 06	14	12	5.5	10	150	11	8	CC.. 0602..	132	●	137	●	042	●	-	-	-	-
E16R-SCLC R/L 09	18	16	7.5	16	200	15	9	CC.. 09T3..	142	●	147	●	044	●	-	-	-	-
E20S-SCLC R/L 09	23	20	9	16	250	18	11.5	CC.. 09T3..	152	○	157	○	044	●	-	-	-	-
E25S-SCLC R/L 12	30	25	11.5	16	250	23	13	CC.. 1204..	162	○	167	○	046	●	-	-	-	-
E32U-SCLC R/L 12	40	32	15	22	350	30	20	CC.. 1204..	173	○	177	○	026	●	005	●	232	●

Prod. Gr. 1AQ

ATORN SCLC boring bar set 95°, positive carbide (DIN 8024)

for facing and longitudinal turning using CC indexable inserts 5XD

IK

Technical data:

- Material: VHM
- Composition of set: 1 piece each E08K, E10K, E12M
- Number of pieces in assortment/set: 3 PCS
- Suitable for indexable inserts: CC.. 0602..

	SCLC boring bar set 95°, positive carbide			
Machining direction	Right		Left	
ISO name	17846... Ident. No.		17846... Ident. No.	
SCLC R06	200	●	-	-
SCLC L06	-	-	205	●

Prod. Gr. 1AQ

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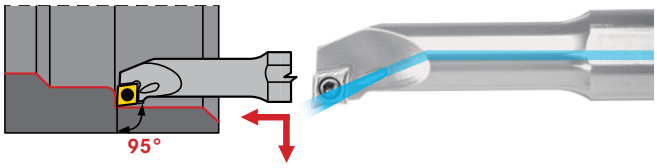
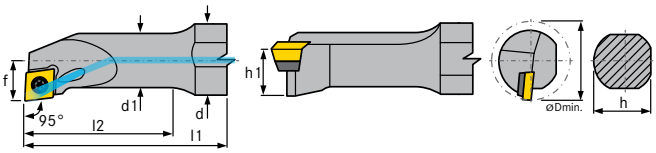
ATORN SCLC boring bar 95° offset, positive steel (DIN 8024)

for facing and longitudinal turning using CC indexable inserts up to 3XD

IK





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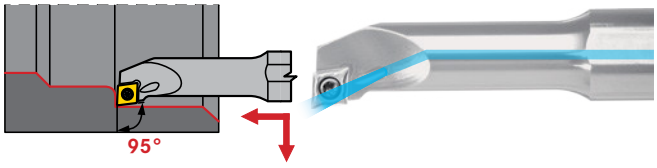
									SCLC boring bar 95° offset, positive steel				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17846... Ident. No.		17846... Ident. No.		17841... Ident. No.	
A 0608 H SCLC R/L 06	8	6	8	25	100	7	4	CC.. 06..	168	●	176	●	042	●
A 0810 J SCLC R/L 06	12	8	10	32	110	9	6	CC.. 06..	170	●	178	●	042	●
A 1012 K SCLC R/L 06	14	10	12	38	125	11	7	CC.. 06..	172	●	180	●	042	●
A 1216 M SCLC R/L 06	18	12	16	50	150	15	9	CC.. 06..	174	●	182	●	042	●

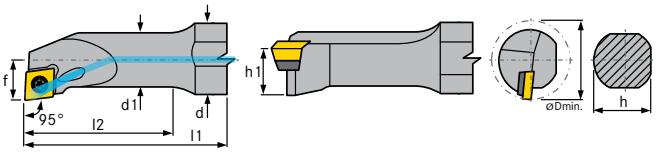
Prod. Gr. 1AQ

ATORN SCLC boring bar 95° offset, positive HSS up to 4xD (DIN 8024)

for facing and longitudinal turning using CC indexable inserts

IK





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									SCLC boring bar 95° offset, positive HSS up to 4xD				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17846... Ident. No.		17846... Ident. No.		17841... Ident. No.	
AH 0608 H SCLC R/L 06	8	6	8	25	100	7	4	CC.. 06..	184	●	192	●	042	●
AH 0810 J SCLC R/L 06	12	8	10	32	110	9	6	CC.. 06..	186	●	194	●	042	●
AH 1012 J SCLC R/L 06	14	10	12	38	110	11	7	CC.. 06..	188	●	196	○	042	●
AH 1216 M SCLC R/L 06	18	12	16	50	150	15	9	CC.. 06..	190	●	198	○	042	●

Prod. Gr. 1AQ

ORION ATORN SCLC boring bar set 95° offset, positive steel and HSS (DIN 8024)

for facing and longitudinal turning using CC indexable inserts

IK

Technical data:
- Number of pieces in assortment/set: 4 PCS
- Suitable for indexable inserts: CC.. 0602..

Ident. No. 100–108
Fig. shows HSS variant

Ident. No. 110

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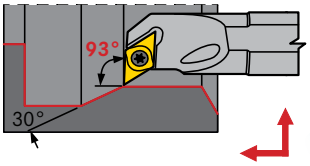
			SCLC boring bar set 95° offset, positive steel and HSS			
		Machining direction	Right		Left	
ISO name	Material	Composition of set	17846... Ident. No.		17846... Ident. No.	
SCLC R06	Steel	1 piece each A0608H, A0810J, A1012K, A1216M	100	●	-	-
SCLC L06	Steel	1 piece each A0608H, A0810J, A1012K, A1216M	-	-	105	●
SCLC R06	HSS	1 piece each AH0608H, AH0810J, AH1012K, AH1216M	107	●	-	-
SCLC L06	HSS	1 piece each AH0608H, AH0810J, AH1012K, AH1216M	-	-	108	●
SCLC R06	Steel	1 each A0608H, A0810J, A1012K, A1216M (without internal cooling)	110	●	-	-

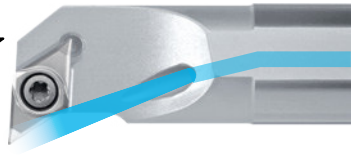
ATORN = Prod. Gr. 1AQ
ORION = Prod. Gr. 186

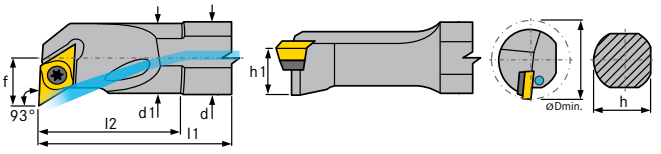
ATORN SDUC boring bar 93.5° offset, positive steel (DIN 8024)

for longitudinal and copy turning using DC indexable inserts 3XD

IK







p. 632

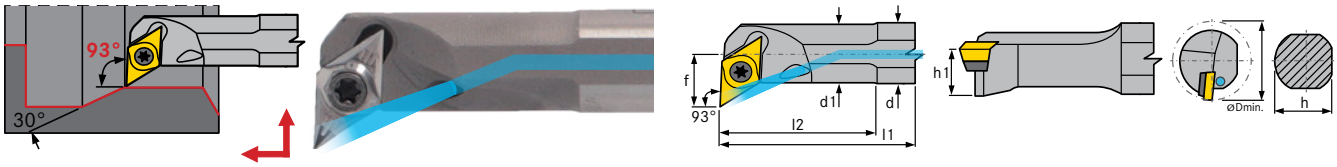
								SDUC boring bar 93.5° offset, positive steel				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17847... Ident. No.		17847... Ident. No.		17841... Ident. No.	
A 0810 H SDUC R/L 07	12.5	10	22	100	9	7	DC.. 0702..	210	●	211	●	042	●
A 1012 H SDUC R/L 07	15.5	12	28	125	11	9	DC.. 0702..	212	●	213	●	042	●
A 1216 R/L SDUC R/L 07	19.5	16	36	150	15	11	DC.. 0702..	214	●	215	●	042	●

Prod. Gr. 1AQ

ATORN SDUC boring bar 93.5° offset, positive HSS (DIN 8024)

for longitudinal and copy turning using DC indexable inserts 4XD

IK



p. 632

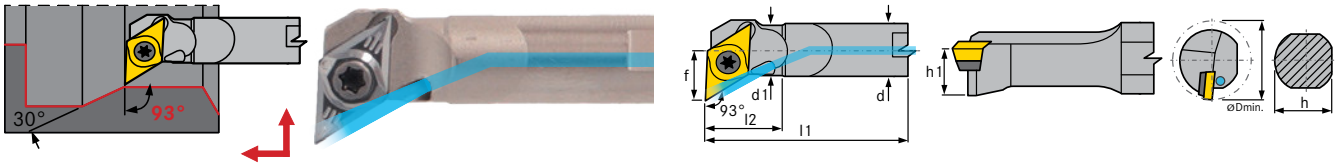
								SDUC boring bar 93.5° offset, positive HSS				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17847... Ident. No.		17847... Ident. No.		17841... Ident. No.	
AH 0810 H SDUC R/L 07	12.5	10	22	100	9	7	DC.. 0702..	216	○	217	○	042	●
AH 1012 K SDUC R/L 07	15.5	12	28	125	11	9	DC.. 0702..	218	●	219	●	042	●
AH 1216 M SDUC R/L 07	19.5	16	36	150	15	11	DC.. 0702..	220	○	221	●	042	●

Prod. Gr. 1AQ

ATORN SDUC boring bar offset 93.5°, positive carbide (DIN 8024)

for longitudinal and copy turning using DC indexable inserts 5XD

IK



p. 632

									SDUC boring bar offset 93.5°, positive carbide				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17847... Ident. No.		17847... Ident. No.		17841... Ident. No.	
E08K-SDUC R/L 07	13.5	8	3.5	10	125	7	7.5	DC.. 0702..	238	●	239	●	042	●
E10K-SDUC R/L 07	13.5	10	4.5	10	125	9	7.5	DC.. 0702..	240	●	241	●	042	●
E12M-SDUC R/L 07	15	12	5.5	12.5	150	11	7.5	DC.. 0702..	242	●	243	●	042	●

Prod. Gr. 1AQ

ORION ATORN SDUC boring bar set offset 93.5° positive steel, HSS, carbide (DIN 8024)

for longitudinal and copy turning using DC indexable inserts

IK

Application:

Ident. No. 100–105, 230–255: For longitudinal and copy turning with DC 55° indexable insert.

Ident. No. 110: For longitudinal and copy turning using DC 55° indexable inserts.

Execution:

- **Ident. No. 100–105:** precision-manufactured **steel** boring bar set, offset, with inner cooling, D type, 93.5° pitch angle, 55° tip angle, 7° clearance angle
- **Ident. No. 110:** precision-manufactured **steel** boring bar set, offset, without inner cooling, D type, pitch 93.5°, tip angle 55°, clearance angle 7°
- **Ident. No. 230–235:** precision-manufactured **HSS** boring bar set, offset, with inner cooling, D type, 93.5° pitch angle, 55° tip angle, 7° clearance angle
- **Ident. No. 250–255:** precision-manufactured **solid carbide** boring bar set, with inner cooling, D type, 93.5° pitch angle, 55° tip angle, 7° clearance angle

Advantage:

- **Ident. No. 100–105, 230–255:**
  - very slim geometry, optimised for contour turning work
  - positive body geometry ensures low cutting forces
- **Ident. No. 110:**
  - Universal use for facing and longitudinal turning
  - Positive body geometry ensures low cutting forces
- **Ident. No. 230–235:** high level of rigidity and good cutting quality thanks to HSS supporting material
- **Ident. No. 250–255:** very high level of rigidity and good cutting quality thanks to solid carbide supporting material

Ident. No. 100–105, 230–255
Fig. shows HSS variant

Ident. No. 110

p. 632

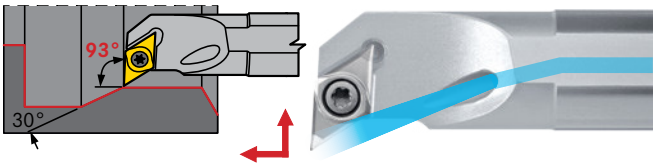
					SDUC boring bar set offset 93.5° positive steel, HSS, carbide			
				Machining direction	Right		Left	
ISO name	Material	Composition of set	Number of pieces in assortment/set (PCS)	Suitable for indexable inserts	17847... Ident. No.		17847... Ident. No.	
SDUC R07	Steel	1 piece each A0810H, A1012K, A1216M	3	DC.. 0702..	100	●	-	-
SDUC L07	Steel	1 piece each A0810HK, A1012H, A1216H	3	DC.. 0702..	-	-	105	●
SDUC R07	HSS	1 piece each AH0810HK, AH1012H, AH1216H	3	DC.. 0702..	230	●	-	-
SDUC L07	HSS	1 piece each AH0810HK, AH1012H, AH1216H	3	DC.. 0702..	-	-	235	○
SDUC R07	VHM	1 piece each E10K, E12M	2	DC.. 0702..	250	●	-	-
SDUC L07	VHM	1 piece each E10K, E12M	2	DC.. 0702..	-	-	255	○
SDUC R07	Steel	1 each A0810H, A1012k, A1216M (without internal cooling)	3	DC.. 07..	110	●	-	-

ATORN = Prod. Gr. 1AQ
ORION = Prod. Gr. 186

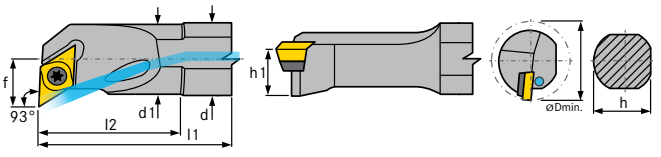
ATORN SDUC boring bar 93.5°, positive steel (DIN 8024)

for longitudinal and copy turning 93.5° with DC indexable inserts 3xD

IK



Ident. No. 012, 022, 032, 042–068



Ident. No. 017, 027, 037

p. 632

									SDUC boring bar 93.5°, positive steel				clamping screw for indexable insert		Shim		Insert nut	
								Tool design	Right		Left							
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17847... Ident. No.		17847... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
A 10 H SDUC R/L 07	14	10	4.5	8	100	9	7	DC.. 0702..	012	●	017	●	042	●	-	-	-	-
A 12 L SDUC R/L 07	18	12	5.5	20	140	11	9	DC.. 0702..	022	●	027	○	042	●	-	-	-	-
A 16 Q SDUC R/L 07	22	16	7.5	25	180	15	11	DC.. 0702..	032	●	037	●	042	●	-	-	-	-

									SDUC boring bar 93.5°, positive steel				clamping screw for indexable insert		Shim		Insert nut	
								Tool design	Right		Left							
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17847... Ident. No.		17847... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
A 20 R SDUC R/L 11	26	20	9	32	200	18	13	DC.. 11T3..	042	●	047	●	044	●	-	-	-	-
A 25 R SDUC R/L 11	34	25	11.5	40	200	23	17	DC.. 11T3..	052	●	057	●	044	●	-	-	-	-
A 32 S SDUC R/L 11	40	32	15	50	250	30	22	DC.. 11T3..	061	●	066	●	023	●	062	●	230	●
A 40 T SDUC R/L 11	50	40	18.5	50	300	37	25	DC.. 11T3..	067	●	068	●	023	●	062	●	230	●

Prod. Gr. 1AQ

ATORN SDUC boring bar 93.5°, positive steel HPT

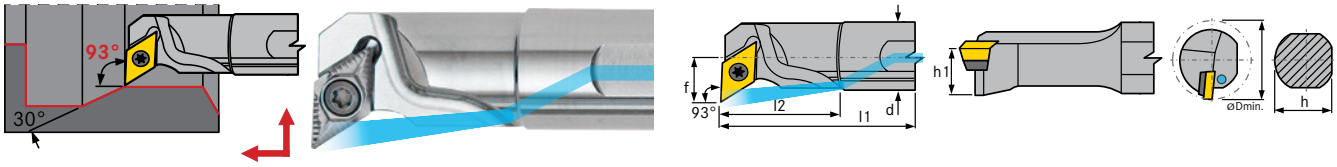
for longitudinal and copy turning using DC indexable inserts 4XD

IK

Application:
For longitudinal and copy turning with DC 55° indexable inserts.

Execution:
- Precision-manufactured boring bar, **steel**, with internal cooling, offset, type D, 93.5° pitch angle, 55° tip angle, 7° clearance angle

Advantage:
- High-performance boring bar with optimised chip space geometry for reliable chip removal
- Minimises Dmin with unchanged vibration tendency



p. 632

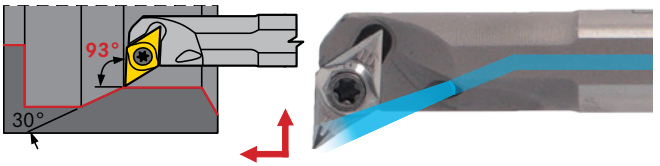
								SDUC boring bar 93.5°, positive steel HPT				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17840... Ident. No.		17840... Ident. No.		17841... Ident. No.	
A10K SDUC R/L 07 N	13	10	20	125	4.5	7	DC.. 0702..	120	○	121	○	042	●
A12L SDUC R/L 07 N	15	12	25	140	5.5	8	DC.. 0702..	122	●	123	○	042	●
A16Q SDUC R/L 07 N	19	16	28	180	7.5	10	DC.. 0702..	124	○	125	○	042	●
A16Q SDUC R/L 11 N	23	16	28	180	11.5	14	DC.. 11T3..	126	●	127	○	044	●
A20R SDUC R/L 11 N	25	20	36	200	9	13	DC.. 11T3..	128	○	129	○	044	●
A25R SDUC R/L 11 N	31	25	40	200	11.5	16	DC.. 11T3..	130	○	131	●	044	●

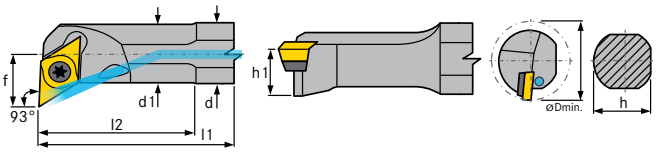
Prod. Gr. 1AQ

ATORN SDUC boring bar 93.5°, positive HSS (DIN 8024)

for longitudinal and copy turning using DC indexable inserts 4XD

IK





p. 632

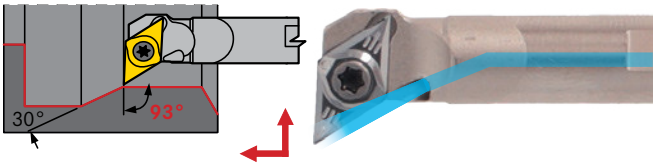
									SDUC boring bar 93.5°, positive HSS				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17847... Ident. No.		17847... Ident. No.		17841... Ident. No.	
AH08K SDUC R/L 07	13.5	8	-	20	125	7	7.5	DC.. 0702..	069	○	070	●	042	●
AH 10 K SDUC R/L 07	14	10	4.5	20	125	9	7.5	DC.. 0702..	071	○	076	○	042	●
AH 12 M SDUC R/L 07	16	12	5.5	25	150	11	8	DC.. 0702..	081	●	086	○	042	●
AH 16 Q SDUC R/L 07	20	16	7.5	25	180	15	10	DC.. 0702..	091	○	096	●	042	●
AH 20 R SDUC R/L 11	26	20	9	30	200	18	13	DC.. 11T3..	101	●	103	●	044	●
AH 25 R SDUC R/L 11	32	25	11.5	40	200	23	16	DC.. 11T3..	107	●	109	●	044	●

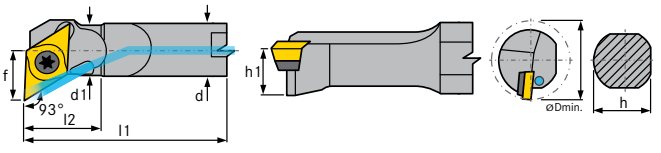
Prod. Gr. 1AQ

ATORN SDUC boring bar 93.5, positive solid carbide (DIN 8024)

for longitudinal and copy turning using DC indexable inserts 5XD

IK





p. 632

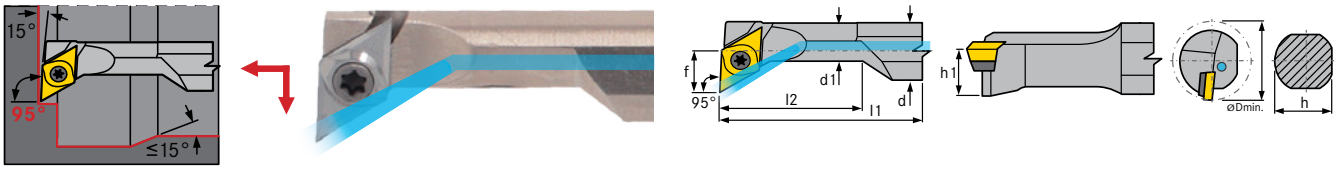
									SDUC boring bar 93.5, positive solid carbide				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17847... Ident. No.		17847... Ident. No.		17841... Ident. No.	
E08K-SDUC R/L 07	13.5	8	3.5	10	125	7	7.5	DC.. 0702..	238	●	239	●	042	●
E10K-SDUC R/L 07	13.5	10	4.5	10	125	9	7.5	DC.. 0702..	240	●	241	●	042	●
E12M-SDUC R/L 07	15	12	5.5	12.5	150	11	7.5	DC.. 0702..	242	●	243	●	042	●
E16R-SDUC R/L 07	19	16	7.5	16.5	200	15	9.5	DC.. 0702..	244	●	245	●	042	●
E20S-SDUC R/L 11	25	20	9	20.5	250	18	14	DC.. 11T3..	246	●	247	●	044	●
E25S-SDUC R/L 11	27	25	11.5	26	250	23	16	DC.. 11T3..	248	○	249	○	044	●

Prod. Gr. 1AQ

ATORN SDQC boring bar 107.5° offset, positive steel (DIN 8024)

for longitudinal and copy turning using DC indexable inserts 3XD

IK



p. 632

									SDQC boring bar 107.5° offset, positive steel				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17848... Ident. No.		17848... Ident. No.		17841... Ident. No.	
A 0810 H SDQC R/L 07	12.5	8	10	22	100	9	7	DC.. 0702..	210	●	212	●	042	●
A 1012 K SDQC R/L 07	15.5	10	12	28	125	11	9	DC.. 0702..	214	●	216	●	042	●
A 1216 M SDQC R/L 07	19.5	12	16	36	150	15	11	DC.. 0702..	218	●	220	●	042	●

Prod. Gr. 1AQ

ATORN SDQC boring bar set 107.5° offset, positive steel (DIN 8024)

for longitudinal and copy turning using DC indexable inserts 3XD

IK

Application:
For longitudinal and copy turning with DC 55° indexable insert.

Execution:
- precision-manufactured steel boring bar, offset, with inner cooling, D type, 107.5° pitch angle, 55° tip angle, 7° clearance angle

Advantage:
- very slim geometry, optimised for contour turning work
- positive body geometry ensures low cutting forces

p. 632

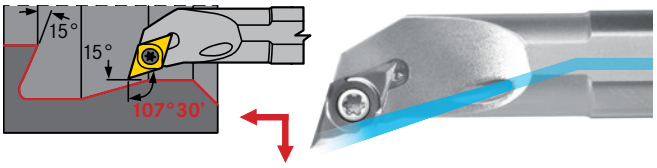
					SDQC boring bar set 107.5° offset, positive steel			
					Machining direction	Right	Left	
ISO name	Material	Composition of set	Number of pieces in assortment/set (PCS)	Suitable for indexable inserts	17848... Ident. No.		17848... Ident. No.	
SDQC R07	Steel	1 piece each A0810H, A1012K, A1216M	3	DC.. 0702..	200	●	-	-
SDQC L07	Steel	1 piece each A0810H, A1012K, A1216M	3	DC.. 0702..	-	-	205	●

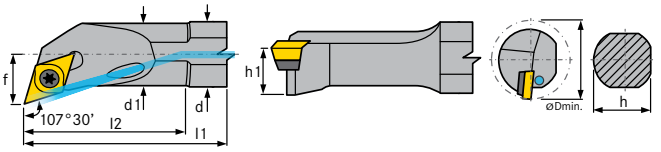
Prod. Gr. 1AQ

ATORN SDQC boring bar 107.5°, positive steel (DIN 8024)

for longitudinal and copy turning using DC indexable inserts 3XD

IK





p. 632

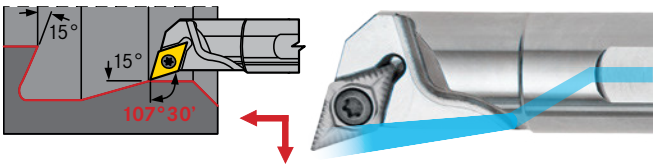
									SDQC boring bar 107.5°, positive steel				clamping screw for indexable insert		Shim		Insert nut	
								Tool design	Right		Left							
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17848... Ident. No.		17848... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
A10K SDQC R/L 07	14	10	-	16	125	9	7	DC.. 0702..	016	○	017	○	042	●	-	-	-	-
A 12 L SDQC R/L 07	18	12	5.5	20	125	11	9	DC.. 0702..	022	●	027	○	042	●	-	-	-	-
A 16 Q SDQC R/L 07	22	16	7.5	25	150	15	11	DC.. 0702..	032	●	037	●	042	●	-	-	-	-
A 20 R SDQC R/L 11	26	20	9	32	200	18	13	DC.. 11T3..	042	●	047	●	044	●	-	-	-	-
A 25 R SDQC R/L 11	34.5	25	11.5	40	200	23	17	DC.. 11T3..	052	●	057	●	044	●	-	-	-	-
A 32 S SDQC R/L 11	44	32	15	33.5	250	30	22	DC.. 11T3..	062	●	067	●	023	●	062	●	230	●
A 40 T SDQC R/L 11	54	40	18.5	50	300	37	27	DC.. 11T3..	072	○	077	○	023	●	062	●	230	●

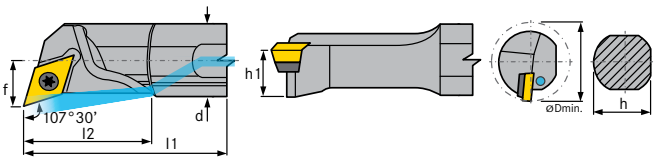
Prod. Gr. 1AQ

ATORN SDQC boring bar 107.5°, positive steel

for longitudinal and copy turning using DC indexable inserts 3xD

IK





p. 632

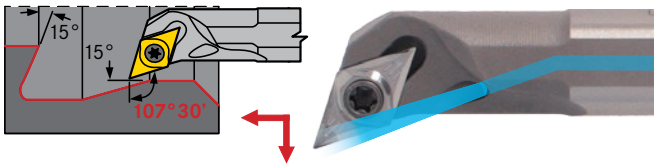
								SDQC boring bar 107.5°, positive steel				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17840... Ident. No.		17840... Ident. No.		17841... Ident. No.	
A10K SDQC R/L 07 N	13	10	20	125	4.5	7	DC.. 0702..	140	○	141	○	042	●
A12L SDQC R/L 07 N	15	12	25	140	5.5	8	DC.. 0702..	142	○	143	●	042	●
A16Q SDQC R/L 07 N	19	16	28	180	7.5	10	DC.. 0702..	144	●	145	●	042	●
A16Q SDQC R/L 11 N	23	16	28	180	7.5	14	DC.. 11T3..	146	●	147	●	044	●
A20R SDQC R/L 11 N	25	20	36	200	9	13	DC.. 11T3..	148	○	149	●	044	●
A25R SDQC R/L 11 N	31	25	40	200	11.5	16	DC.. 11T3..	150	●	151	○	044	●

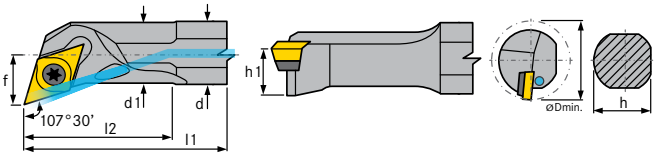
Prod. Gr. 1AQ

ATORN SDQC boring bar 107.5°, positive HSS (DIN 8024)

for longitudinal and copy turning using DC indexable inserts 4XD

IK





p. 632

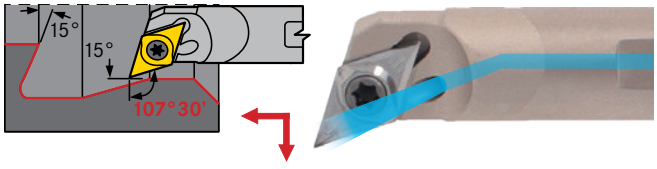
									SDQC boring bar 107.5°, positive HSS				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17848... Ident. No.		17848... Ident. No.		17841... Ident. No.	
AH08K SDQC R/L 07	12	8	-	20	125	7	8	DC.. 0702..	079	○	080	○	042	●
AH 10 K SDQC R/L 07	13	10	4.5	20	125	9	7	DC.. 0702..	082	●	087	○	042	●
AH 12 M SDQC R/L 07	16	12	5.5	20	150	11	8.5	DC.. 0702..	092	●	097	○	042	●
AH 16 Q SDQC R/L 07	20	16	7.5	30	180	15	10	DC.. 0702..	102	○	107	●	042	●
AH 20 R SDQC R/L 11	25	20	9	40	200	18	12.5	DC.. 11T3..	112	○	117	●	044	●
AH 25 R SDQC R/L 11	32	25	11.5	40	200	23	16	DC.. 11T3..	122	○	127	●	044	●

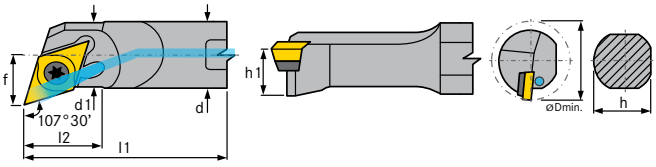
Prod. Gr. 1AQ

ATORN SDQC boring bar 107.5°, positive carbide (DIN 8024)

for longitudinal and copy turning using DC indexable inserts 5XD

IK





p. 632

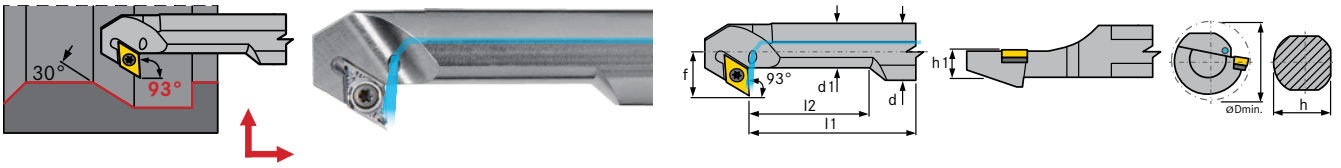
									SDQC boring bar 107.5°, positive carbide				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17848... Ident. No.		17848... Ident. No.		17841... Ident. No.	
E08K-SDQC R/L 07	12	8	3.5	10	125	7	7	DC.. 0702..	132	●	137	○	042	●
E10K-SDQC R/L 07	13	10	4.5	10	125	9	7	DC.. 0702..	142	●	147	●	042	●
E12M-SDQC R/L 07	16	12	5.5	12.5	150	11	8.5	DC.. 0702..	152	●	157	●	042	●
E16R-SDQC R/L 07	20	16	7.5	16.5	200	15	10	DC.. 0702..	162	○	167	●	042	●
E20S-SDQC R/L 11	25	20	9	13	250	18	12.5	DC.. 11T3..	172	○	177	○	044	●
E25S-SDQC R/L 11	32	25	11.5	17	250	23	16	DC.. 11T3..	182	○	187	○	044	●

Prod. Gr. 1AQ

ATORN SDXC boring bar 93°, positive steel (DIN 8024)

for longitudinal and copy turning using DC indexable inserts 3XD

IK



p. 632

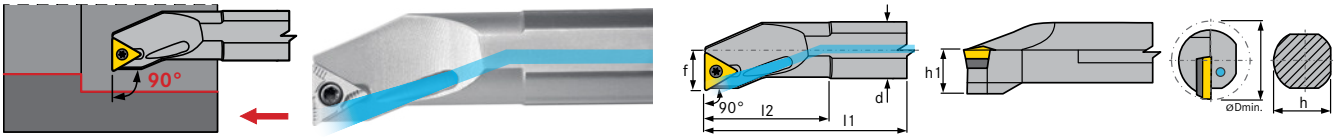
									SDXC boring bar 93°, positive steel				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17861... Ident. No.		17861... Ident. No.		17841... Ident. No.	
A 12L SDXC R/L 07	17	12	4.3	25	140	11	-	DC.. 07..	200	●	204	○	042	●
A16Q SDXC R/L 07	21	16	4.3	33	180	15	-	DC.. 07..	208	●	212	●	042	●
A20R SDXC R/L 11	25	20	-	40	200	18	13	DC.. 11T3..	220	●	222	●	044	●
A25R SDXC R/L 11	31.5	25	-	50	200	23	17	DC.. 11T3..	225	●	227	●	044	●

Prod. Gr. 1AQ

ATORN STFC boring bar 90°, positive steel (DIN 8024)

for longitudinal turning with TC indexable inserts 3xD

IK



p. 640

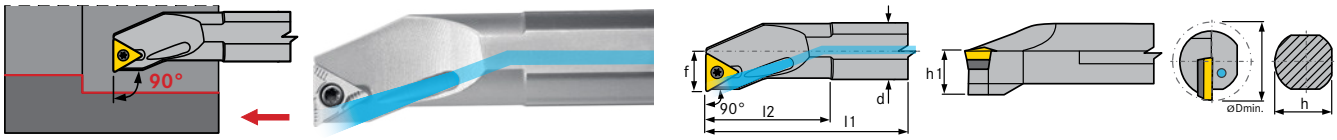
									STFC boring bar 90°, positive steel				clamping screw for indexable insert		Shim		Insert nut	
								Tool design	Right		Left							
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17850... Ident. No.		17850... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
A 10 K STFC R/L 11	14	10	4.5	16	125	9	7	TC.. 1102..	021	●	026	○	042	●	-	-	-	-
A 12 R STFC R/L 11	18	12	5.5	20	140	11	9	TC.. 1102..	031	●	036	○	042	●	-	-	-	-
A 16 Q STFC R/L 11	22	16	7.5	25	180	15	11	TC.. 1102..	041	●	046	○	042	●	-	-	-	-
A 20 R STFC R/L 16	26	20	9	32	200	18	13	TC.. 16T3..	051	●	056	●	044	●	-	-	-	-
A 25 R STFC R/L 16	34	25	11.5	40	200	23	17	TC.. 16T3..	061	●	066	●	044	●	-	-	-	-
A 32 S STFC R/L 16	40	32	15	21	250	30	22	TC.. 16T3..	071	●	076	○	023	●	007	○	230	●
A 40 T STFC R/L 16	49	40	18.5	21	300	37	27	TC.. 16T3..	081	○	086	○	023	●	007	○	230	●

Prod. Gr. 1AQ

ATORN STFC boring bar 90°, positive steel

for longitudinal turning with TC indexable inserts 3XD

IK



p. 640

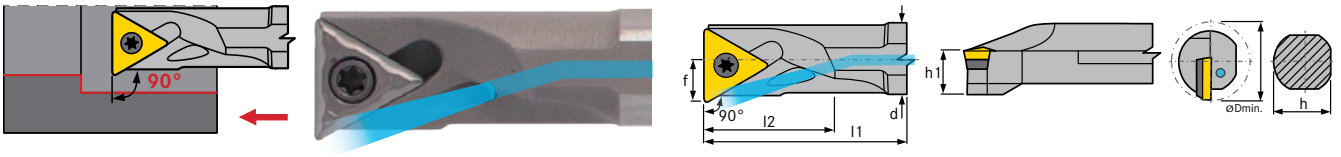
								STFC boring bar 90°, positive steel				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17840... Ident. No.		17840... Ident. No.		17841... Ident. No.	
A10K STFC R/L 11 N	12	10	22	125	4.5	6	TC.. 1102..	170	●	171	●	042	●
A12L STFC R/L 11 N	14	12	24.3	140	5.5	7	TC.. 1102..	172	○	173	○	042	●
A16Q STFC R/L 11 N	18	16	31	180	7.5	9	TC.. 1102..	174	●	175	○	042	●
A20R STFC R/L 11 N	22	20	36	200	9	11	TC.. 1102..	176	○	-	-	042	●
A20R STFC R/L11 N	22	20	36	200	9	11	TC.. 1102..	-	-	177	○	042	●

Prod. Gr. 1AQ

ATORN STFC boring bar, positive HSS (DIN 8024)

for longitudinal turning with TC indexable inserts 4XD

IK



p. 640

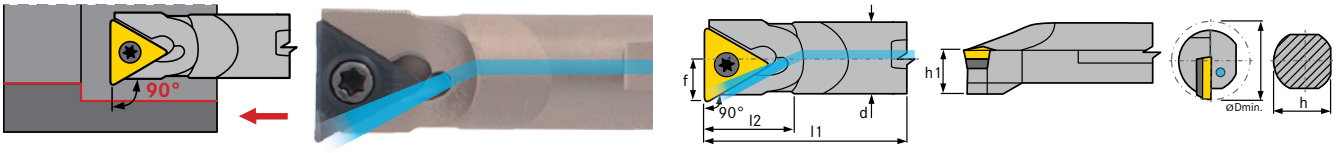
									STFC boring bar, positive HSS				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17850... Ident. No.		17850... Ident. No.		17841... Ident. No.	
AH 10 K STFC R/L 11	12	10	4.5	16	125	9	7	TC.. 1102..	087	●	088	○	042	●
AH 12 M STFC R/L 11	14	12	5.5	20	150	11	9	TC.. 1102..	089	●	090	○	042	●
AH 16 Q STFC R/L 11	18	16	7.5	25	180	15	11	TC.. 1102..	091	○	092	○	042	●
AH 20 R STFC R/L 11	23	20	9	32	200	18	13	TC.. 1102..	093	○	094	○	042	●
AH 25 R STFC R/L 16	28	25	11.5	40	200	23	17	TC.. 16T3..	095	○	096	○	044	●

Prod. Gr. 1AQ

ATORN STFC boring bar 90°, positive carbide (DIN 8024)

for longitudinal turning with TC indexable inserts 5XD

IK



p. 640

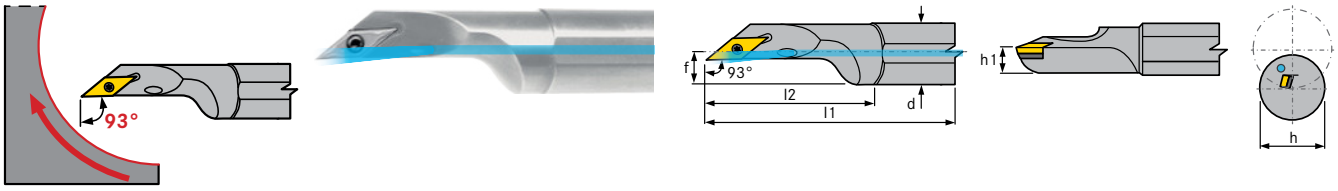
									STFC boring bar 90°, positive carbide				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17850... Ident. No.		17850... Ident. No.		17841... Ident. No.	
E10K STFC R/L 11	12	10	-	16	125	9	6	TC.. 1102..	098	○	099	○	042	●
E12M-STFC R/L 11	15	12	5.5	20	150	11	7.5	TC.. 1102..	121	○	126	●	042	●
E16R-STFC R/L 11	19	16	7.5	25	200	15	9.5	TC.. 1102..	131	○	136	○	042	●
E20S-STFC R/L 16	24	20	9	32	250	18	12	TC.. 16T3..	141	○	146	○	044	●
E25S-STFC R/L 16	27	25	11.5	40	250	23	13.5	TC.. 16T3..	151	○	156	○	044	●

Prod. Gr. 1AQ

ATORN SVJC boring bar 52°, positive steel (DIN 8024)

for turning blind hole radii using VC indexable inserts 3XD

IK



p. 651

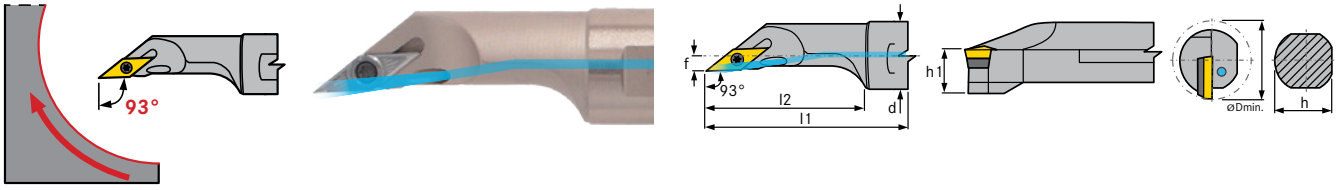
									SVJC boring bar 52°, positive steel				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17850... Ident. No.		17850... Ident. No.		17841... Ident. No.	
A 16 M SVJC R/L 11	22	16	7.5	30	150	15	4.6	VC.. 1103..	300	●	305	●	042	●
A 20 Q SVJC R/L 11	25	20	9	38	180	18	4.6	VC.. 1103..	310	●	315	●	042	●
A 25 R SVJC R/L 16	28	25	11.5	44	200	23	4.6	VC.. 1604..	320	●	325	●	044	●

Prod. Gr. 1AQ

ATORN SVJC boring bar 52°, positive steel (DIN 8024)

for turning blind hole radii using VC indexable inserts 4XD

IK



p. 651

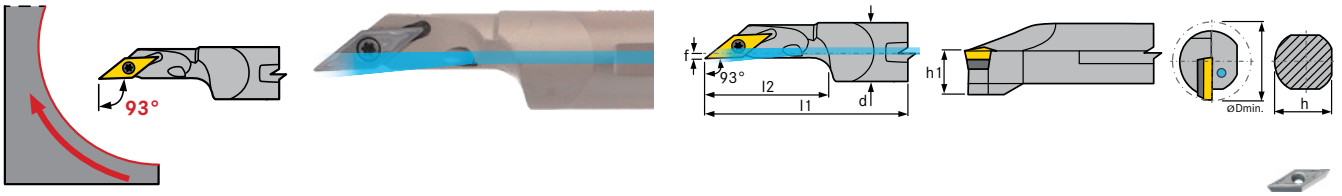
									SVJC boring bar 52°, positive steel				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17850... Ident. No.		17850... Ident. No.		17841... Ident. No.	
AH 16 M SVJC R/L 11	22	16	7.5	30	150	15	4.6	VC.. 1103..	400	○	405	○	042	●
AH 20 Q SVJC R/L 11	25	20	9	38	180	18	4.6	VC.. 1103..	410	○	415	○	042	●
AH 25 R SVJC R/L 16	28	25	11.5	44	200	23	4.6	VC.. 1604..	420	○	425	○	044	●

Prod. Gr. 1AQ

ATORN SVJC boring bar 52°, positive steel (DIN 8024)

for turning blind hole radii using VC indexable inserts 5XD

IK



p. 651

								SVJC boring bar 52°, positive steel				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17850... Ident. No.		17850... Ident. No.		17841... Ident. No.	
E16R SVJC R/L 11	22	16	31.4	200	15	2	VC.. 1103..	600	○	602	○	042	●
E20S SVJC R/L 11	24	20	38	250	19	2	VC.. 1103..	605	○	607	○	042	●
E25S SVJC R/L 16	28	25	44	250	24	4.6	VC.. 1604..	610	○	612	○	044	●

Prod. Gr. 1AQ

ATORN SVJC boring bar set 52°, positive steel (DIN 8024)

for turning blind hole radii using VC indexable inserts 3XD

IK

					SVJC boring bar set 52°, positive steel			
					Machining direction		Left	
ISO name	Material	Composition of set	Number of pieces in assortment/set (PCS)	Suitable for indexable inserts	17850... Ident. No.		17850... Ident. No.	
SVJC R11	Steel	1 piece each A16M, A20Q	2	VC.. 1103..	250	○	-	-
SVJC L11	Steel	1 piece each A16M, A20Q	2	VC.. 1103..	-	-	255	○

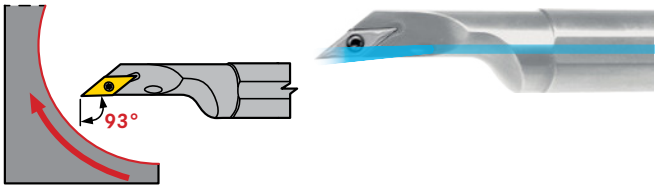
Prod. Gr. 1AQ

p. 651

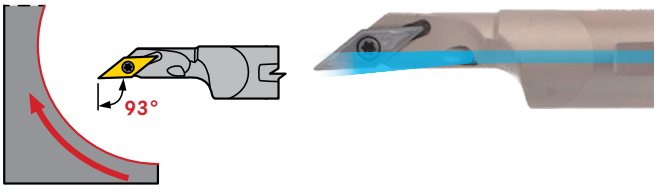
ATORN SVJB boring bar 52°, positive steel

for longitudinal and copy turning using VB indexable inserts 3XD

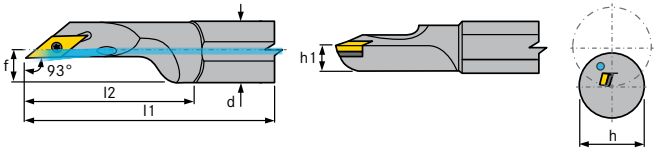
IK



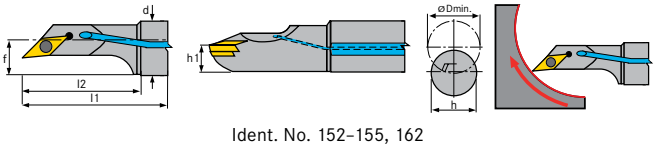
Ident. No. 150–162



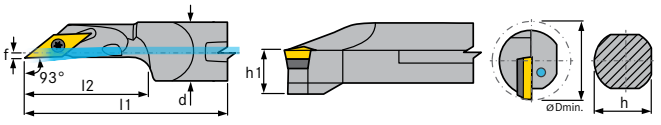
Ident. No. 246–251



Ident. No. 150, 157–160



Ident. No. 152–155, 162



Ident. No. 246–251

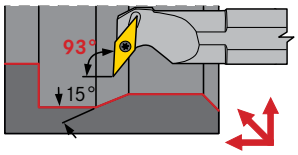
p. 658

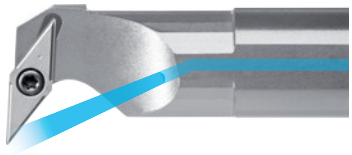
								SVJB boring bar 52°, positive steel				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17851... Ident. No.		17851... Ident. No.		17841... Ident. No.	
A16M SVJB R/L 11	22	16	31.4	150	15	2	VB.. 1103..	150	○	152	○	042	●
A20Q SVJB R/L 11	24	20	38	180	19	2	VB.. 1103..	157	○	155	○	042	●
A25R SVJB R/L 16	28	25	44	200	24	4.6	VB.. 1604..	160	○	162	●	042	●
-	22	16	31.4	200	-	2	VB.. 1103..	246	○	247	●	-	-
-	24	20	38	250	-	2	VB.. 1604..	248	●	249	●	-	-
-	28	25	44	250	-	4.6	VB.. 1604..	250	●	251	●	-	-

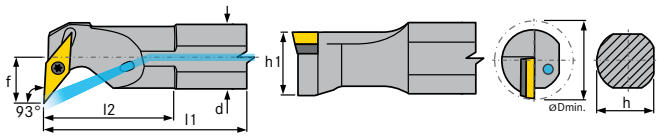
Prod. Gr. 1AQ

ATORN SVUB boring bar 93°, positive steel (DIN 8024)

for copy and longitudinal turning using VB indexable inserts 4XD







p. 658

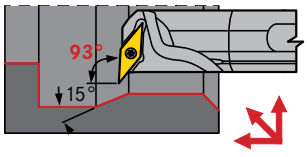
									SVUB boring bar 93°, positive steel				clamping screw for indexable insert		Shim		Insert nut	
								Tool design	Right		Left							
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17855... Ident. No.		17855... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
S 25 T SVUB R/L 16	31	25	11.5	40	300	23	17	VB.. 1604..	050	○	051	○	160	●	050	●	050	●
S 32 U SVUB R/L 16	39	32	15	50	350	30	22	VB.. 1604..	055	●	056	○	160	●	050	●	050	●

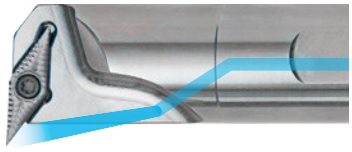
Prod. Gr. 1AQ

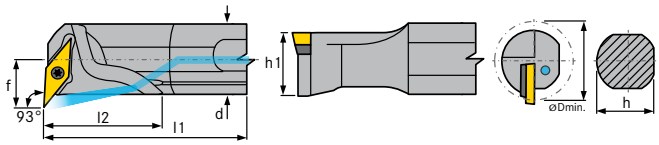
ATORN SVUC boring bar 93°, positive steel HPT

for longitudinal and copy turning using VC indexable inserts 3XD

IK







p. 651

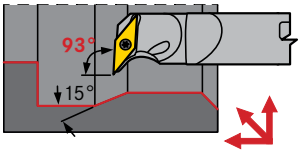
								SVUC boring bar 93°, positive steel HPT				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17840... Ident. No.		17840... Ident. No.		17841... Ident. No.	
A16Q SVUB R/L 11 N	20	16	31	180	7.5	11	VB.. 1103..	180	○	181	●	042	●
A20R SVUB R/L 11 N	24	20	36	200	9	13	VB.. 1103..	182	●	183	●	042	●
A25R SVUB R/L 16 N	31	25	40	200	11.5	17	VB.. 1604..	184	●	185	●	044	●

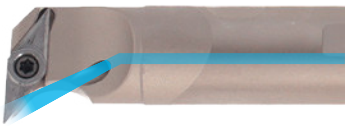
Prod. Gr. 1AQ

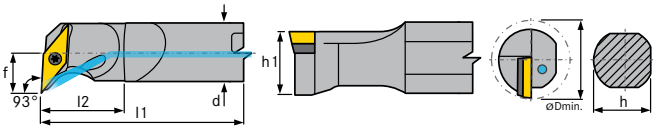
ATORN SVUB boring bar 93°, positive steel (DIN 8024)

for copy and longitudinal turning using VB indexable inserts 5XD

IK







p. 658

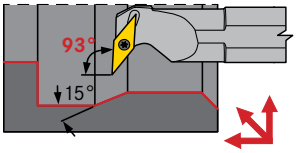
								SVUB boring bar 93°, positive steel				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17855... Ident. No.		17855... Ident. No.		17841... Ident. No.	
E16R SVUB R/L 11	21	16	16.5	200	15	11	VB.. 1103..	060	○	062	○	042	●
E20S SVUB R/L 11	25	20	20.5	250	18	13	VB.. 1103..	067	○	065	○	042	●
E25S SVUB R/L 11	31.5	25	23	250	23	17	VB.. 1103..	070	○	072	○	042	●

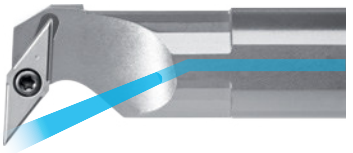
Prod. Gr. 1AQ

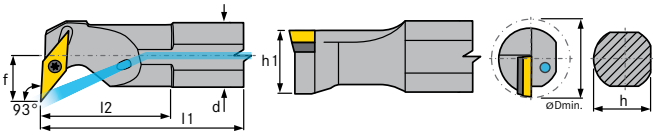
ATORN SVUC boring bar 93°, positive steel (DIN 8024)

for longitudinal and copy turning using VC indexable inserts 3XD

IK







p. 651

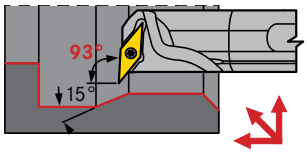
									SVUC boring bar 93°, positive steel				clamping screw for indexable insert		Shim		Insert nut	
								Tool design	Right		Left							
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17849... Ident. No.		17849... Ident. No.		17841... Ident. No.		17842... Ident. No.		17844... Ident. No.	
A 16 M SVUC R/L 11	21	16	7.5	16.5	150	15	11	VC.. 1103..	012	●	017	●	042	●	-	-	-	-
A 20 R SVUC R/L 11	25	20	9	20.5	200	18	13	VC.. 1103..	022	●	027	○	042	●	-	-	-	-
A 25 R SVUC R/L 16	31.5	25	11.5	25.5	200	23	17	VC.. 1604..	032	○	037	●	023	●	230	●	230	●
A 32 S SVUC R/L 16	40	32	15	33.5	250	30	22	VC.. 1604..	042	●	047	○	023	●	230	●	230	●
A 40 T SVUC R/L 16	49	40	18.5	40	300	37	27	VC.. 1604..	052	●	057	○	023	●	230	●	230	●

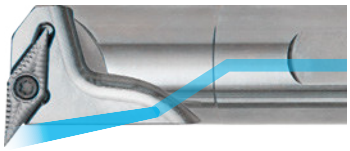
Prod. Gr. 1AQ

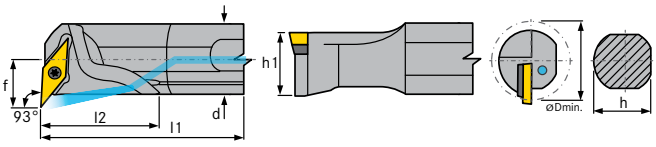
ATORN SVUC boring bar 93°, positive steel HPT

for longitudinal and copy turning using VC indexable inserts 3XD

IK







p. 651

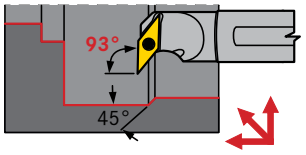
								SVUC boring bar 93°, positive steel HPT				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17840... Ident. No.		17840... Ident. No.		17841... Ident. No.	
A16Q SVUC R/L 11 N	20	16	31	180	7.5	11	VC.. 1102..	190	●	191	●	042	●
A20R SVUC R/L 11 N	24	20	36	200	9	13	VC.. 1102..	192	○	193	●	042	●
A25R SVUC R/L 16 N	31	25	40	200	11.5	17	VC.. 1604..	194	●	195	●	044	●

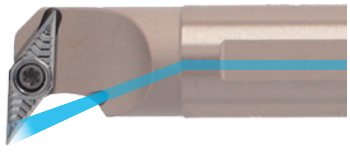
Prod. Gr. 1AQ

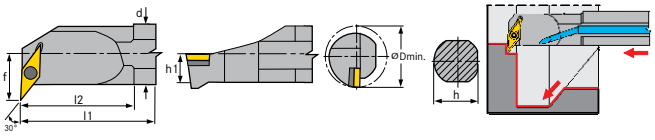
ATORN SVUC boring bar 93°, positive HSS (DIN 8024)

for longitudinal and copy turning using VC indexable inserts 4XD

IK







p. 651

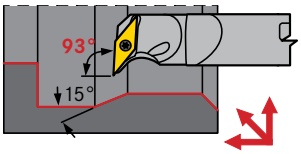
								SVUC boring bar 93°, positive HSS				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17849... Ident. No.		17849... Ident. No.		17841... Ident. No.	
AH16Q SVUC R/L 11	21	16	7.5	20	180	15	11	VC.. 1103..	120	●	121	○	042	●
AH20R SVUC R/L 11	25	20	9	24	200	18	13	VC.. 1103..	122	●	123	●	042	●
AH25R SVUC R/L 16	31.5	25	11.5	25.5	200	23	17	VC.. 1604..	124	○	125	●	044	●

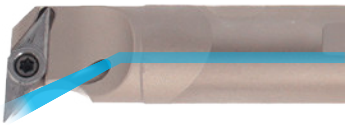
Prod. Gr. 1AQ

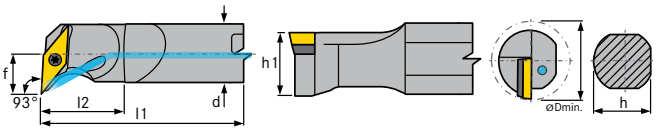
ATORN SVUC boring bar 93°, positive carbide (DIN 8024)

for longitudinal and copy turning using VC indexable inserts 5XD

IK







p. 651

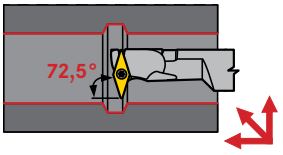
									SVUC boring bar 93°, positive carbide				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17849... Ident. No.		17849... Ident. No.		17841... Ident. No.	
E16R-SVUC R/L 11	21	16	7.5	16.5	200	15	11	VC.. 1103..	062	○	067	○	042	●
E20S-SVUC R/L 11	25	20	9	20.5	250	18	13	VC.. 1103..	072	●	077	○	042	●
E25S-SVUC R/L 11	31.5	25	11.5	25.5	250	23	17	VC.. 1103..	082	○	087	○	042	●

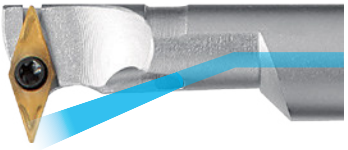
Prod. Gr. 1AQ

ATORN SVVC boring bar 72.5°, positive steel (DIN 8024)

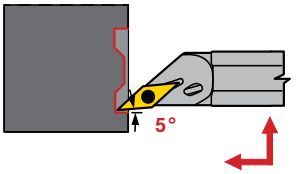
for longitudinal and copy turning using VC indexable inserts 3XD

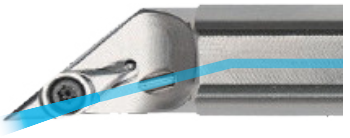
IK



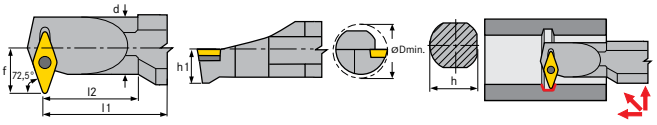


Ident. No. 098–113





Ident. No. 114–117



Ident. No. 098–113

p. 651

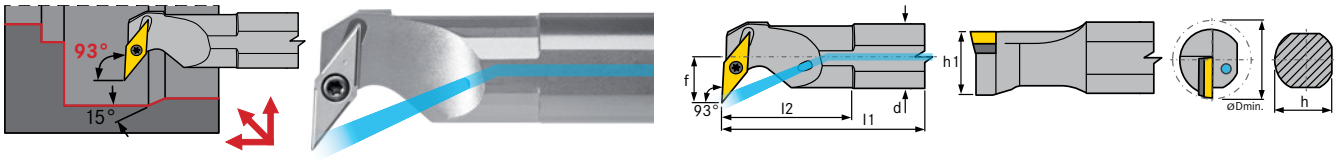
									SVVC boring bar 72.5°, positive steel				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17849... Ident. No.		17849... Ident. No.		17841... Ident. No.	
A 16M SVVC R/L 11	23	16	9.5	40	150	15	-	VC.. 1103..	098	●	099	●	042	●
A20Q SVVC R/L 11	25	20	-	9.5	180	19	-	VC.. 11..	110	○	111	●	-	-
A25R SVVC R/L 16	34	25	-	13	200	24	-	VC.. 1604..	112	○	113	●	-	-
E08F SVOC R/L 05	8.0	8	3.5	15	80	7	3	VC.. 05..	114	●	115	●	-	-
E10H SVOC R/L 07	13.0	10	4.5	22	100	9	5.5	VC.. 07..	116	●	117	●	-	-

Prod. Gr. 1AQ

ATORN SVQB boring bar 107.5°, positive steel (DIN 8024)

for longitudinal and copy turning using VB indexable inserts 3XD

IK



p. 651

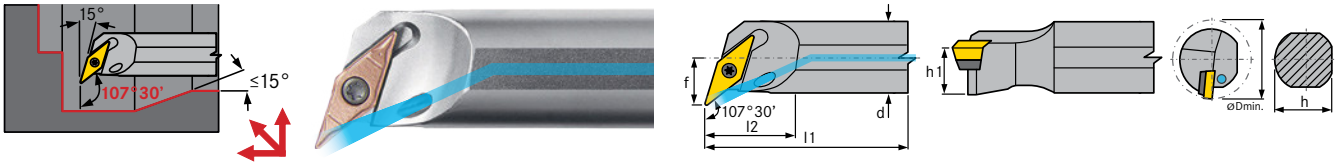
							SVQB boring bar 107.5°, positive steel				clamping screw for indexable insert	
						Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	ISO	17855... Ident. No.		17855... Ident. No.		17841... Ident. No.	
A16Q SVQB R/L 11	21	16	16.5	180	15	VB.. 1103..	100	○	101	●	042	●
A20R SVQB R/L 11	25	20	20.5	200	18	VB.. 1103..	102	○	103	○	042	●
A25R SVQB R/L 16	32	25	40	200	23	VB.. 1604..	104	●	105	○	044	●

Prod. Gr. 1AQ

ATORN SVQC boring bar 107.5°, positive steel (DIN 8024)

for longitudinal and copy turning using VC indexable inserts 3XD

IK



p. 651

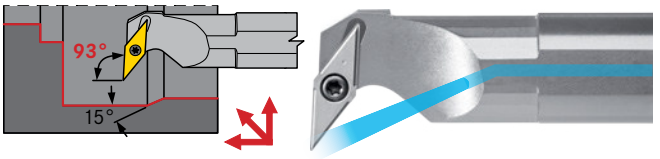
							SVQC boring bar 107.5°, positive steel				clamping screw for indexable insert	
						Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	ISO	17849... Ident. No.		17849... Ident. No.		17841... Ident. No.	
A16Q SVQC R/L 11	21	16	16.5	180	15	VC.. 11..	100	●	101	○	042	●
A20R SVQC R/L 11	24	20	26.1	200	18	VC.. 11..	102	○	103	●	042	●
A25R SVQC R/L 16	31.5	25	43	200	23	VC.. 1604..	104	○	105	○	044	●
A32S SVQC R/L 16	40	32	33.5	250	30	VC.. 1604..	106	●	107	○	044	●
A40T SVQC R/L 16	49	40	40	300	38	VC.. 1604..	108	○	109	●	044	●

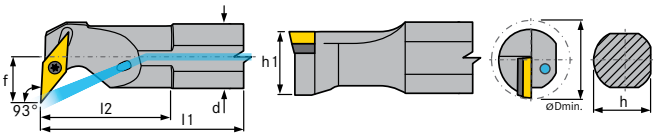
Prod. Gr. 1AQ

ATORN SVUB boring bar 93°, positive steel (DIN 8024)

for longitudinal and copy turning using VB indexable inserts 3XD

IK





Ident. No. 110, 112, 114, 116, 118

p. 651

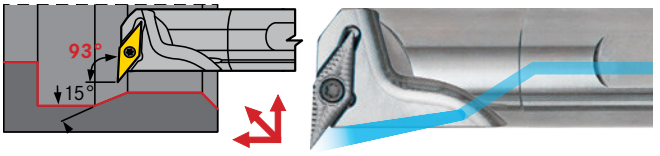
							SVUB boring bar 93°, positive steel				clamping screw for indexable insert	
						Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	ISO	17855... Ident. No.		17855... Ident. No.		17841... Ident. No.	
A16Q SVUB R/L 11	21	16	16.5	180	15	VB.. 1103..	110	○	111	●	042	●
A20R SVUB R/L 11	24	20	20.5	200	18	VB.. 1103..	112	●	113	●	042	●
A25R SVUB R/L 16	32	25	25.5	200	23	VB.. 1604..	114	●	115	○	044	●
A32S SVUB R/L 16	40	32	33.5	250	30	VB.. 1604..	116	●	117	○	044	●
A40T SVUB R/L 16	49	40	40	300	38	VB.. 1604..	118	●	119	○	044	●

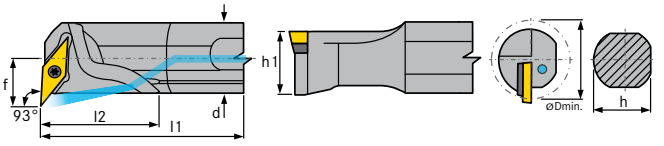
Prod. Gr. 1AQ

ATORN SVUB boring bar 93°, positive steel

for longitudinal and copy turning using VB indexable inserts 3XD

IK





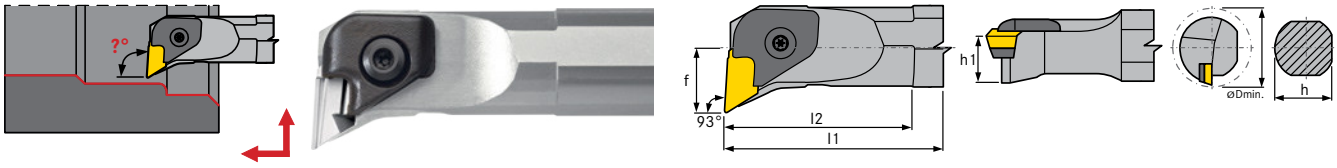
p. 651

								SVUB boring bar 93°, positive steel				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17840... Ident. No.		17840... Ident. No.		17841... Ident. No.	
A16Q SVUB R/L 11 N	20	16	31	180	7.5	11	VB.. 1103..	180	○	181	●	042	●
A20R SVUB R/L 11 N	24	20	36	200	9	13	VB.. 1103..	182	●	183	●	042	●
A25R SVUB R/L 16 N	31	25	40	200	11.5	17	VB.. 1604..	184	●	185	●	044	●

Prod. Gr. 1AQ

ATORN CKUN boring bar 93°, negative steel (DIN 8024)

for longitudinal turning with KN indexable inserts



p. 601

								CKUN boring bar 93°, negative steel			
							Tool design	Right		Left	
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17851... Ident. No.		17851... Ident. No.	
S 25 T CKUN R/L 16	37	25	50	300	23	20.5	KNUX 1604..	010	●	011	○
S 32 U CKUN R/L 16	39	32	54	350	30	22	KNUX 1604..	015	○	016	○
S 40 V CKUN R/L 16	48	40	60	400	37	27	KNUX 1604..	020	○	021	○

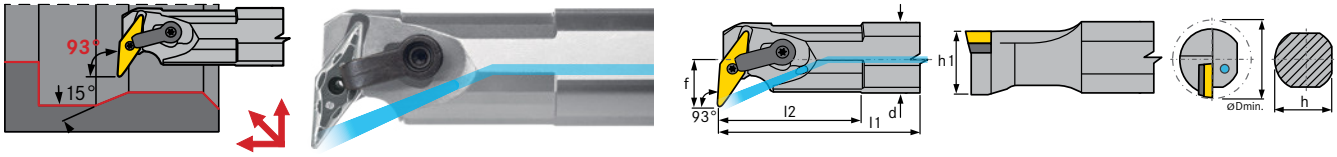
Prod. Gr. 1AQ

Accessories:

CKUN boring bar 93°, negative steel		clamping screw for adjustable clamp		Adjustable clamp		Spring		Grooved drive stud		Shim		Clamping sleeve	
Right	Left												
17851... Ident. No.	17851... Ident. No.	17841... Ident. No.		17842... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.		17845... Ident. No.	
010	011	155	●	156	○	160	●	-	-	-	-	-	-
015	016	155	●	155	●	160	●	016	○	056	●	030	●
020	021	155	●	155	●	160	●	018	○	055	●	030	●

ATORN MVUN boring bar 93°, negative steel (DIN 8024)

for copy and longitudinal turning using VN indexable inserts



p. 611

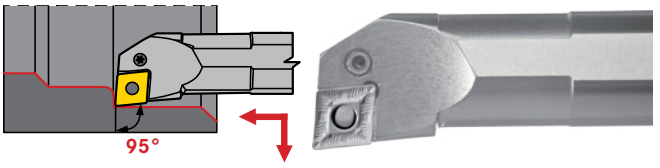
								MVUN boring bar 93°, negative steel				Adjustable clamp		Double-threaded screw		Shim		Clamping pin	
							Tool design	Right		Left									
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17851... Ident. No.		17851... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
S 25 T MVUN R/L 16	31	25	40	300	23	17	VN.. 1604..	110	○	111	○	215	○	040	●	001	●	040	●
S 32 U MVUN R/L 16	39	32	50	350	30	22	VN.. 1604..	115	○	116	○	215	○	041	●	001	●	040	●
S 40 V MVUN R/L 16	48	40	60	400	37	27	VN.. 1604..	120	○	121	○	215	○	041	●	001	●	040	●

Prod. Gr. 1AQ

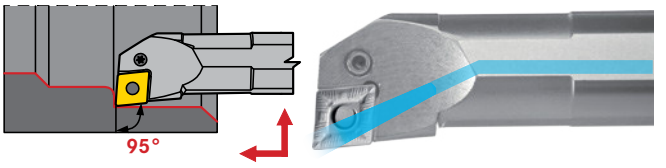
ATORN PCLN boring bar 95°, negative steel (DIN 8024)

for facing and longitudinal turning using CN indexable inserts

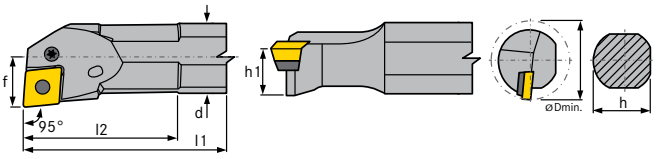
IK



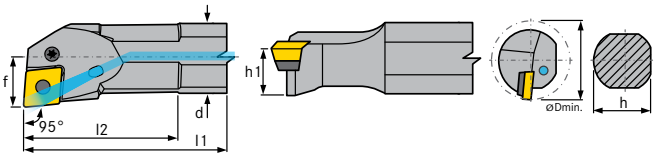
Ident. No. 011–046



Ident. No. 051–066



Ident. No. 011–046



Ident. No. 051–066

p. 584

									PCLN boring bar 95°, negative steel			
								Tool design	Right		Left	
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	h1 (mm)	ISO	17852... Ident. No.		17852... Ident. No.	
S 25 T PCLN R/L 12	31	25	40	300	23	17	11.5	CN.. 1204..	011	●	016	●
S 32 U PCLN R/L 12	39	32	50	350	30	22	15	CN.. 1204..	021	●	026	●
S 40 V PCLN R/L 12	48	40	60	400	37	27	18.5	CN.. 1204..	031	●	036	●
S 50 W PCLN R/L 16	61	50	65	450	47	35	23.5	CN.. 1606..	041	○	046	○
A 25 R PCLN R/L 12	32	25	40	200	23	17	11.5	CN.. 1204..	051	●	056	●
A 32 S PCLN R/L 12	40	32	50	250	30	22	15	CN.. 1204..	061	●	066	●

Prod. Gr. 1AQ

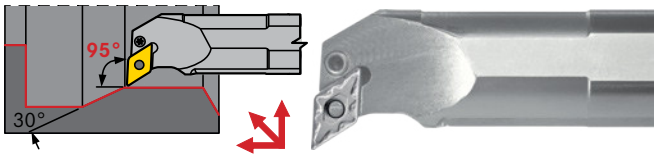
Accessories:

PCLN boring bar 95°, negative steel		Clamping screw for toggle lever		Clamping lever		Shim		Clamping sleeve	
Right	Left								
17852... Ident. No.	17852... Ident. No.	17841... Ident. No.		17843... Ident. No.		17842... Ident. No.		17844... Ident. No.	
011	016	156	●	125	●	-	-	-	-
021	026	136	●	112	●	110	●	115	●
031	036	141	●	115	●	110	●	115	●
041	046	-	-	120	●	-	-	-	-
051	056	156	●	125	●	-	-	-	-
061	066	136	●	112	●	110	●	115	●

ATORN PDUN boring bar 93°, negative steel (DIN 8024)

for copy and longitudinal turning using DN indexable inserts

IK



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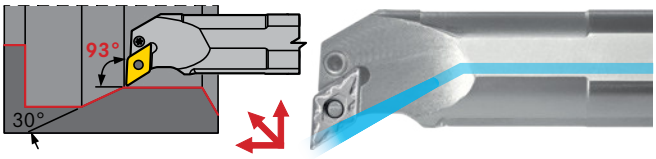
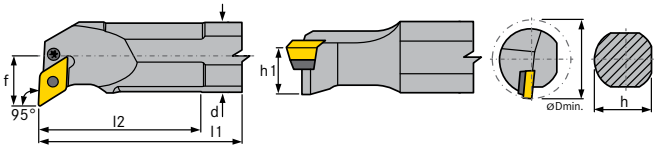
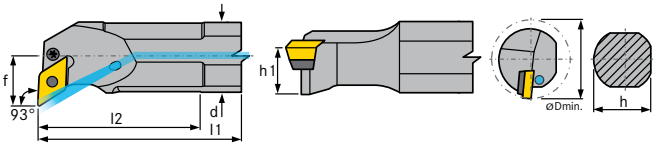


Ident. No. 051–076



Ident. No. 001, 011, 021, 031, 041



Ident. No. 051–076

p. 592

									PDUN boring bar 93°, negative steel			
								Tool design	Right		Left	
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	h1 (mm)	ISO	17853... Ident. No.		17853... Ident. No.	
S 20 S PDUN R/L 11	25	20	29	250	18	13	9	DN.. 1104..	001	●	006	○
S 25 T PDUN R/L 11	32	25	40	300	23	17	11.5	DN.. 1104..	011	●	016	●
S 32 U PDUN R/L 15	39	32	50	350	30	22	15	DN.. 1506..	021	●	026	○
S 40 V PDUN R/L 15	48	40	60	400	37	27	18.5	DN.. 1506..	031	●	036	○
S 50 W PDUN R/L 15	61	50	65	450	47	35	23.5	DN.. 1506..	041	●	046	●
A 25 R PDUN R/L 11	32	25	40	200	23	40	11.5	DN.. 1104..	051	○	056	○
A 32 S PDUN R/L 15	40	32	50	250	30	22	15	DN.. 1506..	061	○	066	●
A 40 T PDUN R/L 15	50	40	60	300	37	27	18.5	DN.. 1506..	071	○	076	●

Prod. Gr. 1AQ

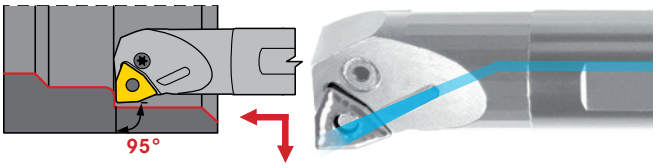
Accessories:

PDUN boring bar 93°, negative steel		Clamping screw for toggle lever		Shim		Clamping lever		Clamping sleeve	
Right	Left								
17853... Ident. No.	17853... Ident. No.	17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
001	006	125	●	-	-	110	●	-	-
011	016	126	●	120	●	130	●	135	●
021	026	136	●	125	●	135	●	115	●
031	036	151	●	125	●	135	●	115	●
041	046	151	●	125	●	135	●	115	●
051	056	-	-	120	●	130	●	135	●
061	066	136	●	125	●	135	●	115	●
071	076	151	●	125	●	135	●	115	●

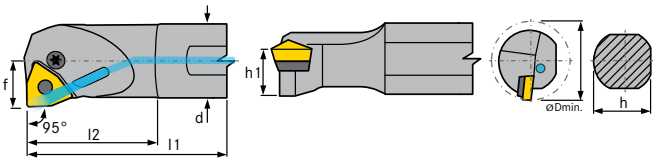
ATORN PWLN boring bar 95°, negative steel (DIN 8024)

for facing and longitudinal turning using WN indexable inserts

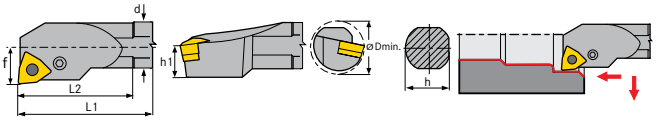
IK



Ident. No. 050, 055, 060, 065, 070, 075



Ident. No. 050, 055, 060, 065, 070, 075



Ident. No. 051, 056, 061, 066, 071, 076

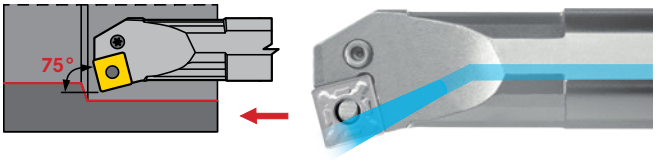
p. 617

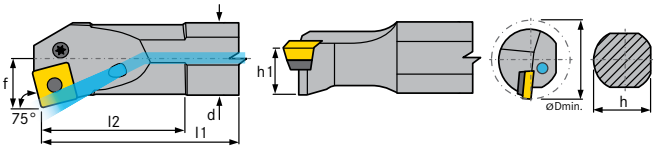
									PWLN boring bar 95°, negative steel				Clamping screw for toggle lever		Shim		Clamping lever		Clamping sleeve	
								Tool design	Right		Left									
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	h1 (mm)	ISO	17854... Ident. No.		17854... Ident. No.		17841... Ident. No.		17842... Ident. No.		17843... Ident. No.		17844... Ident. No.	
A 16 M PWLN R/L 06	22	16	28	150	14	11	7	WN.. 0604..	050	●	051	○	125	●	-	-	110	●	-	-
A 20 Q PWLN R/L 06	25	20	30	180	18	13	9	WN.. 0604..	055	●	056	○	125	●	-	-	110	●	-	-
A 25 R PWLN R/L 06	32	25	33	200	23	17	11.5	WN.. 0604..	060	○	061	○	-	-	035	●	110	●	135	●
A 25 R PWLN R/L 08	32	25	40	200	23	17	11.5	WN.. 0804..	065	●	066	●	156	●	-	-	-	-	-	-
A 32 S PWLN R/L 08	40	32	50	250	30	22	15	WN.. 0804..	070	●	071	●	141	●	036	●	115	●	115	●
A 40 T PWLN R/L 08	50	40	63	300	37	27	18.5	WN.. 0804..	075	●	076	○	141	●	036	●	115	●	115	●

Prod. Gr. 1AQ

ATORN PSKN boring bar 95°, negative steel

for longitudinal turning with SN indexable inserts





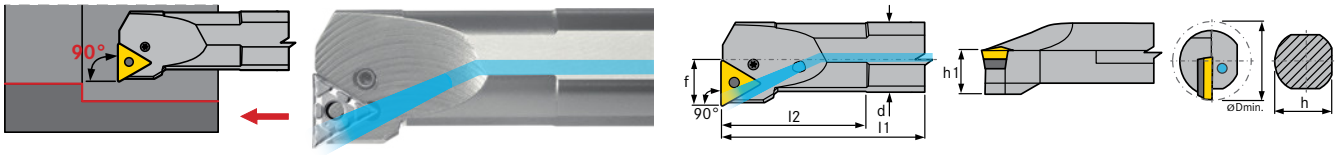
p. 601

									PSKN boring bar 95°, negative steel				Clamping screw for toggle lever		Clamping sleeve		Clamping lever	
								Tool design	Right		Left							
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	h1 (mm)	ISO	17856... Ident. No.		17856... Ident. No.		17841... Ident. No.		17844... Ident. No.		17843... Ident. No.	
S 25 T PSKN R/L 12	31	25	40	300	23	17	12	SN.. 1204..	011	○	016	○	156	●	115	●	125	●
S 32 U PSKN R/L 12	39	32	50	350	30	22	15	SN.. 1204..	021	○	026	○	-	-	115	●	-	-

Prod. Gr. 1AQ

ATORN PTFN boring bar 90°, negative steel

for longitudinal turning with TN indexable inserts



p. 606

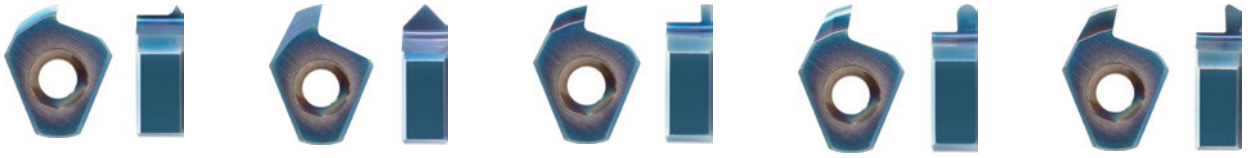
									PTFN boring bar 90°, negative steel				Clamping screw for toggle lever		Clamping lever		Shim		Clamping sleeve	
								Tool design	Right		Left									
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	h1 (mm)	ISO	17858... Ident. No.		17858... Ident. No.		17841... Ident. No.		17843... Ident. No.		17842... Ident. No.		17844... Ident. No.	
S 25 T PTFN R/L 16	31	25	40	300	23	17	11.5	TN.. 1604..	111	●	116	○	125	●	110	●	-	-	-	-
S 32 U PTFN R/L 16	39	32	50	350	30	22	15	TN.. 1604..	121	○	126	○	126	●	130	●	130	●	135	●
A 25 R PTFN R/L 16	32	25	40	200	23	17	11.5	TN.. 1604..	141	○	146	○	125	●	110	●	-	-	-	-
A 32 S PTFN R/L 16	40	32	50	250	15	22	15	TN.. 1604..	151	○	156	○	126	●	130	●	130	●	135	●

Prod. Gr. 1AQ

Miniature turning programme with front cutting attachment
For demanding series users

Application:
Miniature programme for the boring range from 8-13 mm in all material groups.

Advantages:
- Extremely wide range for the applications internal drilling, copying, recessing, thread cutting, chamfering, grooving
- Outstanding service life in difficult materials with stainless steel, titanium and hard machining up to 50 HRC
- Special versions in all variants with short delivery time
- Precision-machined cutting inserts and holders for quick changing of the cutting insert on the machine
- Carbide carrier ensures a low tendency to vibrate
- Internal cooling ensures reliable machining in series production



ATORN Holder for miniature cutting insert with front-face cutting attachment

Application:
For clamping miniature cutting inserts.

Execution:
- Solid carbide holder in steel design with clamping screw

Suitable for indexable inserts	Length (mm)	Shank Ø (mm)	Clearance length (mm)	Clearance Ø (mm)	Material	17135... Ident. No.	
A8	80	8	20	7	VHM	010	●
A8	95	8	30	7	VHM	015	●
A8	105	8	40	7	VHM	020	●
A10	150	10	-	10	VHM	025	○
A10	110	12	40	10	VHM	030	●
A10	125	12	55	10	VHM	035	○
A10	70	12	25	10	Steel	040	●
A10	90	16	25	10	Steel	045	●
A10	100	16	35	10	Steel	050	●

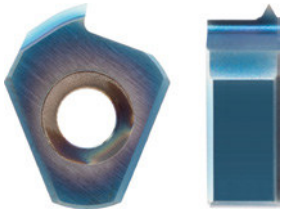
Prod. Gr. 1FI

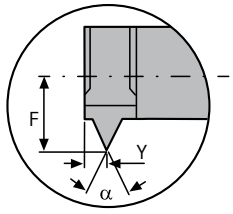
ATORN Miniature cutting insert, front face
For thread cutting, 60° partial profile

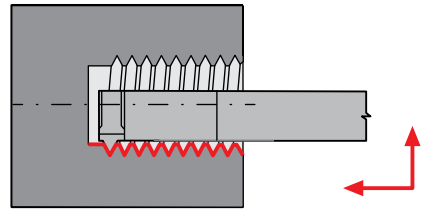
Application:
For variable 60° thread cutting.

Execution:
- Solid carbide cutting insert, 60°

Advantage:
- Very hard cemented carbide grade ensures low wear
- Stable geometry optimised for female thread cutting machining
- Innovative coating technology for universal use with very high service life requirements







Vc in steel ●	15-70 m/min
Vc in cast iron ●	15-30 m/min
Vc in stainless steel ●	15-70 m/min
Vc in non-ferrous metals ●	20-90 m/min
Vc in special alloys ●	20-50 m/min
Vc in gehärtetem Stahl 50 HRC min./max. ●	10-40 m/min

Indexable insert type	Min./max. pitch external	Min./max. pitch internal	Min./max. number of thread starts per inch internal	Min./max. number of thread starts per inch external	F (mm)	Y (mm)	Min. bore Ø (mm)	17135... Ident. No.	
A8	0.4-0.75 mm	0.5-0.75 mm	56-32	64-32	3.7	0.6	8	100	○
A8	0.8-1.0 mm	1.0-1.25 mm	28-20	32-28	4.1	0.8	8.4	105	○
A10	0.4-0.8 mm	0.5-0.8 mm	56-28	64-32	6.4	0.6	11.6	110	○
A10	0.8-1.75 mm	1.0-2.0 mm	28-13	32-15	7.1	1.3	12.3	115	○
A10	1.75-2.5 mm	2.0-3.0 mm	13-8	15-10	7.9	1.5	13.1	120	○

Prod. Gr. 1FJ

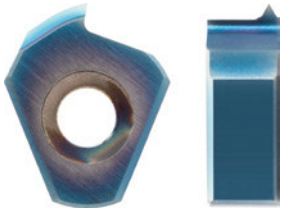
ATORN Miniature cutting insert, front face

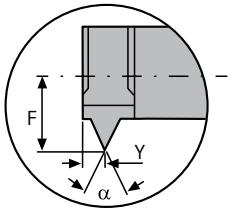
For thread cutting, 55° partial profile

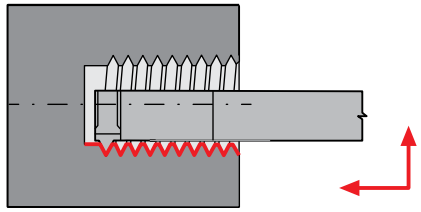
Application:
For variable 55° thread cutting.

Execution:
- Solid carbide cutting insert, 55°

Advantage:
- Very hard cemented carbide grade ensures low wear
- Stable geometry optimised for female thread cutting machining
- Innovative coating technology for universal use with very high service life requirements







Vc in steel ●	15-70 m/min
Vc in stainless steel ●	15-70 m/min
Vc in non-ferrous metals ●	20-90 m/min
Vc in cast iron ●	15-30 m/min
Vc in gehärtetem Stahl 50 HRC min./max. ●	10-40 m/min

Indexable insert type	Min./max. pitch	Min./max. number of thread starts per inch	F (mm)	Y (mm)	Min. bore Ø (mm)	17135... Ident. No.	
A8	1.25-1.5 mm	19-18	4.8	1	9.1	125	○
A8	1.75-2.0 mm	16-14	4.4	1.2	8.7	130	○
A10	1.25-2.0 mm	19-14	7.2	1.2	12.4	135	○

Prod. Gr. 1FJ

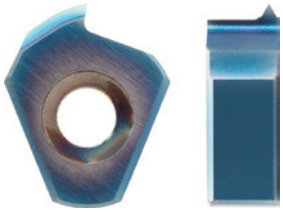
ATORN Miniature cutting insert, front face

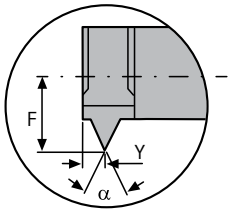
For thread cutting, 60° full profile

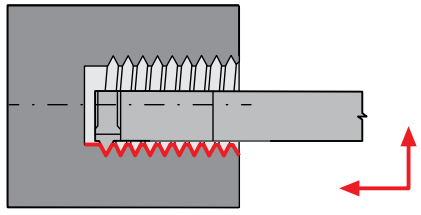
Application:
For 60° thread cutting.

Execution:
- Solid carbide cutting insert, 60°

Advantage:
- Very hard cemented carbide grade ensures low wear
- Stable geometry optimised for female thread cutting machining
- Innovative coating technology for universal use with very high service life requirements







Vc in steel ●	15-70 m/min
Vc in stainless steel ●	15-70 m/min
Vc in non-ferrous metals ●	20-90 m/min
Vc in cast iron ●	15-30 m/min
Vc in gehärtetem Stahl 50 HRC min./max. ●	10-40 m/min

Indexable insert type	Pitch (mm)	Suitable for metric threads from	Suitable for metric fine threads from	F (mm)	Y (mm)	Min. bore Ø (mm)	17135... Ident. No.	
A8	0.5	-	MF8,5	3.6	0.5	8	140	●
A8	0.75	-	MF9	3.8	0.6	8.1	145	○
A8	1	-	MF9	3.7	0.7	8	150	●
A8	1.25	-	MF10	3.9	0.8	8.2	155	○
A8	1.5	M10	MF12	4.1	1	8.4	160	○
A8	1.75	M12	-	4.3	1.1	8.6	165	○
A8	2	M14	MF17	4.5	1.3	8.8	170	●
A10	0.5	-	MF12	6.1	0.5	11.3	175	○
A10	0.75	-	MF12	6.1	0.6	11.3	180	○
A10	1	-	MF13	6.5	0.7	11.7	185	○
A10	1.5	-	MF14	6.5	1	11.7	190	○
A10	2	M16	MF17	6.8	1.3	12	195	●
A10	2.5	M18 | M20	-	7.4	1.4	12.6	200	○
A10	3	M24	MF28	7.4	1.6	12.6	205	○

Prod. Gr. 1FJ

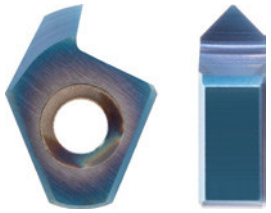
ATORN Miniature cutting insert, front face

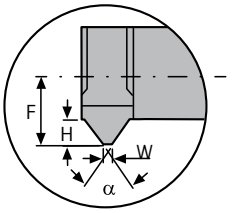
For chamfering

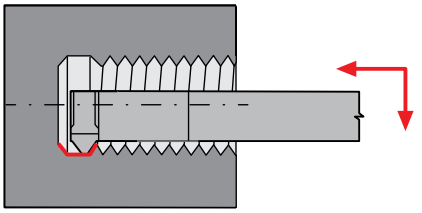
Application:
For chamfering.

Execution:
- Solid carbide cutting insert, 45° chamfering angle

Advantage:
- Very hard cemented carbide grade ensures low wear
- User-friendly chamfering with high surface quality
- Innovative coating technology for universal use with very high service life requirements







						Vc in steel ●	15-70 m/min	
						Vc in stainless steel ●	15-70 m/min	
						Vc in non-ferrous metals ●	20-90 m/min	
						Vc in cast iron ●	15-30 m/min	
						Vc in gehärtetem Stahl 50 HRC min./max. ●	10-40 m/min	
						f min./max.	0.02-0.08 mm/r	
Indexable insert type	Bevel angle (Degree)	Edge depth (mm)	W (mm)	F (mm)	f min./max.	Min. bore Ø (mm)	17135... Ident. No.	
A8	90	1.4	0.2	4.5	0.02-0.08 mm/r	8.8	210	○
A10	90	1.8	0.2	7.5	0.02-0.08 mm/r	12.7	215	○

Prod. Gr. 1FJ

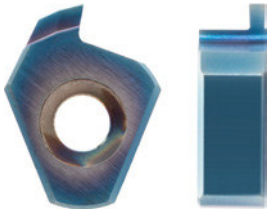
ATORN Miniature cutting insert, front face

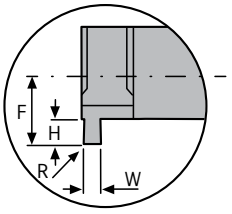
for internal grooving

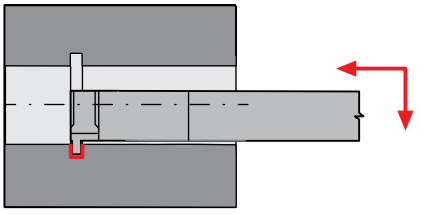
Application:
For internal recessing.

Execution:
- Solid carbide cutting insert

Advantage:
- Very hard cemented carbide grade ensures low wear
- Stable geometry for the cutting insert
- Innovative coating technology for universal use with very high service life requirements







						Vc in steel ●	15-70 m/min
						Vc in stainless steel ●	15-70 m/min
						Vc in non-ferrous metals ●	20-90 m/min
						Vc in cast iron ●	15-30 m/min
						Vc in gehärtetem Stahl 50 HRC min./max. ●	10-40 m/min
Indexable insert type	Recessing width (mm)	Tolerance of plunge depth	Plunge depth (mm)	F (mm)	Min. bore Ø (mm)	17135... Ident. No.	
A8	1	+/- 0.02 mm	2	5.1	9.4	220	●
A8	1.5	+/- 0.02 mm	2	5.1	9.4	225	●
A8	2	+/- 0.02 mm	2	5.1	9.4	230	○
A8	2.5	+/- 0.02 mm	2	5.1	9.4	235	○
A8	3	+/- 0.02 mm	2	5.1	9.4	240	○
A10	1	+/- 0.02 mm	1.4	7.1	12.3	245	●
A10	1.5	+/- 0.02 mm	1.4	7.1	12.3	250	○
A10	2	+/- 0.02 mm	1.4	7.1	12.3	255	○
A10	1	+/- 0.02 mm	2.3	7.9	13.1	260	●
A10	1.5	+/- 0.02 mm	2.3	7.9	13.1	265	●
A10	2	+/- 0.02 mm	2.3	7.9	13.1	270	●
A10	2.5	+/- 0.02 mm	2.3	7.9	13.1	275	○
A10	3	+/- 0.02 mm	2.3	7.9	13.1	280	●

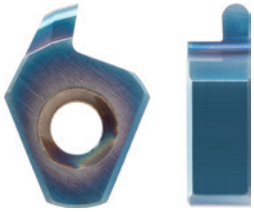
Prod. Gr. 1FJ

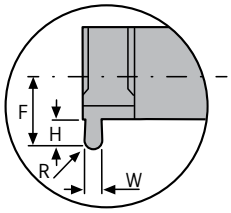
ATORN Miniature cutting insert, front face
for internal grooving with radius

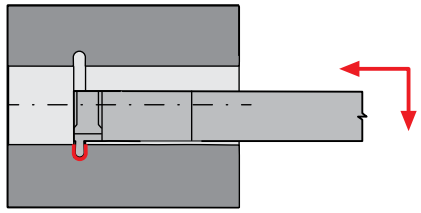
Application:
For internal recessing with radius.

Execution:
- Solid carbide cutting insert with radius

Advantage:
- Very hard cemented carbide grade ensures low wear
- Stable geometry for the cutting insert
- Innovative coating technology for universal use with very high service life requirements







Vc in steel ●	15-70 m/min
Vc in stainless steel ●	15-70 m/min
Vc in non-ferrous metals ●	20-90 m/min
Vc in cast iron ●	15-30 m/min
Vc in gehärtetem Stahl 50 HRC min./max. ●	10-40 m/min

Indexable insert type	Recessing width (mm)	Tolerance of plunge depth	Radius (mm)	Plunge depth (mm)	F (mm)	Min. bore Ø (mm)	f min./max.	17135... Ident. No.	
A8	0.8	+/- 0.02 mm	0.4	1	4.1	8.4	0.01-0.03 mm/r	285	○
A8	1.2	+/- 0.02 mm	0.6	1	4.1	8.4	0.01-0.03 mm/r	290	○
A8	1.8	+/- 0.02 mm	0.9	1	4.1	8.4	0.01-0.03 mm/r	295	○
A10	0.8	+/- 0.02 mm	0.4	2.2	7.9	13.1	0.01-0.03 mm/r	300	○
A10	1.2	+/- 0.02 mm	0.6	2.2	7.9	13.1	0.01-0.03 mm/r	305	○
A10	1.8	+/- 0.02 mm	0.9	2.2	7.9	13.1	0.01-0.03 mm/r	310	○
A10	2	+/- 0.02 mm	1	2.2	7.9	13.1	0.01-0.03 mm/r	315	○

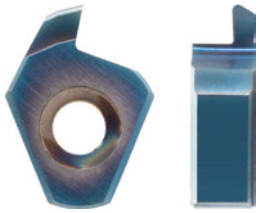
Prod. Gr. 1FJ

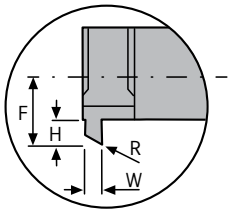
ATORN Miniature cutting insert, front face
For recessing

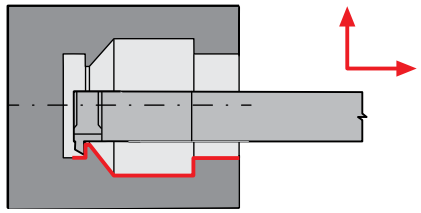
Application:
For recessing.

Execution:
- Solid carbide cutting insert

Advantage:
- Very hard cemented carbide grade ensures low wear
- Stable and optimised geometry for recessing
- Innovative coating technology for universal use with very high service life requirements







Vc in steel ●	15-70 m/min
Vc in stainless steel ●	15-70 m/min
Vc in non-ferrous metals ●	20-90 m/min
Vc in cast iron ●	15-30 m/min
Vc in gehärtetem Stahl 50 HRC min./max. ●	10-40 m/min
f min./max.	0.03-0.10 mm/r

Indexable insert type	Radius (mm)	Plunge depth (mm)	Recessing width (mm)	F (mm)	Min. bore Ø (mm)	17135... Ident. No.	
A8	0.2	2	1.5	5.1	9.4	320	○
A10	0.2	2.3	1.5	7.9	13.1	325	○
A10	0.4	2.3	1.5	7.9	13.1	330	●

Prod. Gr. 1FJ

Miniature boring bar range
For ambitious serial users

Application:
For miniature boring from diameters 4.8 mm with CD.., CP.., DC.., WC.., VC.. indexable inserts

- Wide holder range in steel and cemented carbide
- Innovative cutting material range cemented carbide, CVD thick-film diamond and CBN covers the processing of all materials ISO P, M, K, N, S, H
- The many and varied forms of the holder covers a wide range of applications

ATORN®
Leistung braucht Qualität.

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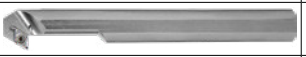
17827035-060	SCLD offset solid carbide boring bar, positive For face turning and longitudinal turning using CD indexable insert		731
17827105-140	SCUP offset solid carbide boring bar, positive For face and longitudinal turning using CP indexable insert		732
17827185-220	SCXP offset solid carbide boring bar, positive For face and longitudinal turning using CP indexable insert		733
17827295-320	SCLD solid carbide boring bar, positive For face turning and longitudinal turning using CD indexable insert		734
17827664-665	SDUC offset carbide boring bar, positive For longitudinal and copy turning using DC indexable inserts		735
17827656-659	SDXC steel boring bar, positive For longitudinal and copy turning with DC indexable insert		736
17827355-380	SVLC solid carbide boring bar, positive For longitudinal and copy turning with VC indexable insert		737
17827415-440	SVVC solid carbide boring bar, positive For longitudinal and copy turning with VC indexable insert		738
17827475-500	SVXC solid carbide boring bar, positive For longitudinal and copy turning with VC indexable insert		739
17827535-560	SV95C solid carbide boring bar, positive For longitudinal and copy turning with VC indexable insert		740
17827565-580	SWUC boring bar, solid carbide, positive For face turning and longitudinal turning using WC indexable insert		741

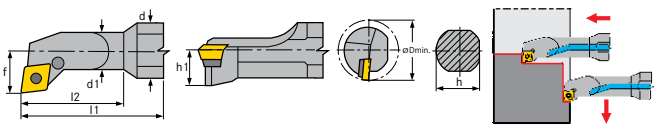
ATORN SCLD boring bar, offset, steel, positive (DIN 8024)
For facing and longitudinal turning using CD indexable inserts

IK

Application:
For face and longitudinal turning with CD indexable insert, 80°.

Execution:
- Precision-manufactured boring bar, **steel**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°

Advantage:
- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



p. 745

									SCLD boring bar, offset, steel, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 0408H SCLD R/L 04	4.8	4	8	16	100	7	2.4	CD.. 0401	005	●	010	●	900	●

									SCLD boring bar, offset, steel, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 0508H SCLD R/L 04	5.8	5	8	20	100	7	2.9	CD.. 0401	015	○	020	○	900	●
A 0608H SCLD R/L 04	6.8	6	8	24	100	7	3.4	CD.. 0401	025	●	030	●	900	●

Prod. Gr. 1FK

ATORN SCLD boring bar, offset, solid carbide, positive (DIN 8024)

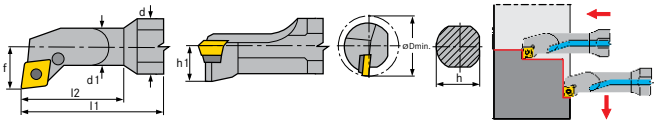
For facing and longitudinal turning using CD indexable inserts

IK

Application:
For face and longitudinal turning with CD indexable insert, 80°.

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°

Advantage:
- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



p. 745

									SCLD boring bar, offset, solid carbide, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E0408H-SCLD R/L 04	4.8	4	8	24	100	7	2.4	CD.. 0401	035	●	040	●	900	●
E0508H-SCLD R/L 04	5.8	5	8	30	100	7	2.9	CD.. 0401	045	●	050	●	900	●
E0608H-SCLD R/L 04	6.8	6	8	36	100	7	3.4	CD.. 0401	055	○	060	○	900	●

Prod. Gr. 1FK

ATORN SCLC boring bar, offset, steel, positive (DIN 8024)

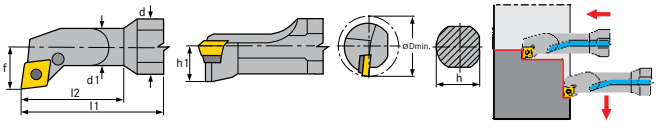
For facing and longitudinal turning using CP indexable inserts

IK

Application:
For face and longitudinal turning with CP indexable insert, 80°.

Execution:
- Precision-manufactured boring bar, **steel**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°

Advantage:
- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



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p. 746

									SCLC boring bar, offset, steel, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 0608H SCUP R/L 05	8	6	8	20	100	7	4.5	CP.. 05T1..	065	●	070	●	902	●

									SCLC boring bar, offset, steel, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 0810J SCUP R/L 05	11	8	10	26	110	9	6	CP.. 05T1..	075	●	080	○	902	●
A 1012K SCUP R/L 05	13	10	12	32	125	11	7	CP.. 05T1..	085	●	090	○	902	●
A 1216M SCUP R/L 05	16	12	16	40	150	15	9	CP.. 05T1..	095	○	100	○	902	●

Prod. Gr. 1FK

ATORN SCUP boring bar, offset, solid carbide, positive (DIN 8024)

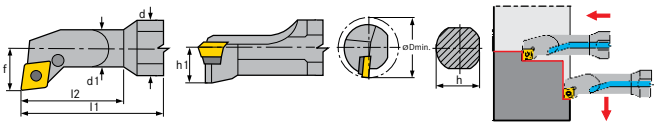
For facing and longitudinal turning using CP indexable inserts

IK

Application:
For face and longitudinal turning with CP indexable insert, 80°.

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°

Advantage:
- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



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									SCUP boring bar, offset, solid carbide, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E0608H-SCUP R/L 05	8	6	8	28	100	7	4.5	CP.. 05T1..	105	●	110	●	902	●
E0810J-SCUP R/L 05	11	8	10	36	110	9	6	CP.. 05T1..	115	○	120	○	902	●
E1012K-SCUP R/L 05	13	10	12	44	125	11	7	CP.. 05T1..	125	○	130	○	902	●
E1216M-SCUP R/L 05	16	12	16	55	150	15	9	CP.. 05T1..	135	○	140	○	902	●

Prod. Gr. 1FK

ATORN SCXP boring bar, steel, offset, positive (DIN 8024)

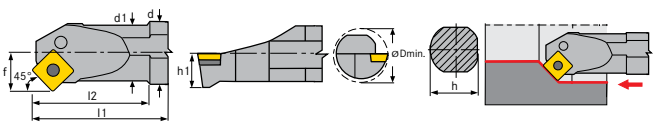
For facing and longitudinal turning using CP indexable inserts

IK

Application:
For face and longitudinal turning with CP indexable insert, 80°.

Execution:
- Precision-manufactured boring bar, **steel**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°

Advantage:
- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



p. 745 p. 746

									SCXP boring bar, steel, offset, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 0608H SCXP R/L 05	8.5	6	8	20	100	7	4.5	CP.. 05T1..	145	●	150	○	902	●
A 0810J SCXP R/L 05	11	8	10	26	110	9	6	CP.. 05T1..	155	○	160	○	902	●
A 1012K SCXP R/L 05	13	10	12	32	125	11	7	CP.. 05T1..	165	●	170	○	902	●
A 1216M SCXP R/L 05	16	12	16	40	150	15	9	CP.. 05T1..	175	●	180	○	902	●

Prod. Gr. 1FK

ATORN SCXP boring bar, offset, solid carbide, positive (DIN 8024)

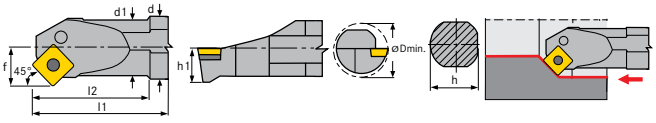
For longitudinal turning using CP indexable inserts

IK

Application:
For face and longitudinal turning with CP indexable insert, 80°.

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°

Advantage:
- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



p. 745 p. 746

									SCXP boring bar, offset, solid carbide, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E0608H-SCXP R/L 05	8.5	6	8	28	100	7	4.5	CP.. 05T1..	185	○	190	○	902	●
E0810J-SCXP R/L 05	11	8	10	36	110	9	6	CP.. 05T1..	195	○	200	○	902	●
E1012K-SCXP R/L 05	13	10	12	44	125	11	7	CP.. 05T1..	205	○	210	○	902	●
E1216M-SCXP R/L 05	16	12	16	55	150	15	9	CP.. 05T1..	215	○	220	○	902	●

Prod. Gr. 1FK

ATORN SCLD boring bar, steel, positive (DIN 8024)

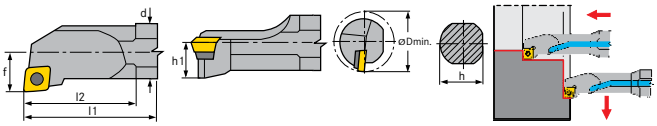
For facing and longitudinal turning using CD indexable inserts

IK

Application:
For face and longitudinal turning with CD indexable insert, 80°.

Execution:
- Precision-manufactured boring bar, **steel**, with internal cooling, type C, pitch angle 95°, tip angle 80°, clearance angle 7°

Advantage:
- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



p. 745

								SCLD boring bar, steel, positive				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 04E SCLD R/L 04	4.8	4	3.0	70	4	2.4	CD.. 0401	265	○	270	○	900	●
A 05E SCLD R/L 04	5.8	5	4.0	70	5	2.9	CD.. 0401	275	○	280	○	900	●
A 06F SCLD R/L 04	6.8	6	4.0	80	6	3.4	CD.. 0401	285	●	290	●	900	●

Prod. Gr. 1FK

ATORN SCLD boring bar, solid carbide, positive (DIN 8024)

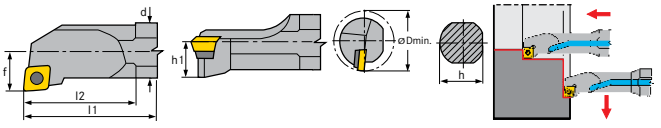
For facing and longitudinal turning using CD indexable inserts

IK

Application:
For face and longitudinal turning with CD indexable insert, 80°.

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, type C, attack angle 95°, tip angle 80°, clearance angle 7°

Advantage:
- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



p. 745

								SCLD boring bar, solid carbide, positive				clamping screw for indexable insert	
							Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E04F-SCLD R/L 04	4.8	4	3.5	80	4	2.4	CD.. 0401	295	●	300	○	900	●
E05F-SCLD R/L 04	5.8	5	4.0	80	5	2.9	CD.. 0401	305	●	310	○	900	●
E06G-SCLD R/L 04	6.8	6	4.5	95	6	3.4	CD.. 0401	315	●	320	●	900	●

Prod. Gr. 1FK

ATORN SDUC boring bar, steel, positive (DIN 8024)

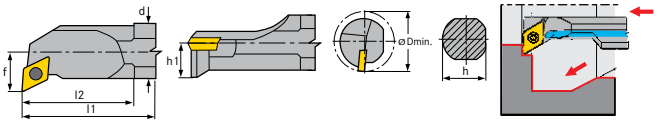
For longitudinal and copy turning using DC indexable inserts

IK

Application:
For longitudinal and copy turning using DC 55° indexable inserts

Execution:
- Precision-manufactured boring bar, **steel**, with internal cooling, offset, shape D, 93.5° pitch angle, 55° tip angle, 7° clearance angle

Advantage:
- Slim contour, optimised for copy turning work
- Positive body geometry ensures low cutting forces



p. 746

									SDUC boring bar, steel, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A0408F SDUC R/L 04	5.6	4	8	15	80	7	3	DC.. 04..	650	●	651	○	910	●

Prod. Gr. 1AQ

ATORN SDUC boring bar, solid carbide, positive (DIN 8024)

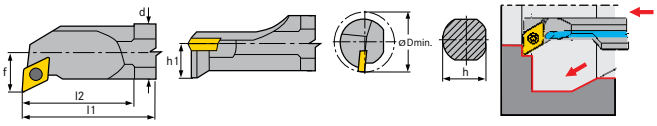
For longitudinal and copy turning using DC indexable inserts

IK

Application:
For longitudinal and copy turning with DC indexable insert 55°

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, offset, shape D, 93.5° pitch angle, 55° tip angle, 7° clearance angle

Advantage:
- Slim contour, optimised for copy turning work
- Positive body geometry ensures low cutting forces



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									SDUC boring bar, solid carbide, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E0408F-SDUC R/L 04	5.6	4	8	26	80	7	3	DC.. 04..	664	●	665	●	910	●

Prod. Gr. 1AQ

ATORN SDQC boring bar, steel, positive (DIN 8024)

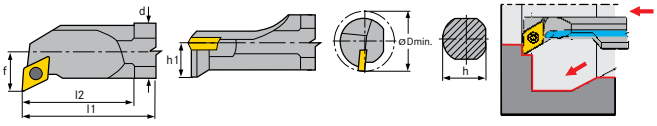
For longitudinal and copy turning using DC indexable inserts

IK

Application:
For longitudinal and copy turning with DC indexable insert 55°

Execution:
- Precision-manufactured boring bar, **steel**, with internal cooling, offset, shape D, 107.5° pitch angle, 55° tip angle, 7° clearance angle

Advantage:
- Slim contour, optimised for copy turning work
- Positive body geometry ensures low cutting forces



p. 745

									SDQC boring bar, steel, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A0408F SDQC R/L 04	5.2	4	8	15	80	7	2.6	DC.. 04..	654	●	655	○	910	●

Prod. Gr. 1AQ

ATORN SDQC boring bar, solid carbide, positive (DIN 8024)

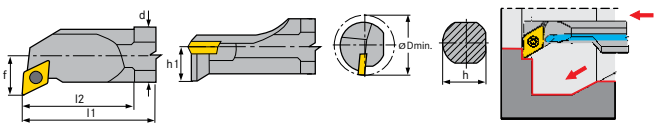
For longitudinal and copy turning using DC indexable inserts

IK

Application:
For longitudinal and copy turning using DC 55° indexable inserts.

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, offset, shape D, 107.5° pitch angle, 55° tip angle, 7° clearance angle

Advantage:
- Slim contour, optimised for copy turning work
- Positive body geometry ensures low cutting forces



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									SDQC boring bar, solid carbide, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E0408F-SDQC R/L 04	5.2	4	8	26	80	7	2.6	DC.. 04..	666	●	667	○	910	●

Prod. Gr. 1AQ

ATORN SDXC boring bar, steel, positive (DIN 8024)

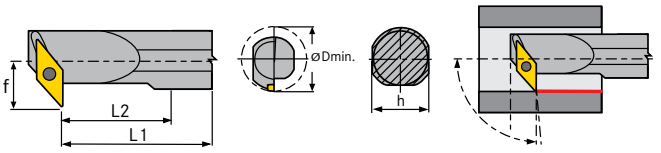
For longitudinal and copy turning using DC indexable inserts

IK

Application:
For longitudinal and copy turning with DC indexable insert 55°

Execution:
- Precision-manufactured boring bar, **steel**, with internal cooling, offset, shape D, 93° pitch angle, 55° tip angle, 7° clearance angle

Advantage:
- very slim geometry, optimised for contour turning work
- Positive body geometry ensures low cutting forces



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							SDXC boring bar, steel, positive				clamping screw for indexable insert	
						Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A08F SDXC R/L 04	9.2	8	15	80	7	DC.. 04..	656	○	657	○	910	●
A 10H SDXC R/L 04	12.5	10	22	100	9	DC.. 04..	658	○	659	○	910	●

Prod. Gr. 1AQ

ATORN SVLC boring bar, steel, positive (DIN 8024)

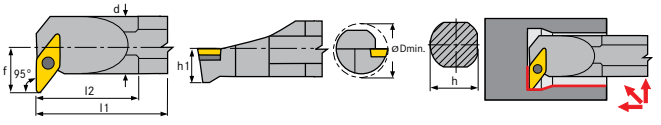
For longitudinal and copy turning using VC indexable inserts

IK

Application:
For longitudinal and copy turning with VC indexable insert 55°

Execution:
- Precision-manufactured boring bar, **steel**, with internal cooling, type V, pitch angle 95°, tip angle 35°, clearance angle 7°

Advantage:
- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



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									SVLC boring bar, steel, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 10H SVLC R/L 07	12.5	10	7.5	22	100	9	7	VC.. 0702..	325	●	330	●	904	●
A 12K SVLC R/L 07	15.5	12	8.0	28	125	11	9	VC.. 0702..	335	●	340	○	904	●
A 16M SVLC R/L 07	19.5	16	9.5	36	150	15	11	VC.. 0702..	345	○	350	○	904	●

Prod. Gr. 1FK

ATORN SVLC boring bar, solid carbide, positive (DIN 8024)

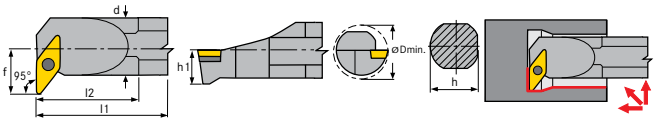
For longitudinal and copy turning using VC indexable inserts

IK

Application:
For longitudinal and copy turning with VC indexable insert 55°

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, type V, attack angle 95°, tip angle 35°, clearance angle 7°

Advantage:
- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



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									SVLC boring bar, solid carbide, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E10H-SVLC R/L 07	12.5	10	7.5	32	100	9	7	VC.. 0702..	355	●	360	○	904	●
E12K-SVLC R/L 07	15.5	12	8.0	40	125	11	9	VC.. 0702..	365	○	370	○	904	●
E16M-SVLC R/L 07	19.5	16	9.0	55	150	15	11	VC.. 0702..	375	○	380	○	904	●

Prod. Gr. 1FK

ATORN SVVC boring bar, steel, positive (DIN 8024)

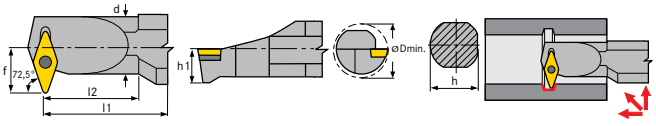
For longitudinal and copy turning using VC indexable inserts

IK

Application:
For longitudinal and copy turning with VC indexable insert 55°

Execution:
- Precision-manufactured boring bar, **steel**, with internal cooling, type V, pitch angle 72.5°, tip angle 35°, clearance angle 7°

Advantage:
- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



p. 746 p. 747

									SVVC boring bar, steel, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 10H SVVC R/L 07	13.5	10	7.5	22	100	9	8	VC.. 0702..	385	●	390	○	904	●
A 12K SVVC R/L 07	15.5	12	8.5	28	125	11	9	VC.. 0702..	395	●	400	○	904	●
A 16M SVVC R/L 07	17.5	16	9.5	36	150	15	11	VC.. 0702..	405	○	410	○	904	●

Prod. Gr. 1FK

ATORN SVVC boring bar, solid carbide, positive (DIN 8024)

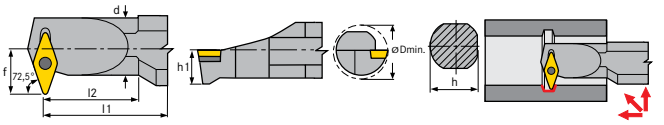
For longitudinal and copy turning using VC indexable inserts

IK

Application:
For longitudinal and copy turning with VC indexable insert 55°

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, type V, attack angle 72.5°, tip angle 35°, clearance angle 7°

Advantage:
- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



p. 746 p. 747

									SVVC boring bar, solid carbide, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E10H-SVVC R/L 07	13.5	10	7.5	32	100	9	8	VC.. 0702..	415	●	420	○	904	●
E12K-SVVC R/L 07	15.5	12	7.5	40	125	11	9	VC.. 0702..	425	○	430	○	904	●
E16M-SVVC R/L 07	17.5	16	8.5	55	150	15	11	VC.. 0702..	435	○	440	○	904	●

Prod. Gr. 1FK

ATORN SVXC boring bar, steel, positive (DIN 8024)

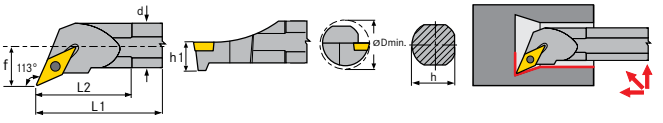
For longitudinal and copy turning using VC indexable inserts

IK

Application:
For longitudinal and copy turning with VC indexable insert 55°

Execution:
- Precision-manufactured boring bar, **steel**, with internal cooling, type V, pitch angle 113°, tip angle 35°, clearance angle 7°

Advantage:
- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



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									SVXC boring bar, steel, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 10H SVXC R/L 07	12.5	10	6.0	22	100	9	7	VC.. 0702..	445	●	450	○	904	●
A 12K SVXC R/L 07	15.5	12	8.0	28	125	11	9	VC.. 0702..	455	●	460	○	904	●
A 16M SVXC R/L 07	19.5	16	9.5	36	150	15	11	VC.. 0702..	465	●	470	●	904	●

Prod. Gr. 1FK

ATORN SVXC boring bar, solid carbide, positive (DIN 8024)

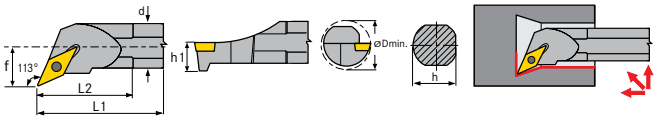
For longitudinal and copy turning using VC indexable inserts

IK

Application:
For longitudinal and copy turning with VC indexable insert 55°

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, type V, attack angle 113°, tip angle 35°, clearance angle 7°

Advantage:
- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



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									SVXC boring bar, solid carbide, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E10H-SVXC R/L 07	12.5	10	7.5	32	100	9	7	VC.. 0702..	475	●	480	●	904	●
E12K-SVXC R/L 07	15.5	12	8.0	40	125	11	9	VC.. 0702..	485	○	490	○	904	●
E16M-SVXC R/L 07	19.5	16	9.5	55	150	15	11	VC.. 0702..	495	○	500	○	904	●

Prod. Gr. 1FK

ATORN SV95C boring bar, steel, positive (DIN 8024)

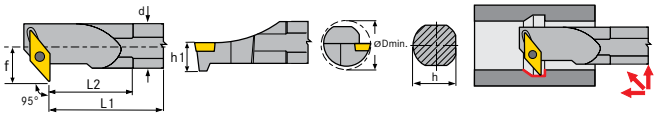
For longitudinal and copy turning using VC indexable inserts

IK

Application:
For longitudinal and copy turning with VC indexable insert 55°

Execution:
- Precision-manufactured boring bar, **steel**, with internal cooling, type V, pitch angle 95°, tip angle 35°, clearance angle 7°

Advantage:
- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



p. 746 p. 747

									SV95C boring bar, steel, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 10H SV95C R/L 07	12.5	10	6.5	22	100	9	7	VC.. 0702..	505	○	510	●	904	●
A 12K SV95C R/L 07	15.5	12	8.0	28	125	11	9	VC.. 0702..	515	○	520	○	904	●
A 16M SV95C R/L 07	17.5	16	10.0	36	150	15	11	VC.. 0702..	525	○	530	○	904	●

Prod. Gr. 1FK

ATORN SV95C boring bar, solid carbide, positive (DIN 8024)

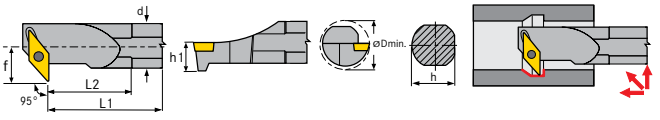
For longitudinal and copy turning using VC indexable inserts

IK

Application:
For longitudinal and copy turning with VC indexable insert 55°

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, type V, attack angle 95°, tip angle 35°, clearance angle 7°

Advantage:
- Slender geometry for longitudinal and copy turning
- Positive geometry for the body ensures low cutting forces



p. 746 p. 747

									SV95C boring bar, solid carbide, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E10H-SV95C R/L 07	12.5	10	6.5	32	100	9	7	VC.. 0702..	535	○	540	○	904	●
E12K-SV95C R/L 07	15.5	12	8.0	40	125	11	9	VC.. 0702..	545	○	550	○	904	●
E16M-SV95C R/L 07	17.5	16	9.5	55	150	15	11	VC.. 0702..	555	○	560	○	904	●

Prod. Gr. 1FK

ATORN SWUC steel offset boring bar, positive (DIN 8024)

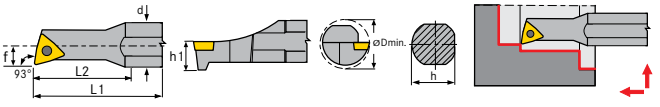
For facing and longitudinal turning using WC indexable inserts

IK

Application:
For face and longitudinal turning with WC indexable insert, 80°.

Execution:
- Precision-manufactured boring bar, **steel**, with internal cooling, offset, type C, attack angle 93°, tip angle 80°, clearance angle 7°

Advantage:
- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



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									SWUC steel offset boring bar, positive				clamping screw for indexable insert	
								Tool design	Right		Left			
ISO name	D min. (mm)	d1 (mm)	d (mm)	l2 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
A 0508H SWUC R/L 02	5.8	5	8	18	100	7	2.9	WC.. 0201..	225	●	230	●	906	●
A 0608H SWUC R/L 02	7.8	6	8	24	100	7	3.9	WC.. 0201..	235	○	240	○	906	●
E0508H-SWUC R/L 02	5.8	5	8	18	100	7	2.9	WC.. 0201..	245	○	250	○	906	●
E0608H-SWUC R/L 02	7.8	6	8	24	100	7	3.9	WC.. 0201..	255	○	260	○	906	●

Prod. Gr. 1FK

ATORN SWUC boring bar, solid carbide, positive (DIN 8024)

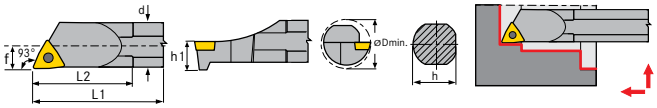
For facing and longitudinal turning using WC indexable inserts

IK

Application:
For face and longitudinal turning with WC indexable insert, 80°.

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, shape W, 93° pitch angle, 80° tip angle, 7° clearance angle

Advantage:
- Universal use for face and longitudinal turning
- Positive geometry for the body ensures low cutting forces



p. 747

								SWUC boring bar, solid carbide, positive				clamping screw for indexable insert	
							Tool design	Left		Right			
ISO name	D min. (mm)	d (mm)	h1 (mm)	l1 (mm)	h (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
E05F-SWUC R/L 02	5.8	5	4.0	85	5	2.9	WC.. 0201..	565	○	570	●	904	●
E06G-SWUC R/L 02	7.8	6	5.0	95	6	3.9	WC.. 0201..	575	○	580	●	906	●

Prod. Gr. 1FK

ATORN ATORN miniature boring bar set

With VC..05 and VC..07 indexable inserts

IK

Execution:
- **Ident. No. 898–899:** 1x E08F SV95CL 05;1x E08F SVVCL 05;1x E08F SVLCL 05;1x E08F SVXCL 05;10x VCGT 050102-MN HW6315;10x VCGT 050102-FP1 HC7625
- **Ident. No. 905–907:** 1x E10H SV95CL 07; 1x E10H SVVCL 07; 1x E10H SVLCL 07; 1x E10H SVXCL 07; VCGT 070202-MN HW6315; VCMT 070202-FP1 HC7625

Advantage:
- Universal miniature boring set as a problem solver for contour lathe work
- positive body geometry ensures low cutting forces
- High-performance indexable inserts

Ident. No. 898–899

Ident. No. 905–907

	ATORN miniature boring bar set	
Composition of set	17827... Ident. No.	
1x E08F SV95CR 05;1x E08F SVVCR 05;1x E08F SVLCR 05;1x E08F SVXCR 05;10x VCGT 050102-MN HW6315;10x VCGT 050102-FP1 HC7625	898	○
1x E08F SV95CL 05;1x E08F SVVCL 05;1x E08F SVLCL 05;1x E08F SVXCL 05;10x VCGT 050102-MN HW6315;10x VCGT 050102-FP1 HC7625	899	○
1x E10H SV95CL 07; 1x E10H SVVCL 07; 1x E10H SVLCL 07; 1x E10H SVXCL 07; VCGT 070202-MN HW6315; VCMT 070202-FP1 HC7625	905	○
1x E10H SV95CR 07; 1x E10H SVVCR 07; 1x E10H SVLCR 07; 1x E10H SVXCR 07; VCGT 070202-MN HW6315; VCMT 070202-FP1 HC7625	907	○

Prod. Gr. 1AQ

Miniature boring bar quick-change range
For ambitious serial users

Application:

For miniature boring from diameters 4.8 mm with CD.., CP.., DC.., WC.., VC.. indexable inserts

- Quick-change system for highly flexible use
- Very high changeover accuracy
- Innovative cutting material range cemented carbide, CVD thick-film diamond and CBN covers the processing of all materials ISO P, M, K, N, S, H
- The many and varied forms of the holder covers a wide range of applications

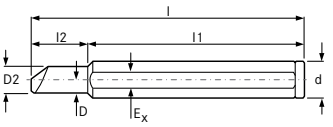
ATORN®
Leistung braucht Qualität.

ATORN Miniature boring bar holder
For use with miniature boring bars

Execution:
- With stop pin and setting pin

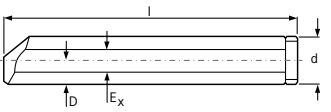
Advantage:
- Innovative system with perfect attachment of the tool

Ident. No. 680



Ident. No. 680

Ident. No. 681–682



Ident. No. 681–682

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						Miniature boring bar holder		clamping screw for indexable insert		coolant cap	
					Tool design	Right					
l (mm)	l1 (mm)	l2 (mm)	D (mm)	D2 (mm)	d (mm)	17827... Ident. No.		17827... Ident. No.		17827... Ident. No.	
120	95	25	4	12	16	680	○	920	○	921	○
120	-	-	6	-	16	681	○	922	●	-	-
120	-	-	8	-	16	682	○	922	●	-	-

Prod. Gr. 1AQ

ATORN SCLD boring bar, solid carbide, positive

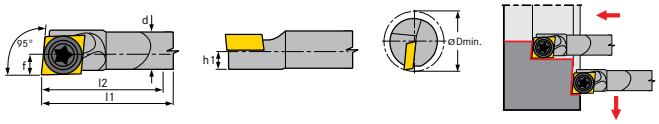
For facing and longitudinal turning using CD indexable inserts in holders

IK

Application:
For face and longitudinal turning with CD indexable insert, 80°.

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, offset, type C, attack angle 95°, tip angle 80°, clearance angle 7°

Advantage:
- Universal use for facing and longitudinal turning
- positive body geometry ensures low cutting forces



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							SCLD boring bar, solid carbide, positive		clamping screw for indexable insert	
						Tool design	Right			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.	
E04-SCLD R/L 04-AX	4.8	4	24	46	2.4	CD.. 0401	668	○	900	●
E06-SCLD R/L 04-AX	6.8	6	37	65	3.4	CD.. 0401	669	○	900	●

Prod. Gr. 1AQ

ATORN SWUC boring bar, solid carbide, positive

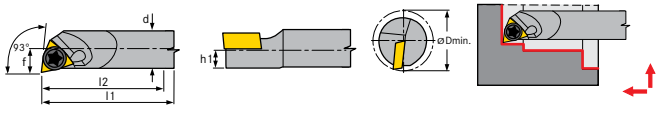
For facing and longitudinal turning using WC indexable inserts in holders

IK

Application:
For face and longitudinal turning with WC indexable insert, 80°.

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, shape W, 93° pitch angle, 80° tip angle, 7° clearance angle

Advantage:
- Universal use for facing and longitudinal turning
- positive body geometry ensures low cutting forces



p. 747

							SWUC boring bar, solid carbide, positive		clamping screw for indexable insert	
						Tool design	Right			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	f (mm)	ISO	17827... Ident. No.		17827... Ident. No.	
E06-SWUC R/L 02-AX	7.8	6	37	65	3.9	WC.. 0201..	670	○	906	●

Prod. Gr. 1AQ

ATORN SDUC boring bar, offset, solid carbide, positive

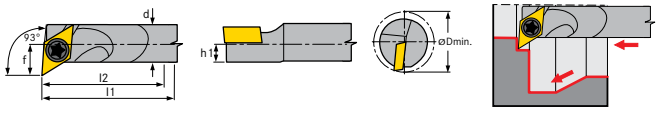
For longitudinal and copy turning using DC indexable inserts with holders

IK

Application:
For longitudinal and copy turning with DC indexable insert 55°

Execution:
- precision-manufactured **solid carbide** boring bar, with inner cooling, D type, 93.5° pitch angle, 55° tip angle, 7° clearance angle

Advantage:
- slim contour, optimised for copy turning work
- Positive body geometry ensures low cutting forces



p. 746

								SDUC boring bar, offset, solid carbide, positive		clamping screw for indexable insert	
							Tool design	Right			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	f (mm)	f1 (mm)	ISO	17827... Ident. No.		17827... Ident. No.	
E0406-SDUC R/L 04-AX	5.6	6	26	56	3	1.5	DC.. 04..	671	○	910	●
E0408-SDUC R/L 04-AX	5.6	8	26	57	3	1.5	DC.. 04..	672	○	910	●

Prod. Gr. 1AQ

ATORN SDQC boring bar, offset, solid carbide, positive

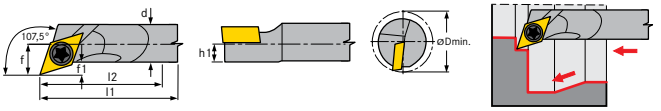
for longitudinal and copy turning using DC indexable inserts with holders

IK

Application:
For longitudinal and copy turning with DC 55° indexable insert.

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, offset, shape D, 107.5° pitch angle, 55° tip angle, 7° clearance angle

Advantage:
- slim contour, optimised for copy turning work
- positive body geometry ensures low cutting forces



p. 746

								SDQC boring bar, offset, solid carbide, positive		clamping screw for indexable insert	
							Tool design	Right			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	f (mm)	f1 (mm)	ISO	17827... Ident. No.		17827... Ident. No.	
E0406-SDQC R/L 04-AX	5.2	6	26	56	2.6	1.1	DC.. 04..	673	○	910	●
E0408-SDQC R/L 04-AX	5.2	8	26	57	2.6	1.1	DC.. 04..	674	○	910	●

Prod. Gr. 1AQ

ATORN SVLC boring bar, solid carbide, positive

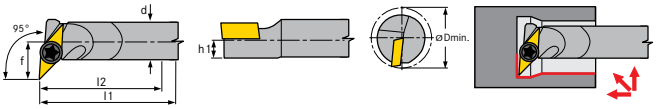
For longitudinal and copy turning using VC indexable inserts in holders

IK

Application:
For longitudinal and copy turning with VC indexable insert 55°

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, type V, attack angle 95°, tip angle 35°, clearance angle 7°

Advantage:
- slender geometry for longitudinal and copy turning
- positive body geometry ensures low cutting forces



p. 746

								SVLC boring bar, solid carbide, positive		clamping screw for indexable insert	
							Tool design	Right			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	f (mm)	f1 (mm)	ISO	17827... Ident. No.		17841... Ident. No.	
E0406-SVLC R/L 05-AX	9.2	6	26	56	6	3	VC.. 05..	675	○	314	●
E0408-SVLC R/L 05-AX	9.2	8	26	57	5	3	VC.. 05..	676	○	314	●

Prod. Gr. 1AQ

ATORN SVXC boring bar, solid carbide, positive

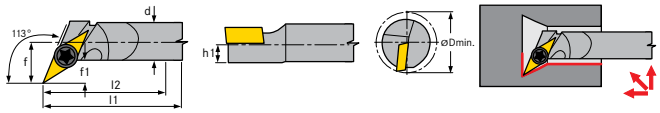
For longitudinal and copy turning using VC indexable inserts in holders

IK

Application:
For longitudinal and copy turning with VC indexable insert 55°

Execution:
- Precision-manufactured boring bar, **solid carbide**, with internal cooling, type V, attack angle 113°, tip angle 35°, clearance angle 7°

Advantage:
- slender geometry for longitudinal and copy turning
- positive body geometry ensures low cutting forces



p. 746

								SVXC boring bar, solid carbide, positive		clamping screw for indexable insert	
							Tool design	Right			
ISO name	D min. (mm)	d (mm)	l2 (mm)	l1 (mm)	f (mm)	f1 (mm)	ISO	17827... Ident. No.		17841... Ident. No.	
E0406-SVXC R/L 05-AX	8.2	6	26	56	5	3	VC.. 05..	677	○	314	●
E0408-SVXC R/L 05-AX	9.2	8	26	57	5	3	VC.. 05..	678	○	314	●

Prod. Gr. 1AQ

ATORN CDGT indexable insert, positive

ISO N

Application:
For longitudinal turning and facing with a wide infeed range in favourable cutting conditions

Execution:
- Ground cemented carbide indexable insert

Advantage:
- Very high level of hardness and wear resistance, for high service life requirements with favourable cutting conditions
- Positive soft-cutting chip geometry with a wide infeed range and stable blades

		Carbide type	HW6315	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	160-280 m/min	
		Chip breaker code	MN	
ISO-Code Rotating	min./max. ap	f min./max.	17827... Ident. No.	
CDGT 040101	0.1-1 mm	0.04-0.12 mm/r	700	●
CDGT 040102	0.1-1 mm	0.04-0.12 mm/r	705	●
CDGT 040104	0.1-1 mm	0.04-0.12 mm/r	710	●

Prod. Gr. 1FL

ATORN CPMT indexable insert, positive

ISO P

Application:
For longitudinal turning and facing with low cutting depths in moderate cutting conditions

Execution:
- Sintered cemented carbide indexable insert

Advantage:
- Perfect combination of wear resistance and toughness, for high process stability and a wide range of applications
- Very positive chip breaker for ideal chip breaking at low cutting depths

		Carbide type	HC7625	
		Machining conditions for indexable insert	Medium	
		Vc in steel ●	110-220 m/min	
		Vc in stainless steel ●	60-120 m/min	
		Vc in cast iron ●	120-190 m/min	
		Chip breaker code	FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17827... Ident. No.	
CPMT 05T102	0.1-1.5 mm	0.05-0.15 mm/r	745	●
CPMT 05T104	0.1-1.5 mm	0.05-0.15 mm/r	750	●

Prod. Gr. 1FL

ATORN CPGT indexable insert, positive

ISO P

Application:
For longitudinal turning and facing with a wide infeed range in favourable cutting conditions

Execution:
- ground cemented carbide indexable insert

Advantage:
- Very high level of hardness and wear resistance, for high service life requirements with favourable cutting conditions
- Positive soft-cutting chip geometry with a wide infeed range and stable blades

		Carbide type	HC6315	
		Machining conditions for indexable insert	Good	
		Vc in non-ferrous metals ●	160-280 m/min	
		Chip breaker code	MN	
ISO-Code Rotating	min./max. ap	f min./max.	17827... Ident. No.	
CPGT 05T102	0.1-1.5 mm	0.04-0.12 mm/r	820	●
CPGT 05T104	0.1-1.5 mm	0.04-0.12 mm/r	822	●

Prod. Gr. 1FL

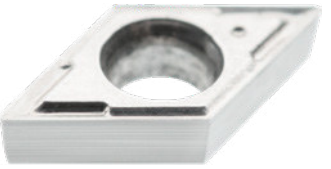
ATORN DCGT indexable insert, positive

ISO P

Application:
For longitudinal turning and copy turning with a wide infeed range in favourable cutting conditions

Execution:
- ground cemented carbide indexable insert

Advantage:
- Very high level of hardness and wear resistance, for high service life requirements with favourable cutting conditions
- Positive soft-cutting chip geometry with a wide infeed range and stable blades



		Carbide type	HC6315	
		Vc in non-ferrous metals ●	160-280 m/min	
		Chip breaker code	MN	
ISO-Code Rotating	min./max. ap	f min./max.	17827... Ident. No.	
DCGT 04T002	0.1-1.5 mm	0.04-0.12 mm/r	805	●

Prod. Gr. 1FL

ATORN DCGT indexable inserts, positive

ISO P

Application:
For longitudinal turning and copy turning with low cutting depths in moderate cutting conditions

Execution:
- ground cemented carbide indexable insert

Advantage:
- perfect combination of toughness and resistance to wear, for high degree of process stability and broad range of applications
- very positive chip breaker, ensures ideal chip breaking with small cutting depths

		Carbide type	HC7625	
		Vc in steel ●	110-220 m/min	
		Vc in stainless steel ●	60-120 m/min	
		Vc in cast iron ●	120-190 m/min	
		Chip breaker code	FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17827... Ident. No.	
DCGT 04T002	0.1-1.5 mm	0.05-0.10 mm/r	810	●

Prod. Gr. 1FL

ATORN VCGT indexable inserts, positive

ISO N

Application:
For longitudinal turning and copy turning with a wide infeed range in favourable cutting conditions

Execution:
- Ground cemented carbide indexable insert

Advantage:
- Very high level of hardness and wear resistance, for high service life requirements with favourable cutting conditions
- Positive soft-cutting chip geometry with a wide infeed range and stable blades

		Carbide type	HW6315		HW6315	
		Machining conditions for indexable insert	Medium		Good	
		Vc in non-ferrous metals ●	160-280 m/min		160-280 m/min	
		Chip breaker code	MN		MN	
ISO-Code Rotating	min./max. ap	f min./max.	17827... Ident. No.		17827... Ident. No.	
VCGT 070201	0.1-1.5 mm	0.04-0.12 mm/r	755	●	765	●
VCGT 070202	0.1-1.5 mm	0.04-0.12 mm/r	-	-	760	●

Prod. Gr. 1FL

ATORN VCMT indexable inserts, positive

ISO P

Application:
For longitudinal turning and copy turning with low cutting depths in moderate cutting conditions

Execution:
- Ground cemented carbide indexable insert

Advantage:
- Perfect combination of wear resistance and toughness, for high process stability and a wide range of applications
- Very positive chip breaker for ideal chip breaking at low cutting depths

		Carbide type	HC7625	
		Machining conditions for indexable insert	Medium	
		Vc in steel 🔵	110-220 m/min	
		Vc in stainless steel 🟡	60-120 m/min	
		Vc in cast iron 🔴	120-190 m/min	
		Chip breaker code	FP1	
ISO-Code Rotating	min./max. ap	f min./max.	17827... Ident. No.	
VCMT 070202	0.1-1.5 mm	0.05-0.15 mm/r	770	●
VCMT 070204	0.1-1.5 mm	0.05-0.15 mm/r	775	●

Prod. Gr. 1FL

ATORN WCGT indexable inserts, positive

ISO N

Application:
For longitudinal turning and facing with a wide infeed range in favourable cutting conditions

Execution:
- Ground cemented carbide indexable insert

Advantage:
- Very high level of hardness and wear resistance, for high service life requirements with favourable cutting conditions
- Positive soft-cutting chip geometry with a wide infeed range and stable blades

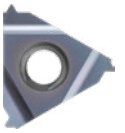
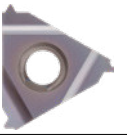
		Carbide type	HW6315	
		Machining conditions for indexable insert	Good	
		Vc in steel 🔵	140-200 m/min	
		Vc in non-ferrous metals 🟢	160-280 m/min	
		Chip breaker code	MN	
ISO-Code Rotating	min./max. ap	f min./max.	17827... Ident. No.	
WCGT 020101	0.1-0.8 mm	0.04-0.12 mm/r	790	○
WCGT 020102	0.1-0.8 mm	0.04-0.12 mm/r	795	●

Prod. Gr. 1FL

Thread-cutting range
For demanding serial users

Carbide overview and advantages of ground thread cutting inserts:

- Very precisely ground tolerance of the thread cutting insert enables the most precise application possibilities within narrow tolerances
- Extremely sharp and finished cutting edge ensures precise and optimal cutting results
- No more spring passes (re-cutting) required when cutting the thread
- Wide selection of carbide grades for all material groups

Tungsten carbide type	ISO group	Use	Thicknesses	Vc m/min	
HC5630	P20-P40 K20-K30	Stainless steel, steel, special alloys, castings and hardened steel	Universal use 1. Choice of steel and stainless steel	Medium-very high	
HC5615	K10-K20 P10-P25	Steels (<30 HRc), stainless steel, castings, non-ferrous metals and special alloys	Universal use 1. Choice of steel and stainless steel	Medium-high	
HC5625	P15-P35	Steel and stainless steel	Universal use 1. Choice of steel and stainless steel	Low-medium	
HC5640	P30-P50 K25-K40	Steel, stainless steel, castings	Universal use 1. Choice of steel and stainless steel	Extremely low	
HC5515	M10-M20 K05-K20 N10-N20 S10-S20	Stainless steel, special alloy, steel, castings	High-performance application in stainless steel, steel and special alloys	Very high	
HC5110	H10-H25 S10-S25	Hardened steel - 63 HRC special alloys	1. Choice of hardened steel and special alloys	Medium	
HW5615	K10-K30	Non-ferrous metals, stainless steel and special alloys	1. Choice of non-ferrous metals	Medium	

Carbide overview and advantages of sintered thread cutting inserts:

- Sintered, rounded and finished edge provides a very stable cutting edge, which is advantageous in certain applications.
- Effective chip control
- The stable cutting edge allows spring passes during thread cutting
- Very economical thread cutting option due to the affordable price

Tungsten carbide type	ISO group	Use	Thicknesses	Vc m/min	
HC5620	M10-M20 K05-K20 N10-N20 S10-S20	Stainless steel, steel, A2 stainless steel, special alloys, castings and non-ferrous metals	Universal use 1. Choice of steel and stainless steel	Medium-high	
HC5520	K10-K20 P10-P25	Steels, stainless steel, castings, special alloys and hardened steel 45HRC	Universal use 1. Choice of steel and stainless steel	Medium-high	

Shim for clamp holders

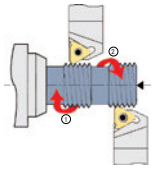
The correct selection of the shim is extremely important as the shim defines the angle to the workpiece. The gradient must be set correctly to ensure that the cutting edge does not rub on the workpiece. To do this, shims with different gradient angles are available for the required application. The most accurate method of determining the correct shim is to use the formula shown below.

Formula for calculating the pitch angle (s)	
For 60° and 55° threads (metric, UN, WHIT, NPT, BSPT)	**For trapezoidal, round, ACME, STUB threads**
s = ((20*p/d)*r)	s = (((30*p/2)/d)*r)

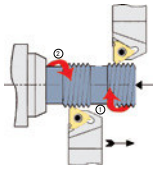
The following parameters are required for calculating the pitch angle:
d = nominal diameter of the thread
p = thread pitch
r = cutting direction

The cutting direction determines whether positive or negative shims are used.
r = 1 Cutting direction towards the chuck, see graphic Fig. 1 and 4
r = -1 Cutting direction away from the chuck, see graphic Fig. 2 and 3

External machining:

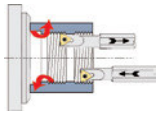


Right-hand thread:
1st right holder with right indexable insert
2nd left holder with left indexable insert

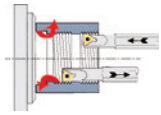


Left-hand thread:
3rd right holder with right indexable insert
4th left holder with left indexable insert

Internal machining:



Right-hand thread:
1st right holder with right indexable insert
2nd left holder with left indexable insert



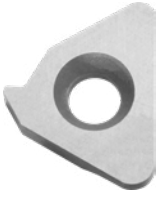
Left-hand thread:
3rd right holder with right indexable insert
4th left holder with left indexable insert

Examples for calculating the pitch angle (s):

Male thread, right, in front of turning centre	**Male thread, right, behind turning centre**
Towards the chuck r = 1	**Away from the chuck r = -1**
M30 x 2	Tr16 x 3
s = (20p/d)*r s = (20*2/30)*1 s = 1.33°	s = (((30*p/2)/d)*r) s = ((30*3/2)/16)*-1 s = -0.93
The calculated pitch angle is now rounded up/down to the next size.	
s = 1.50	s = -0.5

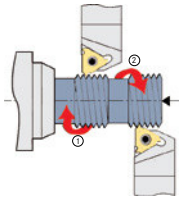
ATORN Shims for threading tool holder

for use in threading tool holder no. 17745-17747

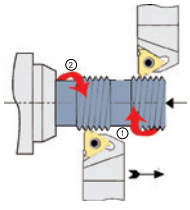


Ident. No. 216–222, 700, 704, 710, 714, 720, 724, 730, 734, 740, 746, 750, 756, 760–762

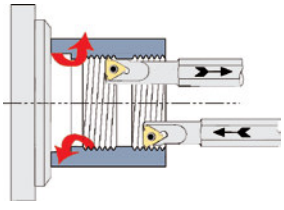
Ident. No. 316–322, 702, 706, 712, 716, 722, 726, 732, 736, 742, 748, 752, 758



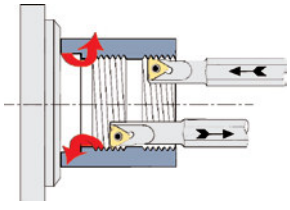
Right-hand thread:
1. Right holder with right indexable insert
2. Left holder with left indexable insert



Left-hand thread:
3. Right holder with right indexable insert
4. Left holder with left indexable insert



Right-hand thread:
1. Right holder with right indexable insert
2. Left holder with left indexable insert



Left-hand thread:
3. Right holder with right indexable insert
4. Left holder with left indexable insert

Suitable for indexable insert size	16		16		22		22	
Suitable for holder	ER/IL		EL/IR		ER/IL		EL/IR	
Resulting pitch angle	17749... Ident. No.		17749... Ident. No.		17749... Ident. No.		17749... Ident. No.	
+4.5°	700	●	702	○	704	○	706	○
+3.5°	710	○	712	○	714	○	716	○
+2.5°	720	○	722	○	724	●	726	○
+1.5°	216	●	316	●	222	●	322	●
+0.5°	730	●	732	●	734	○	736	○
0°	760	○	762	○	-	-	-	-
-0.5°	740	●	742	○	746	○	748	○
-1.5°	750	●	752	○	756	●	758	○

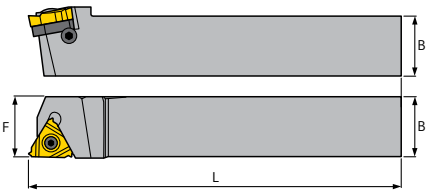
Prod. Gr. 158

ATORN Insert holders for male threads

Application:
For male thread machining for thread turning inserts.

Execution:
- Precision-engineered steel holder, hardened black-oxide finish, with 1.5° pitch angle
- Without replaceable shim. Pitch angle cannot be corrected.

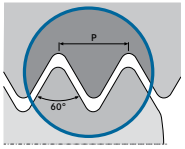
Advantage:
- top-quality and wear-resistant steel support with high-strength clamping screw
- precision-engineered insert seat provides extremely precise threads and excellent finish quality

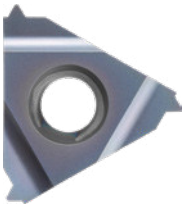


						Tool design	Right		Left	
Suitable for indexable insert size	B (mm)	H (mm)	L (mm)	F (mm)	With base plate	17745... Ident. No.			17745... Ident. No.	
11	10	10	100	11	No	011	●		311	○
16	12	12	80	16	Yes	013	●		312	●
16	16	16	100	16	Yes	016	●		316	●
16	20	20	125	20	Yes	020	●		320	●
16	25	25	150	25	Yes	025	●		325	●
22	25	25	150	25	Yes	050	●		350	●
22	32	32	170	32	Yes	055	●		355	○

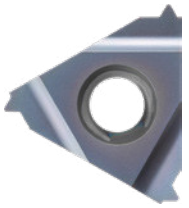
Prod. Gr. 158

ATORN Thread cutting inserts partial profile 60°
for male thread cutting





Ident. No. 005, 025, 040, 050, 060

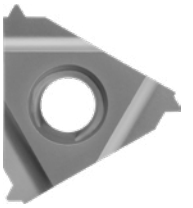


Ident. No. 007, 012, 022, 027, 032

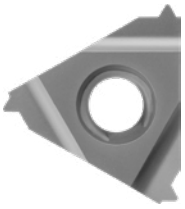
Ident. No. 070–075

Ident. No. 010, 020, 030, 035, 055

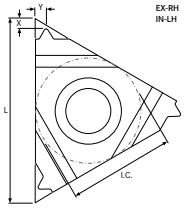
Ident. No. 037, 042, 052, 057, 062



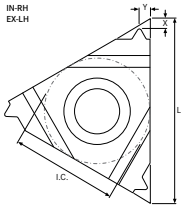
Ident. No. 246, 248, 252, 256, 266



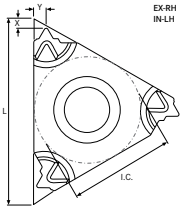
Ident. No. 247, 249, 253, 257, 267



Ident. No. 005, 010, 020, 025, 030, 035, 040, 050, 055, 060, 246, 248, 252, 256, 266



Ident. No. 007, 012, 022, 027, 032, 037, 042, 052, 057, 062, 247, 249, 253, 257, 267



Ident. No. 070–075

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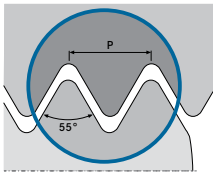
Machining direction			Right		Left		Right		Left		Right		Left		Right	
Carbide type			HC5630		HC5630		HC5615		HC5615		HW5615		HW5615		HC5630 with chip breaker	
Vc in steel ●			60-180 m/min		60-180 m/min		55-180 m/min		55-180 m/min						75-110 m/min	
Vc in stainless steel ●			90-130 m/min		90-130 m/min		60-90 m/min		60-90 m/min		60-70 m/min		60-70 m/min		80-100 m/min	
Vc in non-ferrous metals ●							200-500 m/min		200-500 m/min		200-600 m/min		200-600 m/min			
Vc in cast iron ●			100-130 m/min		100-130 m/min		70-110 m/min		70-110 m/min						100-110 m/min	
Vc in special alloys ●			25-60 m/min		25-60 m/min						30-40 m/min		30-40 m/min			
Vc in hardened steel ●			15-45 m/min		15-45 m/min											
Size of indexable insert	Min./max. pitch	Min./max. number of thread starts per inch	17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.	
11	0.5-1.5 mm	48-16	005	○	007	○	035	○	037	○	246	○	247	○	-	-
16	0.5-1.5 mm	48-16	040	●	012	○	010	●	042	○	248	●	249	○	-	-
16	1.75-3.0 mm	14-8	050	●	022	○	020	●	052	○	252	○	253	○	070	○

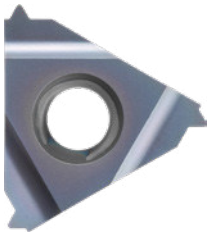
Machining direction			Right		Left		Right		Left		Right		Left		Right	
Carbide type			HC5630		HC5630		HC5615		HC5615		HW5615		HW5615		HC5630 with chip breaker	
Vc in steel ●			60-180 m/min		60-180 m/min		55-180 m/min		55-180 m/min						75-110 m/min	
Vc in stainless steel ●			90-130 m/min		90-130 m/min		60-90 m/min		60-90 m/min		60-70 m/min		60-70 m/min		80-100 m/min	
Vc in non-ferrous metals ●							200-500 m/min		200-500 m/min		200-600 m/min		200-600 m/min			
Vc in cast iron ●			100-130 m/min		100-130 m/min		70-110 m/min		70-110 m/min						100-110 m/min	
Vc in special alloys ●			25-60 m/min		25-60 m/min						30-40 m/min		30-40 m/min			
Vc in hardened steel ●			15-45 m/min		15-45 m/min											
Size of indexable insert	Min./max. pitch	Min./max. number of thread starts per inch	17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.	
16	0.5-3.0 mm	48-8	025	●	027	●	055	●	057	●	256	●	257	○	075	●
22	3.5-5.0 mm	7-5	060	●	032	○	030	●	062	●	266	○	267	○	-	-

Prod. Gr. 158

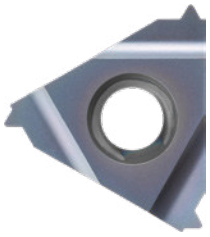
ATORN Thread cutting inserts partial profile 55°

for male thread cutting





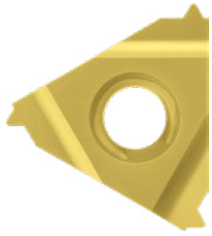
Ident. No. 100, 125, 140, 145, 155



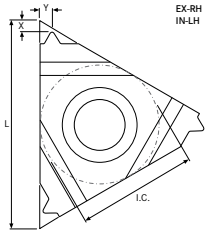
Ident. No. 102, 112, 122, 127, 132

Ident. No. 160–162

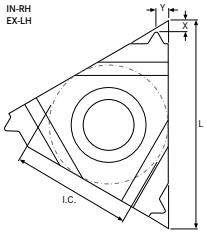
Ident. No. 110, 120, 130, 135, 150



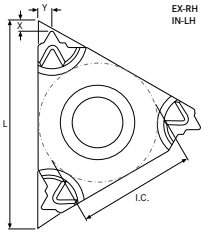
Ident. No. 137, 142, 147, 152, 157



Ident. No. 100, 110, 120, 125, 130, 135, 140, 145, 150, 155



Ident. No. 102, 112, 122, 127, 132, 137, 142, 147, 152, 157



Ident. No. 160–162

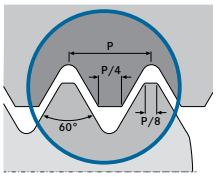
p. 750

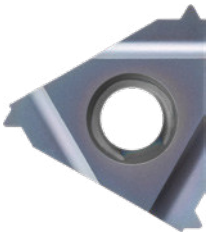
Machining direction			Right		Left		Right		Left		Right	
Carbide type			HC5630		HC5630		HC5615		HC5615		HC5630 with chip breaker	
Vc in steel ●			60-180 m/min		60-180 m/min		55-180 m/min		55-180 m/min		75-110 m/min	
Vc in stainless steel ●			90-130 m/min		90-130 m/min		60-90 m/min		60-90 m/min		80-100 m/min	
Vc in non-ferrous metals ●							200-500 m/min		200-500 m/min			
Vc in cast iron ●			100-130 m/min		100-130 m/min		70-110 m/min		70-110 m/min		100-110 m/min	
Vc in special alloys ●			25-60 m/min		25-60 m/min							
Vc in hardened steel ●			15-45 m/min		15-45 m/min							
Size of indexable insert	Min./max. pitch	Min./max. number of thread starts per inch	17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.		17735... Ident. No.	
11	0.5-1.5 mm	48-16	100	○	102	○	135	○	137	○	-	-
16	0.5-1.5 mm	48-16	140	○	112	○	110	●	142	○	-	-
16	1.75-3.0 mm	14-8	145	○	122	○	120	●	147	○	160	○
16	0.5-3.0 mm	48-8	125	●	127	●	150	●	152	●	162	○
22	3.5-5.0 mm	7-5	155	○	132	○	130	●	157	○	-	-

Prod. Gr. 158

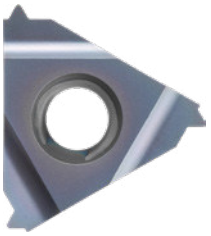
ATORN Thread cutting inserts full profile 60°

for male thread cutting



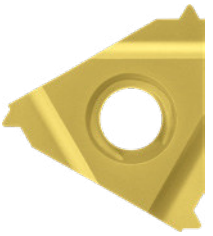


Ident. No. 011, 021, 031, 041, 051, 061, 071, 081, 091, 097, 101, 113, 123, 133, 143, 203, 215, 223, 227, 235, 239, 243, 247, 372, 532



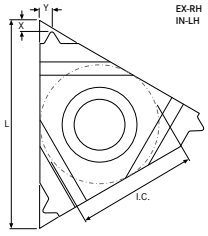
Ident. No. 015, 025, 035, 045, 055, 065, 075, 085, 095–096, 099, 116, 126, 136, 146–202, 206, 218–222, 226, 238, 242, 246, 531, 535–536

Ident. No. 262–272, 537–539

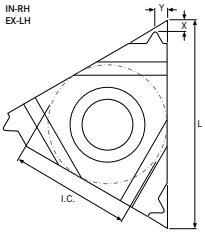


Ident. No. 599–652

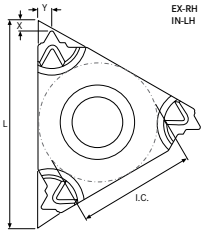
Ident. No. 010, 020, 030, 040, 050, 060, 070, 080, 090, 098, 102–112, 122, 132, 142, 208–212, 216, 228–232, 236, 240, 244, 248, 530, 533–534



Ident. No. 010, 015–020, 025–030, 035–040, 045–050, 055–060, 065–070, 075–080, 085–090, 095–096, 098–099, 102–112, 116–122, 126–132, 136–142, 146–202, 206–212, 216–222, 226, 228–232, 236–238, 240–242, 244–246, 248, 530–531, 533–536



Ident. No. 011, 021, 031, 041, 051, 061, 071, 081, 091, 097, 101, 113, 123, 133, 143, 203, 215, 223, 227, 235, 239, 243, 247, 372, 532, 599–652



Ident. No. 262–272, 537–539

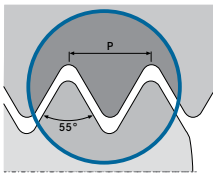
p. 750

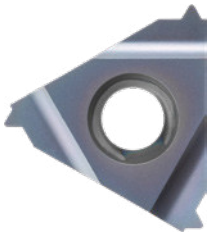
Machining direction		Right		Left		Right		Left		Right	
Carbide type		HC5630		HC5630		HC5615		HC5615		HC5630 with chip breaker	
Vc in steel ●		60-180 m/min		60-180 m/min		55-180 m/min		55-180 m/min		60-180 m/min	
Vc in stainless steel ●		90-130 m/min		90-130 m/min		60-90 m/min		60-90 m/min		90-130 m/min	
Vc in non-ferrous metals ●						200-500 m/min		200-500 m/min			
Vc in cast iron ●		100-130 m/min		100-130 m/min		70-110 m/min		70-110 m/min		100-130 m/min	
Vc in special alloys ●		25-60 m/min		25-60 m/min						25-60 m/min	
Vc in hardened steel ●		15-45 m/min		15-45 m/min						15-45 m/min	
Size of indexable insert	Pitch (mm)	17741... Ident. No.		17741... Ident. No.		17741... Ident. No.		17741... Ident. No.		17741... Ident. No.	
11	0.35	202	○	203	○	530	○	599	○	-	-
11	0.4	206	○	-	-	208	○	-	-	-	-
11	0.45	531	○	372	○	212	○	-	-	-	-
11	0.5	-	-	215	○	216	●	606	○	-	-
11	0.6	218	○	-	-	533	○	608	○	-	-
11	0.7	222	○	-	-	534	○	610	○	-	-
11	0.75	226	○	227	○	228	○	612	○	-	-
11	0.8	535	○	-	-	232	●	-	-	-	-
11	1.0	536	○	235	○	236	●	616	○	-	-
11	1.25	238	○	239	○	240	○	618	○	-	-
11	1.5	242	○	243	○	244	●	620	○	-	-
11	1.75	246	○	247	○	248	○	622	○	-	-
16	0.5	015	●	011	○	010	●	624	○	-	-
16	0.75	025	●	021	○	020	●	626	○	-	-
16	1.0	035	●	031	○	030	●	628	●	537	●
16	1.25	045	●	041	○	040	●	-	-	262	○
16	1.5	055	●	051	●	050	●	632	●	538	●
16	1.75	065	●	061	○	060	●	634	○	266	○
16	2.0	075	●	071	●	070	●	636	●	268	●
16	2.5	085	●	081	○	080	●	638	○	539	○
16	3.0	095	●	091	○	090	●	640	○	272	●
22	3.5	116	●	113	○	112	●	642	○	-	-
22	4.0	126	●	123	○	122	●	644	○	-	-
22	4.5	136	●	133	○	132	○	646	○	-	-
22	5.0	146	●	143	○	142	○	648	○	-	-
22	5.5	096	○	097	○	098	○	650	○	-	-
22	6.0	099	○	101	○	102	○	652	○	-	-
-	0.7	-	-	223	○	-	-	-	-	-	-

Prod. Gr. 158

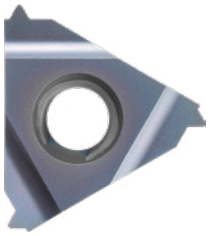
ATORN Thread cutting inserts full profile 55°

for male thread cutting





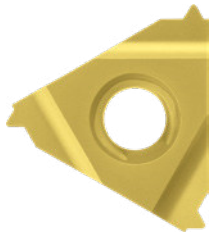
Ident. No. 163, 173, 183, 193, 479, 483, 487, 491, 495, 497, 501



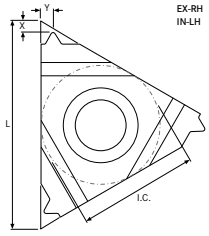
Ident. No. 166, 176, 186, 196, 474, 478, 482, 486, 490, 494, 496, 500

Ident. No. 472–473

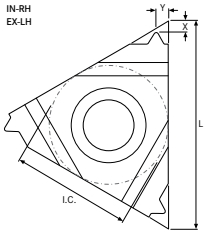
Ident. No. 162, 172, 182, 192, 476, 480, 484, 488, 492, 498, 502, 528



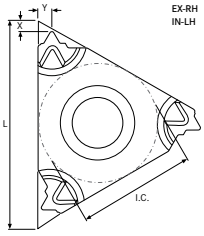
Ident. No. 167, 177, 187, 197, 477, 481, 485, 489, 493, 499, 503, 529



Ident. No. 162, 166, 172, 176, 182, 186, 192, 196, 474–476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 496, 498, 500, 502, 528



Ident. No. 163, 167, 173, 177, 183, 187, 193, 197, 477, 479, 481, 483, 485, 487, 489, 491, 493, 495, 497, 499, 501, 503, 529



Ident. No. 472–473

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Machining direction		Right		Left		Right		Left		Right	
Carbide type		HC5630		HC5630		HC5615		HC5615		HC5630 with chip breaker	
Vc in steel ●		60-180 m/min		60-180 m/min		55-180 m/min		55-180 m/min		60-180 m/min	
Vc in stainless steel ●		90-130 m/min		90-130 m/min		60-90 m/min		60-90 m/min		90-130 m/min	
Vc in non-ferrous metals ●						200-500 m/min		200-500 m/min			
Vc in cast iron ●		100-130 m/min		100-130 m/min		70-110 m/min		70-110 m/min		100-130 m/min	
Vc in special alloys ●		25-60 m/min		25-60 m/min						25-60 m/min	
Vc in hardened steel ●		15-45 m/min		15-45 m/min						15-45 m/min	
Size of indexable insert	Number of thread starts per inch	17741... Ident. No.		17741... Ident. No.		17741... Ident. No.		17741... Ident. No.		17741... Ident. No.	
16	10	500	○	501	○	502	○	503	○	-	-
16	11	196	●	193	○	192	●	197	○	473	○
16	12	496	○	497	○	498	○	499	○	-	-
16	14	186	●	183	○	182	●	187	○	-	-
16	16	494	○	495	○	528	○	529	○	-	-
16	18	490	○	491	○	492	○	493	○	-	-
16	19	176	●	173	○	172	●	177	○	472	○
16	20	486	○	487	○	488	○	489	○	-	-
16	24	482	○	483	○	484	○	485	○	-	-
16	28	166	●	163	○	162	●	167	○	-	-
16	32	478	○	479	○	480	○	481	○	-	-
16	36	474	○	-	-	476	○	477	○	-	-

Prod. Gr. 158

ATORN Insert holders for female threads

Application:

For female thread machining for thread turning inserts.

Execution:

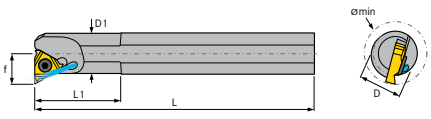
- precision-engineered steel support, burnished and hardened, with 1.5° pitch angle

Advantage:

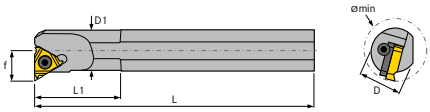
- top-quality and wear-resistant steel support with high-strength clamping screw
- precision-engineered insert seat provides extremely precise threads and excellent finish quality
- **Ident. No. 020–075, 320–375:** internal cooling for excellent process reliability and good chip removal

Ident. No. 020–075, 320–375

Ident. No. 130–184



Ident. No. 020–075, 320–375



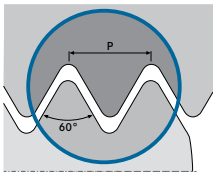
Ident. No. 130–184

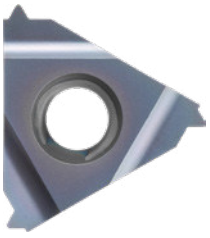
							Tool design	Right		Left	
Suitable for indexable insert size	D min. (mm)	D1 (mm)	D (mm)	L (mm)	F (mm)	L1 (mm)	Coolant supply	17747... Ident. No.		17747... Ident. No.	
11	12	10	10	100	7.4	-	External	130	●	160	●
11	12	10	16	125	7.4	25	External	132	●	162	●
11	15	13	16	140	8.9	32	External	134	●	164	●
16	16	13	16	150	10.2	32	External	136	●	166	●
16	19	16	20	170	11.7	40	External	138	●	168	●
16	24	20	20	170	13.7	-	External	140	●	170	●
16	29	25	25	200	16.2	-	External	142	●	172	●
16	36	32	32	250	19.7	-	External	144	○	174	○
16	44	40	40	300	23.7	-	External	146	○	176	○
22	24	20	20	170	15.6	-	External	148	●	178	●
22	29	25	25	200	18.1	-	External	150	●	180	○
22	38	32	32	250	21.6	-	External	152	●	182	○
22	46	40	40	300	25.6	-	External	154	●	184	○
11	12	10	16	125	7.4	25	Internal	020	●	320	○
16	16	13	16	150	10.2	32	Internal	030	●	330	○
16	19	16	20	170	11.7	40	Internal	050	●	340	○
16	24	20	20	170	13.7	-	Internal	060	●	350	○
16	29	25	25	200	16.2	-	Internal	070	●	370	○
22	29	25	25	200	18.1	-	Internal	075	●	375	○

Prod. Gr. 158

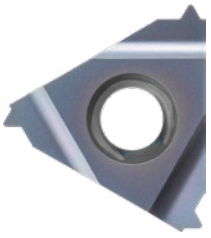
ATORN Thread cutting inserts partial profile 60°

For female thread cutting



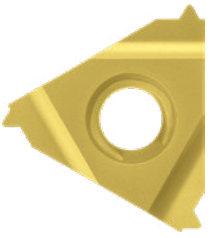


Ident. No. 021, 041, 051, 053, 055

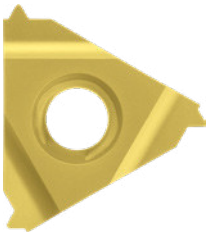


Ident. No. 022, 042, 052, 054, 056

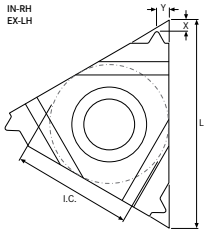
Ident. No. 130–132



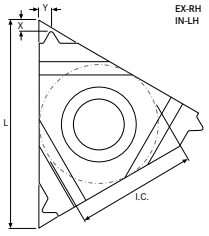
Ident. No. 020, 040, 050, 058, 064



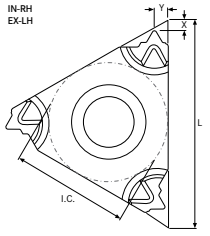
Ident. No. 023, 043, 057, 059–061



Ident. No. 020, 022, 040, 042, 050, 052, 054, 056, 058, 064



Ident. No. 021, 023, 041, 043, 051, 053, 055, 057, 059–061



Ident. No. 130–132

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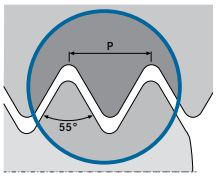
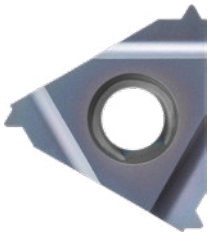
			Right		Left		Right		Left		Right	
		Machining direction	Right		Left		Right		Left		Right	
		Carbide type	HC5615		HC5630		HC5630		HC5615		HC5630 with chip breaker	
		Vc in steel ●	55-180 m/min		60-180 m/min		60-180 m/min		55-180 m/min		75-110 m/min	
		Vc in stainless steel ●	60-90 m/min		90-130 m/min		90-130 m/min		60-90 m/min		80-100 m/min	
		Vc in non-ferrous metals ●	200-500 m/min						200-500 m/min			
		Vc in cast iron ●	70-110 m/min		100-130 m/min		100-130 m/min		70-110 m/min		100-110 m/min	
		Vc in special alloys ●			25-60 m/min		25-60 m/min					
		Vc in hardened steel ●			15-45 m/min		15-45 m/min					
Size of indexable insert	Min./max. pitch	Min./max. number of thread starts per inch	17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.	
11	0.5-1.5 mm	48-16	020	●	021	○	022	●	023	○	-	-
16	0.5-1.5 mm	48-16	040	●	041	○	042	○	043	○	-	-
16	1.75-3.0 mm	14-8	050	●	051	○	056	●	057	●	130	○
16	0.5-3.0 mm	48-8	058	●	053	○	052	●	059	●	132	○
22	3.5-5.0 mm	7-5	064	●	055	○	054	●	061	●	-	-

Prod. Gr. 158

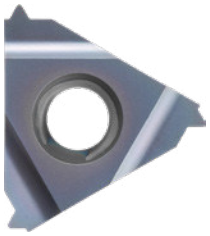
ATORN Thread cutting inserts partial profile 55°

For female thread cutting



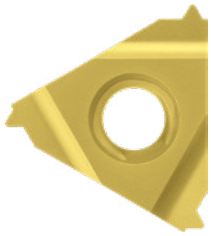


Ident. No. 030–032, 092, 094



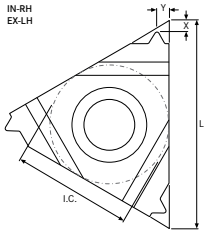
Ident. No. 062, 082, 093, 095–096

Ident. No. 152–154

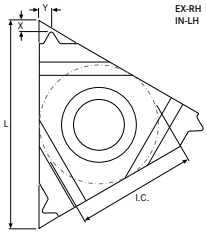


Ident. No. 033–034, 060, 080, 090

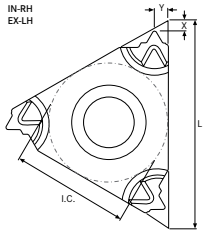
Ident. No. 035–039



Ident. No. 030–034, 060, 080, 090–092, 094



Ident. No. 035–039, 062, 082, 093, 095–096



Ident. No. 152–154

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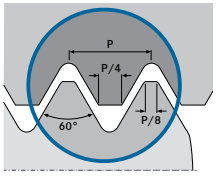
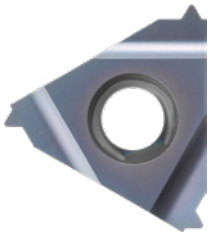
Machining direction			Right		Left		Right		Left		Right	
Carbide type			HC5630		HC5630		HC5615		HC5615		HC5630 with chip breaker	
Vc in steel			60-180 m/min		60-180 m/min		55-180 m/min		55-180 m/min		75-110 m/min	
Vc in stainless steel			90-130 m/min		90-130 m/min		60-90 m/min		60-90 m/min		80-100 m/min	
Vc in non-ferrous metals							200-500 m/min		200-500 m/min			
Vc in cast iron			100-130 m/min		100-130 m/min		70-110 m/min		70-110 m/min		100-110 m/min	
Vc in special alloys			25-60 m/min		25-60 m/min							
Vc in hardened steel			15-45 m/min		15-45 m/min							
Size of indexable insert	Min./max. pitch	Min./max. number of thread starts per inch	17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.		17737... Ident. No.	
11	0.5-1.5 mm	48-16	030	○	062	○	060	●	035	○	-	-
16	0.5-1.5 mm	48-16	031	○	082	○	080	●	036	○	-	-
16	0.5-3.0 mm	48-8	092	●	093	○	033	●	038	●	154	○
16	1.75-3.0 mm	14-8	032	○	096	○	090	●	037	○	152	○
22	3.5-5.0 mm	7-5	094	○	095	○	034	●	039	○	-	-

Prod. Gr. 158

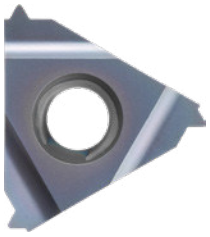
ATORN Thread cutting inserts full profile 60°

For female thread cutting





Ident. No. 017, 027, 037, 047, 117, 127, 137, 147, 157, 167, 177, 187, 197–316, 376–379

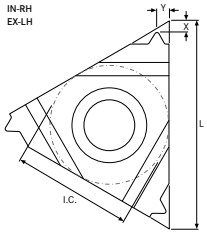


Ident. No. 317–345, 380–389

Ident. No. 560–572

Ident. No. 012, 022, 032, 042, 112, 122, 132, 142, 152, 162, 172, 182, 192, 346–362, 390–394

Ident. No. 850–908



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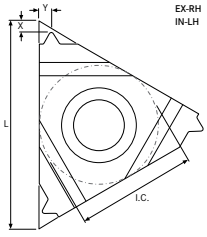
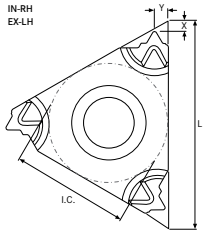


Ident. No. 317–345, 380–389, 850–908



Ident. No. 560–572

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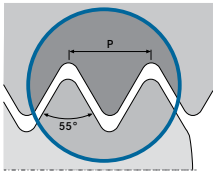
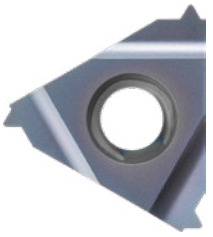
Machining direction		Right		Left		Right		Left	
Carbide type		HC5630		HC5630		HC5615		HC5615	
Vc in steel		60-180 m/min		60-180 m/min		55-180 m/min		55-180 m/min	
Vc in stainless steel		90-130 m/min		90-130 m/min		60-90 m/min		60-90 m/min	
Vc in non-ferrous metals						200-500 m/min		200-500 m/min	
Vc in cast iron		100-130 m/min		100-130 m/min		70-110 m/min		70-110 m/min	
Vc in special alloys		25-60 m/min		25-60 m/min					
Vc in hardened steel		15-45 m/min		15-45 m/min					
Size of indexable insert	Pitch (mm)	17743... Ident. No.		17743... Ident. No.		17743... Ident. No.		17743... Ident. No.	
11	0.35	298	○	317	○	346	○	850	○
11	0.40	299	○	318	○	347	○	-	-
11	0.45	302	○	-	-	348	○	-	-
11	0.5	017	●	380	○	012	●	856	○
11	0.6	303	○	-	-	349	○	-	-
11	0.7	376	○	322	○	390	○	860	○
11	0.75	027	●	323	○	022	●	862	○
11	0.8	305	○	382	○	391	○	864	○
11	1.0	037	●	325	○	032	●	866	○
11	1.25	306	○	326	○	352	○	868	○
11	1.5	047	●	327	○	042	●	870	○
11	1.75	307	○	328	○	353	○	872	○
11	2.0	308	●	329	○	392	●	874	●
16	0.5	117	○	383	○	112	●	876	○
16	0.75	127	○	384	○	122	●	878	○
16	0.8	309	○	332	○	355	○	880	○
16	1.0	560	○	333	○	132	●	882	●
16	1.25	562	○	385	○	142	●	884	○
16	1.5	564	●	335	●	152	●	886	●
16	1.75	566	○	336	○	162	●	888	○
16	2.0	568	●	337	●	172	●	890	●
16	2.5	570	○	338	○	182	●	892	○
16	3.0	572	●	339	○	192	●	894	○
16	3.5	377	●	386	○	356	●	896	○
22	3.5	378	●	387	○	357	○	898	○
22	4.0	312	●	342	○	358	○	900	○
22	4.5	313	○	343	○	359	○	902	○
22	5.0	379	●	388	○	393	○	904	○
22	5.5	315	○	345	○	394	○	906	○
22	6.0	316	●	389	○	362	●	908	○
11	0.4	-	-	-	-	-	-	852	○

Prod. Gr. 158

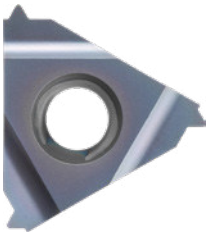
ATORN Thread cutting inserts full profile 55°

for female thread cutting



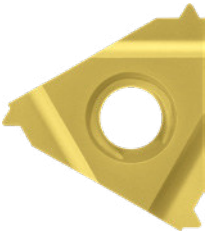


Ident. No. 217, 227, 267, 277, 297–685



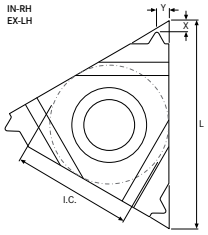
Ident. No. 687–695

Ident. No. 720–726

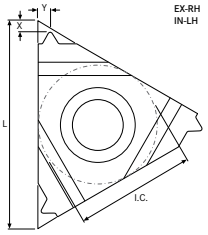


Ident. No. 212, 222, 262, 272, 292, 697–702

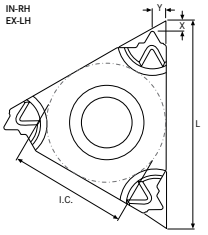
Ident. No. 703–713



Ident. No. 212–685, 697–702



Ident. No. 687–695, 703–713



Ident. No. 720–726

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Machining direction		Right		Left		Right		Left		Right	
Carbide type		HC5630		HC5630		HC5615		HC5615		HC5630 with chip breaker	
Vc in steel ●		60-180 m/min		60-180 m/min		55-180 m/min		55-180 m/min		75-110 m/min	
Vc in stainless steel ●		90-130 m/min		90-130 m/min		60-90 m/min		60-90 m/min		80-100 m/min	
Vc in non-ferrous metals ●						200-500 m/min		200-500 m/min			
Vc in cast iron ●		100-130 m/min		100-130 m/min		70-110 m/min		70-110 m/min		100-110 m/min	
Vc in special alloys ●		25-60 m/min		25-60 m/min							
Size of indexable insert	Number of thread starts per inch	17743... Ident. No.		17743... Ident. No.		17743... Ident. No.		17743... Ident. No.		17743... Ident. No.	
11	11	680	○	-	-	697	○	703	○	-	-
11	12	681	○	687	○	698	○	704	○	-	-
11	14	227	●	688	○	222	●	705	○	-	-
11	19	217	●	689	○	212	○	706	○	-	-
11	28	682	○	690	○	699	○	-	-	-	-
16	11	297	●	691	○	292	●	708	○	720	○
16	12	683	○	692	○	700	○	709	○	-	-
16	14	277	●	693	○	272	●	710	○	724	○
16	16	684	○	694	○	701	○	711	○	-	-
16	19	267	○	695	○	262	○	712	○	726	○
16	28	685	○	-	-	702	○	713	○	-	-

Prod. Gr. 158

ATORN Indexable grooving inserts and indexable grooving insert set

for thread holders

Application:

Ident. No. 040–062: For producing outer and inner grooves on CNC or conventional machines in steel, stainless steel, cast iron and non-ferrous metals material groups at mid-range cutting speed.

Execution:

- **Ident. No. 040–062:** Plunge insert ground on three sides

Advantage:

- **Ident. No. 040–062:**
  - Thread-turning inserts and plunge inserts require only one holder
  - Three-cutter geometry ensures high profitability
  - Innovative cutting geometry and TiN coating ensure a long service life

Technical data:

- Size of indexable insert: 16
- Tolerance of plunge depth: +/- 0.02 mm

Ident. No. 010–020

Ident. No. 040–050

Ident. No. 022–032

Ident. No. 052–062

p. 750 p. 754

Machining direction				Right, Left		Right, Left	
Machining type				Outside, Inside		Inside, Outside	
Carbide type				HC5640		HC5640	
Radius (mm)	Recessing width (mm)	Plunge depth (mm)	Radius tolerance	17750... Ident. No.		17750... Ident. No.	
-	1	1.4	-	010	●	022	●
-	1.2	1.6	-	012	●	024	●
-	1.4	1.8	-	014	●	026	●
-	1.7	2	-	016	●	028	●
-	1.95	2	-	018	●	030	●
-	2.25	2.25	-	020	●	032	●
0.5	-	1.4	± 0.04	040	○	052	○
0.6	-	1.6	± 0.04	042	○	054	○
0.9	-	1.8	± 0.04	044	○	056	○
1	-	2	± 0.04	046	○	058	○
1.1	-	2	± 0.04	048	○	060	○
1.2	-	2.25	± 0.04	050	○	062	○

Prod. Gr. 158

ATORN Set of indexable grooving inserts

For creating external and internal recesses on CNC or conventional machines.

Application:
For producing outer and inner grooves on CNC or conventional machines in steel, stainless steel, cast iron and non-ferrous metals material groups at mid-range cutting speed.

Execution:
- Set of plunge inserts ground on three sides, comprising 1 each of plunge width 1/1.2/1.4/1.7/1.95/2.25

Advantage:
- Tool-cost optimisation: Thread-turning inserts and plunge inserts require only one holder
- Three-cutter geometry ensures high profitability
- Innovative cutting geometry and TiN coating ensure a long service life

ISO name			16 (ER/IL) 1.00-2.25 SET	16 (IR/EL) 1.00-2.25 SET
Carbide type			HC5640	HC5640
Machining type			Outside | Inside	Outside | Inside
	Machining direction			
17750...	Right | Left	Ident. No.	021 ●	033 ●

Prod. Gr. 158

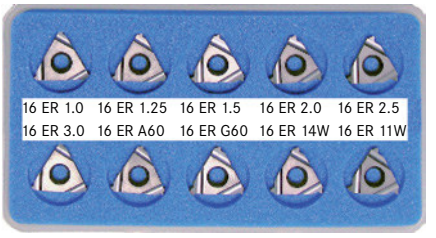
ATORN Indexable thread-cutting insert set

for right-hand male and female threads

Application:
For manufacturing threads in the steel, stainless steel and cast iron material group on CNC machines at medium to high speed.

Execution:
- **Ident. No. 001:** Ground thread-turning insert for male threads, TiALN coated
- **Ident. No. 002:** Thread-turning insert set for female threads, TiALN coated

Advantage:
- Ground thread-turning insert ensures good surface qualities and cutting precision
- High cutting speed and long service life through innovative TiALN coating technology
- Set covers a broad range of uses in the most common pitches



Composition of set			16 ER 1.0 ISO, 16ER 1.25 ISO, 16 ER 1.5 ISO, 16 ER 2.0 ISO, 16 ER 2.5 ISO, 16 ER 3.0 ISO, 16 ER A60, 16 ER G60, 16 ER 14W, 16 ER 11W	16 IR 1.0 ISO, 16 IR 1.25 ISO, 16 IR 1.5 ISO, 16 IR 2.0 ISO, 16 IR 2.5 ISO, 16 IR 3.2 ISO, 16 IR A60, 16 IR G60, 16 IR 14W, 16 IR 11W
	Cutting direction			
17748...	Right-hand cutting	Ident. No.	001 ●	002 ●

Prod. Gr. 158

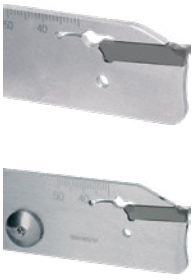
Engraving system ATORN GROOVE AD/AE

Innovative latest-generation engraving system combines the advantages of a double-cutting system with those of a single-cutting system. The holders of this system can accommodate both AD (twin cutter) and AE (single cutter).

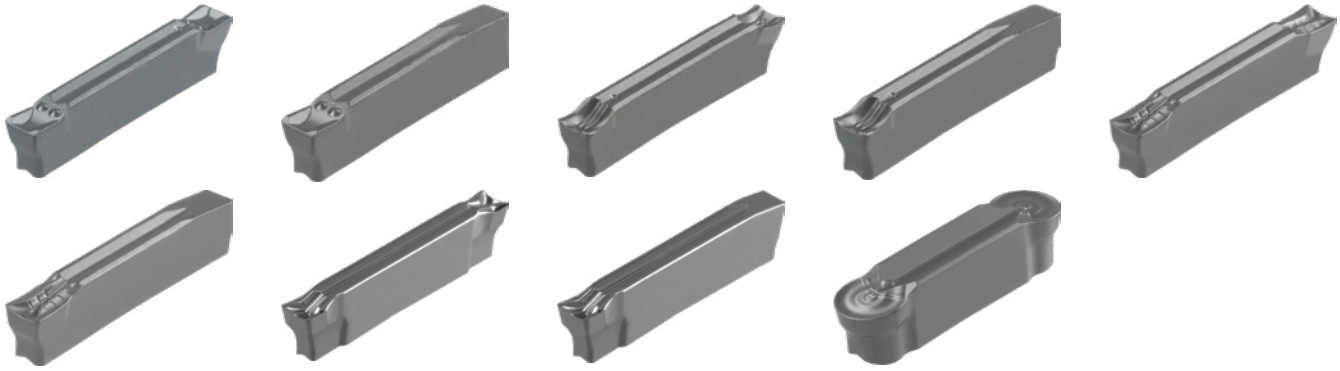
- AD = double-edged grooving system grooving depth < 24mm
- AE = Single cutting system recessing depth > 24 mm

Advantages:

- Broad holder range for a wide range of users
- Wide selection of carbide grades and chip breakers
- Excellent profitability and flexibility

Radial engraving blades	Clamp holder monoblock radial and axial	Clamp holder modular radial and axial	Boring bar radial
			

Compatible engraving plates AD (double-cutting) and AE (single-cutting)



Engraving system ATORN GROOVE ASS

Innovative engraving system for deep grooving and process-safe cutting in series production.
Innovative clamping of engraving plate, system operation is very stable even under difficult conditions.

Radial engraving blades	Engraving blades IC radial	Clamp holder monoblock radial and axial

Compatible engraving plates ASS

Carbide qualities ATORN Groove

Advantages:

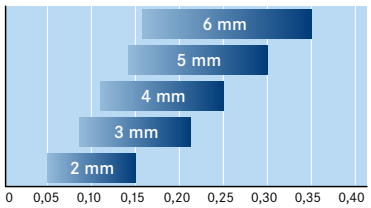
- The latest generation of innovative cutting material technology – the specific cutting material mixture for every application
- A wide range of innovative coatings in CVD and PVD designs tailored to the application task
- Long service life in series production!

Application	Coating	Range of application 01 05 10 15 20 25 30 35 40 45 50 55
ISO P, ISO M, ISO K	PVD	APU40G
ISO P, ISO K	CVD	ACP20G
ISO M, ISO S, ISO P	PVD	APM45G
ISO N	–	AWN15G

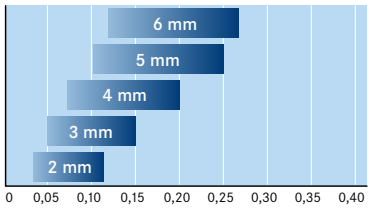
	APU40G	ACP20G	APM45G	AWN15G
Application	**The universal one!** High-performance grade for machining in steel, stainless steel and cast iron with a high toughness and wear resistance.	**The hard one!** High-performance grade for machining in steel and cast iron with very high hardness and low wear resistance.	**The tough ones in stainless steel and special alloy!** High-performance grade for machining in stainless steel, special alloy and steels with high ductility.	**The uncoated one for non-ferrous metals!** High performance grade for machining non-ferrous metals with high wear resistance.
Application	●●●	●●	●●●	●
Substrate	P30 M25 K30 S30	P35 M30 K35	P45 M40 S40	N15 K15
Grain size	0.7-1 µm	1 µm	1-1.5 µm	1–µm
Type of coating	PVD	CVD	PVD	Uncoated
Operating conditions	good–unfavourable	good–medium	good–very unfavourable	good–unfavourable
Cutting speed	■■■□□	■■■□□	■■□□□	■■■□□
Hardness	■■□□□	■■■□□	■■□□□	■■■■□
Ductility	■■■□□	■■□□□	■■■■■	■□□□□□□

ATORN Groove chip breaker – AD/AE system

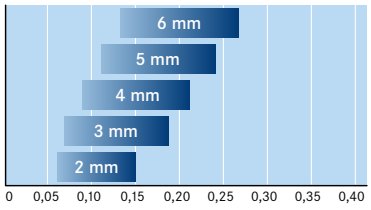
M chip breaker – the universal tool for grooving and parting
- Wide range of applications in the machining of steel and cast iron
- High tool life due to negative edge rounding
- Long service life in high-strength steel

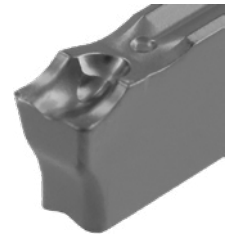


F chip breaker – the extremely positive tool for parting and grooving
- Very positive chip geometry ensures a soft cut, reduces the formation of built-up edges and minimizes cutting forces
- Ideal for materials with low dexterity and very thin-walled components
- Very good chip control at low feed rates

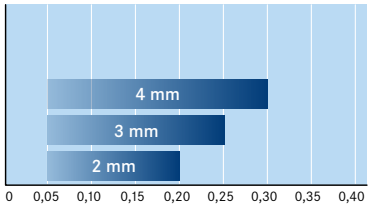


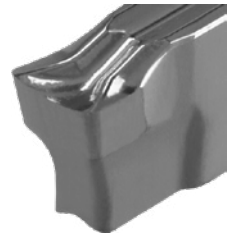
ET chip breaker – the problem solver in stainless steel and special alloys grooving and parting
- Positive chip geometry ensures a soft cut in stainless steel and machines that are difficult to machine
- Special geometry reduces the formation of built-up edges and ensures very good chip removal



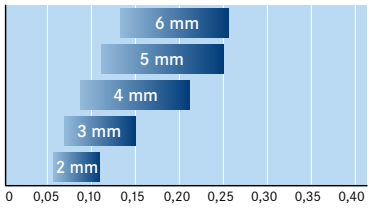


MN chip breaker – the specialist for non-ferrous metal processing – highly positive geometry with polished chip chamber ensures high tool life in non-ferrous metals
- Very good chip control

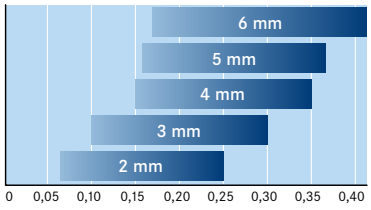




TR chip breaker – the universal tool for copy-turning, grooving and parting
- Innovative chip breaker ensures excellent chip control in a broad delivery spectrum
- Wide range of applications in steel, cast iron and stainless steel processing

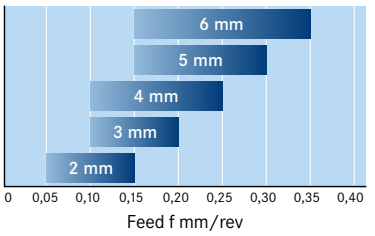


R round – the radius grooving insert for copy-turning, grooving and parting
- Innovative circumferential chip breaker ensures excellent chip control in a broad delivery spectrum
- Wide range of applications in steel, cast iron and stainless steel processing

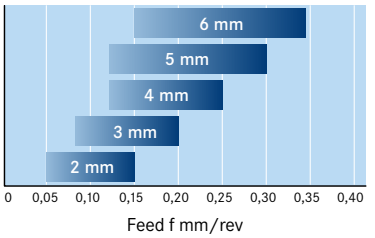


ATORN Groove chip breaker – ASS system

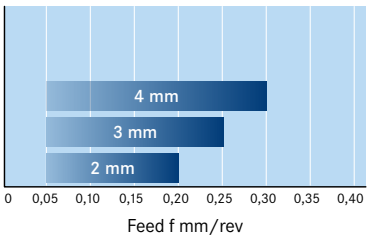
M chip breaker – the universal tool for grooving and parting
- Wide range of applications in the machining of steel and cast iron
- High tool life due to negative edge rounding
- Long service life in high-strength steel



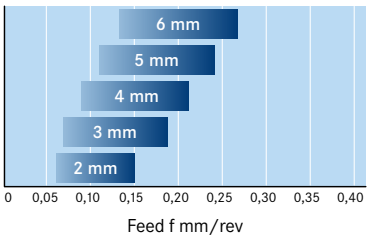
MU chip breaker – the universal tool for grooving, parting and copy-turning
- Wide range of applications in the machining of steel and cast iron
- Very good chip control

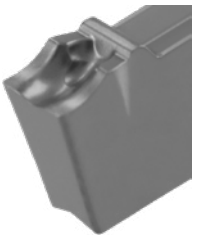


MN Spanbrecher – the specialist for non-ferrous metal processing – highly positive geometry with polished chip chamber ensures high tool life in non-ferrous metals
- Very good chip control



ET chip breaker – the problem solver in stainless steel and special alloys for grooving and parting
- Positive chip geometry ensures a soft cut in stainless steel and machines that are difficult to machine
- Special geometry reduces the formation of built-up edges and ensures very good chip removal





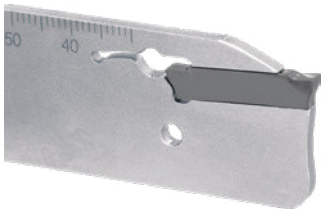
ATORN Cut-off and grooving blade GROOVE TYPE ABE-AD/AE neutral

for deep grooving and cutting with AD/AE indexable grooving inserts

Application:
For deep grooving and cutting, external.

Execution:
- precision-manufactured steel support, nickel-plated and hardened

Advantage:
- High-quality and wear-resistant steel support
- precisely manufactured insert setting



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				Cut-off and grooving blade GROOVE TYPE ABE-AD/AE neutral		A-Groove installation key	
			Tool design	Neutral			
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.	
2.0	26	110	50	005	●	930	●
3.0	26	110	70	010	●	930	●
4.0	26	110	80	015	●	932	●
2.0	32	150	50	020	●	930	●
3.0	32	150	100	025	●	930	●
4.0	32	150	100	030	●	932	●

Prod. Gr. 1FS

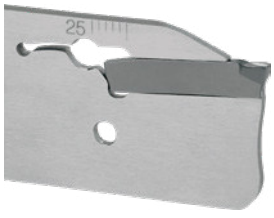
ATORN Cut-off and grooving blade GROOVE TYPE ABE-AD/AE right/left

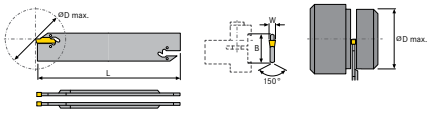
for deep grooving and cutting with AD/AE indexable grooving inserts

Application:
For deep grooving and cutting, external.

Execution:
- precision-manufactured steel support, nickel-plated and hardened

Advantage:
- High-quality and wear-resistant steel support
- precisely manufactured insert setting





Right-hand = Top grooving blade
Left-hand = Bottom grooving blade

p. 770 p. 785 p. 763

				Cut-off and grooving blade GROOVE TYPE ABE-AD/AE right/left				A-Groove installation key	
			Tool design	Right		Left			
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2.0	26	110	42	050	●	060	●	930	●
2.0	32	150	42	055	●	065	●	930	●

Prod. Gr. 1FS

ATORN Cut-off and grooving blade with internal cooling GROOVE TYPE ABE-AD/AE neutral

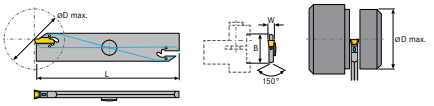
for deep grooving and cutting with AD/AE indexable grooving inserts

IK

Application:
For deep grooving and cutting, external.

Execution:
- Precision-manufactured steel tool holder with internal cooling, nickel-plated and hardened

Advantage:
- High-quality and wear-resistant steel support
- precisely manufactured insert setting



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				Cut-off and grooving blade with internal cooling GROOVE TYPE ABE-AD/AE neutral		A-Groove installation key		A-Groove screws	
			Tool design	Neutral					
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2.0	26	110	50	080	●	930	●	940	●
3.0	26	110	70	085	●	930	●	940	●
4.0	26	110	80	090	●	930	●	940	●
2.0	32	150	50	095	●	930	●	940	●
3.0	32	150	100	100	●	930	●	940	●
4.0	32	150	100	105	●	932	●	940	●

Prod. Gr. 1FS

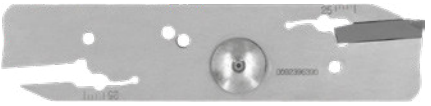
ATORN Cut-off and grooving blade with internal cooling GROOVE TYPE ABE-AD/AE right/left

for deep grooving and cutting with AD/AE indexable grooving inserts

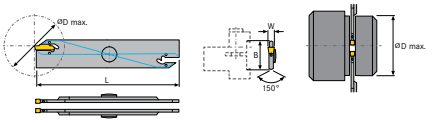
IK

Application:
For deep grooving and cutting, external.

Execution:
- Precision-manufactured steel tool holder with internal cooling, nickel-plated and hardened



Advantage:
- High-quality and wear-resistant steel support
- precisely manufactured insert setting



Right-hand = Top grooving blade
Left-hand = Bottom grooving blade

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				Cut-off and grooving blade with internal cooling GROOVE TYPE ABE-AD/AE right/left				A-Groove installation key		A-Groove screws	
			Tool design	Right		Left					
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2.0	26	110	50	120	●	125	●	930	●	940	●
2.0	32	150	50	130	●	135	●	930	●	940	●

Prod. Gr. 1FS

ATORN Installation key TYPE GROOVE

for mounting indexable grooving inserts

	Installation key TYPE GROOVE	
Type	17673... Ident. No.	
Installation key for AD-AE-ASS 2–3 mm	930	●
Installation key for AD-AE-ASS 4–6 mm	932	●

Prod. Gr. 1FS

ATORN GROOVE TYPE AME-AD/AE insert holder, neutral

for cutting, grooving and copying with indexable grooving inserts AD/AE

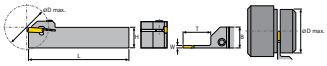
Application:
For cutting, grooving and copy turning externally.

Execution:
- Precision-manufactured steel support, nickel-plated and hardened with clamping element

Advantage:
- High-quality and wear-resistant steel support with high-strength clamping element
- precisely manufactured insert setting

Right-hand version

Groove width 1.5 mm



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						GROOVE TYPE AME-AD/AE insert holder, neutral				A-Groove screws	
					Tool design	Right		Left			
W (mm)	B (mm)	H (mm)	L (mm)	T (mm)	Max. tightening torque (Nm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
1.5	12	12	125	23	3.2	450	●	458	●	934	●
1.5	16	16	125	23	4	454	●	462	●	936	●
2	12	12	125	13	3.2	300	●	301	●	934	●
2	16	16	125	13	4	304	●	305	●	936	●
2	20	20	125	13	4	308	●	309	●	938	●
3	12	12	125	13	3.2	312	●	313	●	934	●
3	16	16	125	13	4	316	●	317	●	936	●
3	16	16	125	25	4	320	●	321	●	936	●
3	20	20	125	13	4	324	●	325	●	938	●
3	20	20	125	25	4	328	●	329	●	938	●
3	25	25	125	13	4.8	332	●	333	●	938	●
3	25	25	125	25	4.8	336	●	337	●	938	●
3	32	32	170	25	4.8	338	●	339	●	938	●
3	40	40	250	25	4.8	442	●	443	●	938	●
4	16	16	125	25	4	340	●	341	●	936	●
4	20	20	125	25	4	344	●	345	●	938	●
4	25	25	125	25	4.8	348	●	349	●	938	●
5	20	20	150	25	4	352	●	353	●	938	●
5	25	25	150	25	4.8	356	●	357	●	938	●
6	20	20	150	25	4	360	●	361	●	938	●
6	25	25	150	25	4.8	364	●	365	●	938	●
6	32	32	170	25	4.8	366	●	367	●	938	●
6	40	40	250	25	4.8	368	●	369	●	938	●
8	25	25	170	32	4.8	370	●	371	●	942	●
8	32	32	170	32	4.8	372	●	373	●	938	●

Prod. Gr. 1FS

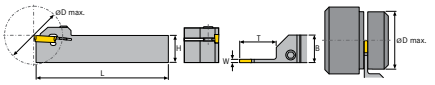
ATORN GROOVE TYPE AME-AD/AE insert holder, neutral

for cutting, grooving and copying with indexable grooving inserts AD/AE

Application:
For external cutting, grooving and copy turning.

Execution:
- precision-manufactured steel support, nickel-plated and hardened with clamping element

Advantage:
- high-quality and wear-resistant steel support with high-strength clamping element
- precisely manufactured insert seat



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						GROOVE TYPE AME-AD/AE insert holder, neutral				A-Groove screws	
					Tool design	Right		Left			
W (mm)	B (mm)	H (mm)	L (mm)	T (mm)	Max. tightening torque (Nm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2	12	12	125	13	3.2	660	●	661	●	949	●
2	16	16	125	13	4	664	●	665	●	949	●
2	12	12	125	21	3.2	662	●	663	●	949	●
2	16	16	125	21	4	666	●	667	●	949	●
3	12	12	125	13	3.2	668	●	669	●	949	●
3	16	16	125	13	4	672	●	673	●	949	●
3	12	12	125	21	3.2	670	●	671	●	949	●
3	16	16	125	21	4	674	●	675	●	949	●

Prod. Gr. 1FS

ATORN Insert holder with internal cooling GROOVE TYPE AME-AD/AE

for cutting, grooving and copying with indexable grooving inserts AD/AE

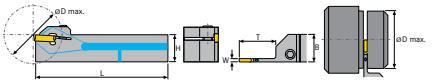
IK

Application:
For cutting, grooving and copy turning externally.

Execution:
- Precision-manufactured steel support, nickel-plated and hardened with clamping element

Advantage:
- High-quality and wear-resistant steel support with high-strength clamping element
- precisely manufactured insert setting

Right-hand version



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						Insert holder with internal cooling GROOVE TYPE AME-AD/AE				A-Groove screws	
					Tool design	Right		Left			
W (mm)	B (mm)	H (mm)	L (mm)	T (mm)	Max. tightening torque (Nm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2	16	16	125	13	4	400	●	401	●	936	●
2	20	20	125	13	4	404	●	405	●	938	●
3	16	16	125	25	4	408	●	409	●	936	●
3	20	20	125	25	4	412	●	413	●	938	●
3	25	25	125	25	4.8	416	●	417	●	942	●
3	32	32	125	25	4.8	431	●	432	●	938	●
3	40	40	250	25	4.8	435	●	436	●	938	●
4	16	16	125	25	4	420	●	421	●	936	●
4	20	20	125	25	4	424	●	425	●	938	●
4	25	25	125	25	4.8	428	●	429	○	942	●
4	32	32	125	25	4.8	433	●	434	●	938	●
4	40	40	250	25	4.8	437	●	438	●	938	●
8	40	40	150	32	4.8	453	●	455	●	942	●

Prod. Gr. 1FS

ATORN Insert holder with internal cooling GROOVE TYPE AME-AD/AE

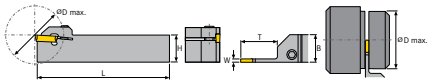
for cutting, grooving and copying with indexable grooving inserts AD/AE

IK

Application:
For external cutting, grooving and copy turning.

Execution:
- precision-manufactured steel support, nickel-plated and hardened with clamping element

Advantage:
- high-quality and wear-resistant steel support with high-strength clamping element
- precisely manufactured insert seat



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						Insert holder with internal cooling GROOVE TYPE AME-AD/AE				A-Groove screws	
					Tool design	Right		Left			
W (mm)	B (mm)	H (mm)	L (mm)	T (mm)	Max. tightening torque (Nm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2	12	12	125	13	3.2	570	●	571	●	952	●
2	16	16	125	13	4.0	572	●	573	●	952	●
2	16	16	125	21	4.0	574	●	575	●	952	●
3	12	12	125	13	3.2	576	●	577	●	952	●
3	16	16	125	13	4.0	578	●	579	●	952	●
3	16	16	125	21	4.0	590	●	591	●	952	●

Prod. Gr. 1FS

ATORN Insert holder AXIAL GROOVE TYPE AMA-ADA

for axial grooving with ADA

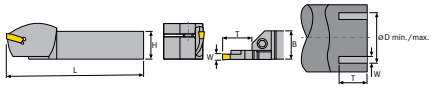
Application:
for external axial grooving with ADA blade insert

Ident. No. 800–825, 856, 858, 860, 862, 864, 866, 870, 872, 874, 876, 878
Right-hand version

Execution:
- Precision-manufactured blade carrier,

Ident. No. 830–855, 857, 859, 861, 863, 865, 867, 871, 873, 875, 877, 879
Left-hand version

nickel-plated and hardened



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						Insert holder AXIAL GROOVE TYPE AMA-ADA				A-Groove screws	
					Tool design	Right		Left			
W (mm)	Shank width (mm)	Shaft height (mm)	D min./max.	L (mm)	Max. plunge depth (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
3	25	25	40-50 mm	125	13	800	●	830	●	942	●
3	25	25	50-60 mm	125	13	805	●	835	●	942	●
3	25	25	60-75 mm	125	13	810	●	840	●	942	●
3	25	25	75-100 mm	125	13	815	●	845	●	942	●
3	25	25	100-140 mm	125	13	820	●	850	●	942	●
3	25	25	140-200 mm	125	13	825	●	855	●	942	●
4	25	25	40-50 mm	125	13	856	●	857	●	942	●
4	25	25	50-60 mm	125	13	858	●	859	●	942	●
4	25	25	60-70 mm	125	13	860	●	861	●	942	●
4	25	25	75-100 mm	125	13	862	●	863	●	942	●
4	25	25	100-140 mm	125	13	864	●	865	●	942	●
4	25	25	140-200 mm	125	13	866	●	867	●	942	●
5	25	25	45-60 mm	150	20	870	●	871	●	942	●
5	25	25	60-75 mm	150	20	872	●	873	●	942	●

						Insert holder AXIAL GROOVE TYPE AMA-ADA				A-Groove screws	
					Tool design	Right		Left			
W (mm)	Shank width (mm)	Shaft height (mm)	D min./max.	L (mm)	Max. plunge depth (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
5	25	25	75-100 mm	150	28	874	●	875	●	942	●
5	25	25	100-180 mm	150	28	876	●	877	●	942	●
5	25	25	180-400 mm	150	32	878	●	879	●	942	●

Prod. Gr. 1FS

ATORN Modular blade carrier GROOVE TYPE AMR-AD/AE Radial

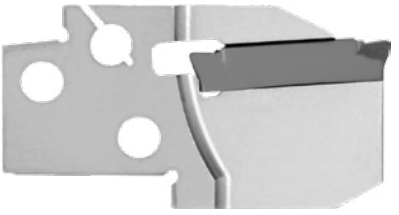
for cutting, grooving and copying with indexable grooving inserts AD/AE

Application:
For cutting, grooving and copy turning externally.

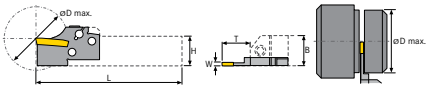
Execution:
- Precision-manufactured steel support, nickel-plated and hardened with clamping element

Advantage:
- High-quality and wear-resistant steel support with high-strength clamping element
- precisely manufactured insert setting

Notes:
Right-hand blade carrier = Left-hand basic holder/
Left-hand blade carrier = Right-hand basic holder



Right-hand version



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				Modular blade carrier GROOVE TYPE AMR-AD/AE Radial				A-Groove installation key	
			Tool design	Right		Left			
W (mm)	Shank width (mm)	Shaft height (mm)	Max. plunge depth (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2	20	20	25	700	●	715	●	930	●
3	20	20	25	705	●	720	●	930	●
4	20	20	25	710	●	725	●	932	●
2	25	25	25	730	●	745	●	930	●
3	25	25	25	735	●	750	●	930	●
4	25	25	25	740	●	755	●	932	●

Prod. Gr. 1FS

ATORN Modular blade carrier GROOVE TYPE AMAE-ADA Axial

for axial grooving and copying with indexable grooving inserts ADA

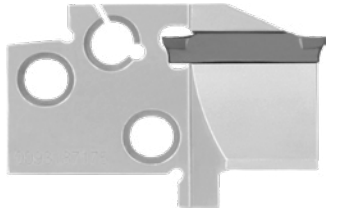
Application:
For cutting, grooving and copy turning externally.

Execution:
- Precision-manufactured steel support, nickel-plated and hardened with clamping element

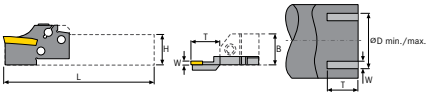
Advantage:
- High-quality and wear-resistant steel support with high-strength clamping element
- precisely manufactured insert setting

Notes:
Right-hand blade carrier = Left-hand basic holder
Left-hand blade carrier = Right-hand basic holder

Left-hand version



Right-hand version



p. 779 p. 763 p. 769

					Modular blade carrier GROOVE TYPE AMAE-ADA Axial				A-Groove installation key	
				Tool design	Right		Left			
W (mm)	Shank width (mm)	Shaft height (mm)	D min./max.	Max. plunge depth (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
3	25	25	40-50 mm	15	732	●	733	●	930	●
3	25	25	50-60 mm	15	737	●	738	●	930	●
3	25	25	60-75 mm	15	742	●	743	●	930	●
3	25	25	75-100 mm	15	747	●	748	●	930	●

					Modular blade carrier GROOVE TYPE AMAE-ADA Axial				A-Groove installation key	
				Tool design	Right		Left			
W (mm)	Shank width (mm)	Shaft height (mm)	D min./max.	Max. plunge depth (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
3	25	25	100-140 mm	15	752	●	753	●	930	●
3	25	25	140-200 mm	15	757	●	758	●	930	●
4	25	25	40-50 mm	15	759	●	760	●	-	-
4	25	25	50-60 mm	15	761	●	762	●	-	-
4	25	25	60-75 mm	15	763	○	764	●	-	-
4	25	25	75-100 mm	15	765	●	766	●	-	-
4	25	25	100-140 mm	15	767	●	768	●	-	-
4	25	25	140-200 mm	15	769	●	791	●	-	-

17673 732 = Prod. Gr. 1FF, 17673 733 = Prod. Gr. 1FF, 17673 737 = Prod. Gr. 1FF, 17673 738 = Prod. Gr. 1FF, 17673 742 = Prod. Gr. 1FF, 17673 743 = Prod. Gr. 1FF, 17673 747 = Prod. Gr. 1FF, 17673 748 = Prod. Gr. 1FF, 17673 752 = Prod. Gr. 1FF, 17673 753 = Prod. Gr. 1FF, 17673 757 = Prod. Gr. 1FF, 17673 758 = Prod. Gr. 1FF, 17673 759 = Prod. Gr. 1FS, 17673 760 = Prod. Gr. 1FS, 17673 761 = Prod. Gr. 1FS, 17673 762 = Prod. Gr. 1FS, 17673 763 = Prod. Gr. 1FS, 17673 764 = Prod. Gr. 1FS, 17673 765 = Prod. Gr. 1FS, 17673 766 = Prod. Gr. 1FS, 17673 767 = Prod. Gr. 1FS, 17673 768 = Prod. Gr. 1FS, 17673 769 = Prod. Gr. 1FS, 17673 791 = Prod. Gr. 1FS

ATORN Holder for modular blade carrier GROOVE TYPE AMM 0°

for mounting AMR/AMAE modular blade carriers

Notes:
Left-hand blade carrier = Right-hand basic holder
Right-hand blade carrier = Left-hand basic holder

					Holder for modular blade carrier GROOVE TYPE AMM 0°				A-Groove screws	
				Tool design	Right		Left			
Shank width (mm)	Angle (Degree)	B (mm)	C (mm)	Max. tightening torque (Nm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
20	0	20	125	4	600	●	630	●	949	●
25	0	25	125	5	615	●	645	●	950	●

Prod. Gr. 1FS

Right-hand version

p. 768

ATORN Holder for modular blade carrier GROOVE TYPE AMM 45°

for mounting AMR/AMAE modular blade carriers

Notes:
Left-hand blade carrier = Right-hand basic holder
Right-hand blade carrier = Left-hand basic holder

					Holder for modular blade carrier GROOVE TYPE AMM 45°				A-Groove screws	
				Tool design	Right		Left			
Shank width (mm)	Angle (Degree)	B (mm)	C (mm)	Max. tightening torque (Nm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
20	45	20	125	4	605	●	635	●	950	●
25	45	25	125	5	620	●	650	●	948	●

Prod. Gr. 1FS

Right-hand version

p. 768

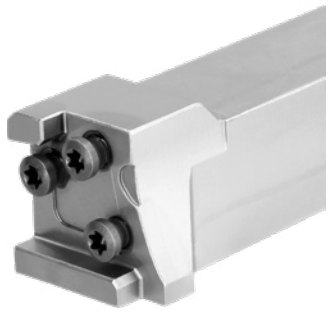
ATORN Holder for modular blade carrier GROOVE TYPE AMM 90°

for mounting AMR/AMAE modular blade carriers

Notes:
Left-hand blade carrier = Right-hand basic holder
Right-hand blade carrier = Left-hand basic holder

					Holder for modular blade carrier GROOVE TYPE AMM 90°				A-Groove screws	
				Tool design	Right		Left			
Shank width (mm)	Angle (Degree)	B (mm)	C (mm)	Max. tightening torque (Nm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
20	90	20	125	4	610	●	640	●	949	●
25	90	25	125	5	625	●	655	●	947	●

Prod. Gr. 1FS



Right-hand version

p. 768

ATORN Boring bar GROOVE TYPE AMI-AD/AE

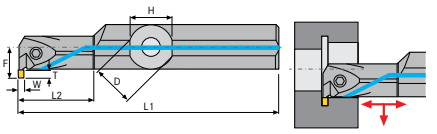
for grooving with indexable grooving inserts AD/AE

IK

Application:
For recessing and copy turning, internal

Execution:
- Precision-manufactured steel support,

nickel-plated and hardened with clamping element



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							Tool design	Right		Left	
W (mm)	D (mm)	T (mm)	L2 (mm)	L1 (mm)	H (mm)	f (mm)	Min. bore Ø (mm)	17673... Ident. No.		17673... Ident. No.	
2	25	8	52	200	24.5	21	31.1	771	●	780	●
3	25	9	52	200	24.5	22	31.1	770	●	782	●
3	32	11	64	250	31	27.5	41	772	●	784	●
4	32	11	64	250	31	27.5	41	774	●	786	●
4	40	12	80	300	38.5	32.5	51.7	776	●	788	●
5	40	12	80	300	38.5	32.5	51.7	778	●	790	●

Prod. Gr. 1FF

Accessories for			17673 770	17673 771	17673 772	17673 774	17673 776	17673 778	17673 780
17673...	Screw for cassette	Ident. No.	947 ●	947 ●	947 ●	947 ●	947 ●	947 ●	947 ●

Accessories for			17673 782	17673 784	17673 786	17673 788	17673 790
17673...	Screw for cassette	Ident. No.	947 ●	947 ●	947 ●	947 ●	947 ●

ATORN Cutting inserts dual-edge AD type M neutral

for radial grooving and cutting with universal robust cutting edge

Application:
For radial grooving and cutting in a wide range of applications with stable cutting edge.

Execution:
- Precision-sintered cutting insert, M geometry with positive cutting edge and rounded cutting edges

Advantage:
- Stable grooving geometry for a wide range of applications

						Tool design	Neutral		Neutral		Neutral	
						Carbide type	ACP20G		APU40G		APM45G	
						Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
						Vc in steel ●	50-240 m/min		50-240 m/min		40-120 m/min	
						Vc in stainless steel ●	50-180 m/min		50-200 m/min		60-180 m/min	
						Vc in cast iron ●	80-200 m/min		80-200 m/min			
						Vc in special alloys ●					15-120 m/min	
W (mm)	Plate seat size piercing	Tolerance of plunge depth	R (mm)	f min./max.	Tmax. (mm)		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.	
1.5	15	+/- 0.02 mm	0.15	0.02-0.1 mm/r	24		005	●	011	●	014	●
2	20	+/- 0.02 mm	0.2	0.05-0.15 mm/r	24		021	●	026	●	031	●
3	30	+/- 0.02 mm	0.2	0.08-0.22 mm/r	24		035	●	040	●	045	●
4	40	+/- 0.02 mm	0.3	0.12-0.24 mm/r	24		050	●	055	●	060	●
5	50	+/- 0.02 mm	0.4	0.14-0.3 mm/r	24		065	●	070	●	075	●
6	60	+/- 0.02 mm	0.4	0.16-0.35 mm/r	24		080	●	085	●	090	●
8	80	+/- 0.02 mm	0.8	0.2-0.5 mm/r	24		-	-	092	●	-	-

Prod. Gr. 1FR

ATORN Cutting inserts single-edge AE Type M Neutral

for radial grooving and cutting with universal robust cutting edge

Application:
For radial grooving and cutting in a wide range of applications with stable cutting edge.

Execution:
- Precision-sintered cutting insert, M geometry with positive cutting edge and rounded cutting edges

Advantage:
- Stable grooving geometry for a wide range of applications

				Tool design	Neutral		Neutral		Neutral	
				Carbide type	ACP20G		APU40G		APM45G	
				Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
				Vc in steel ●	50-240 m/min		50-240 m/min		40-120 m/min	
				Vc in stainless steel ●	50-180 m/min		50-200 m/min		60-180 m/min	
				Vc in cast iron ●	80-200 m/min		80-200 m/min			
				Vc in special alloys ●					15-120 m/min	
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.	Max. plunge depth (mm)	17672... Ident. No.		17672... Ident. No.		17672... Ident. No.	
2	+/- 0.02 mm	0.2	0.05-0.15 mm/r	50	005	●	010	●	015	●
3	+/- 0.02 mm	0.2	0.08-0.22 mm/r	50	020	●	025	●	030	●
4	+/- 0.02 mm	0.3	0.12-0.24 mm/r	50	035	●	040	●	045	●

Prod. Gr. 1FR

ATORN Cutting inserts dual-edge AD type M right/left

for radial grooving and cutting with universal robust cutting edge

Application:
For radial grooving and cutting in a wide range of applications with stable cutting edge.

Execution:
- Precision-sintered cutting insert, M geometry with positive cutting edge and rounded cutting edges

Advantage:
- Stable grooving geometry for a wide range of applications

Right

Left

					Tool design	Right		Right		Right		Left		Left		Left	
					Carbide type	ACP20G		APU40G		APM45G		ACP20G		APU40G		APM45G	
					Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
					Vc in steel ●	50-240 m/min		50-240 m/min		40-120 m/min		50-240 m/min		50-240 m/min		40-120 m/min	
					Vc in stainless steel ●	50-180 m/min		50-200 m/min		60-180 m/min		50-180 m/min		50-200 m/min		60-180 m/min	
					Vc in cast iron ●	80-200 m/min		80-200 m/min				80-200 m/min		80-200 m/min			
					Vc in special alloys ●					15-120 m/min						15-120 m/min	
W (mm)	Plate seat size piercing	Tolerance of plunge depth	R (mm)	f min./ max.	Tmax. (mm)	17861... Ident. No.		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.	
2	20	+/- 0.02 mm	0.15	0.05-0.15 mm/r	24	100	●	104	●	108	●	101	●	105	●	109	●
3	30	+/- 0.02 mm	0.2	0.08-0.22 mm/r	24	112	●	116	●	120	●	113	●	117	●	121	●
4	40	+/- 0.02 mm	0.3	0.12-0.24 mm/r	24	124	●	128	●	132	●	125	●	129	●	133	●

Prod. Gr. 1FR

ATORN Cutting inserts single-edge AE type M right/left

for radial grooving and cutting with universal robust cutting edge

Application:
For radial grooving and cutting in a wide range of applications with stable cutting edge.

Execution:
- Precision-sintered cutting insert, M geometry with positive cutting edge and rounded cutting edges

Advantage:
- Stable grooving geometry for a wide range of applications

Right

Left

Tool design					Right		Right		Right		Left		Left		Left	
Carbide type					ACP20G		APU40G		APM45G		ACP20G		APU40G		APM45G	
Material to be processed					Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
Vc in steel ●					50-240 m/min		50-240 m/min		40-120 m/min		50-240 m/min		50-240 m/min		40-120 m/min	
Vc in stainless steel ●					50-180 m/min		50-200 m/min		60-180 m/min		50-180 m/min		50-200 m/min		60-180 m/min	
Vc in cast iron ●					80-200 m/min		80-200 m/min				80-200 m/min		80-200 m/min			
Vc in special alloys ●									15-120 m/min						15-120 m/min	
W (mm)	Tolerance of plunge depth	R (mm)	f min./ max.	Max. plunge depth (mm)	17672... Ident. No.		17672... Ident. No.		17672... Ident. No.		17672... Ident. No.		17672... Ident. No.		17672... Ident. No.	
2	+/- 0.02 mm	0.15	0.05-0.15 mm/r	50	060	●	064	●	068	●	061	●	065	●	069	●
3	+/- 0.02 mm	0.2	0.08-0.22 mm/r	50	072	●	076	●	080	●	073	●	077	●	081	●

Prod. Gr. 1FR

ATORN Cutting inserts dual-edge AD type F neutral

for radial grooving and cutting with soft-cutting chip geometry

Application:
For radial grooving and cutting with very positive and soft-cutting chip geometry.

Execution:
- Precision-sintered cutting insert, F geometry with extremely positive cutting edge

Advantage:
- Very low cutting forces and good chip control even at low feed rates.
- Very good cutting performance in materials with low strength.
- First choice for thin-walled components.

Tool design						Neutral		Neutral		Neutral	
Carbide type						ACP20G		APU40G		APM45G	
Material to be processed						Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
Vc in steel ●						50-240 m/min		50-240 m/min		40-120 m/min	
Vc in stainless steel ●						50-180 m/min		50-200 m/min		60-180 m/min	
Vc in cast iron ●						80-200 m/min		80-200 m/min			
Vc in special alloys ●										15-120 m/min	
W (mm)	Plate seat size piercing	Tolerance of plunge depth	R (mm)	f min./max.	Tmax. (mm)	17861... Ident. No.		17861... Ident. No.		17861... Ident. No.	
2	20	+/- 0.02 mm	0.2	0.03-0.1 mm/r	24	201	●	205	●	210	●
3	30	+/- 0.02 mm	0.2	0.05-0.15 mm/r	24	215	●	221	●	226	●
4	40	+/- 0.02 mm	0.3	0.06-0.2 mm/r	24	230	●	235	●	240	●
5	50	+/- 0.02 mm	0.4	0.1-0.25 mm/r	24	245	●	250	●	255	●

Prod. Gr. 1FR

ATORN Cutting inserts single-edge AE type F Neutral

for radial grooving and cutting with soft-cutting chip geometry

Application:
For radial grooving and cutting with very positive and soft-cutting chip geometry.

Execution:
- Precision-sintered cutting insert, F geometry with extremely positive cutting edge

Advantage:
- Very low cutting forces and good chip control even at low feed rates.
- Very good cutting performance in materials with low strength.

					Tool design	Neutral		Neutral		Neutral	
					Carbide type	ACP20G		APU40G		APM45G	
					Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
					Vc in steel ●	50-240 m/min		50-240 m/min		40-120 m/min	
					Vc in stainless steel ●	50-180 m/min		50-200 m/min		60-180 m/min	
					Vc in cast iron ●	80-200 m/min		80-200 m/min			
					Vc in special alloys ●					15-120 m/min	
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.	Max. plunge depth (mm)		17672... Ident. No.		17672... Ident. No.		17672... Ident. No.	
2	+/- 0.02 mm	0.2	0.03-0.1 mm/r	50		090	●	095	●	100	●
3	+/- 0.02 mm	0.2	0.05-0.15 mm/r	50		105	●	110	●	115	●
4	+/- 0.02 mm	0.3	0.06-0.2 mm/r	50		120	●	125	●	130	●

Prod. Gr. 1FR

ATORN Cutting inserts dual-edge AD type F right/left

for radial grooving and cutting with soft-cutting chip geometry

Application:
For radial grooving and cutting with very positive and soft-cutting chip geometry.

Execution:
- Precision-sintered cutting insert, F geometry with extremely positive cutting edge

Advantage:
- Very low cutting forces and good chip control even at low feed rates.
- Very good cutting performance in materials with low strength.
- First choice for thin-walled components.

Right

Left

						Tool design	Right		Right		Right		Left		Left		Left	
						Carbide type	ACP20G		APU40G		APM45G		ACP20G		APU40G		APM45G	
						Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
						Vc in steel ●	50-240 m/min		50-240 m/min		40-120 m/min		50-240 m/min		50-240 m/min		40-120 m/min	
						Vc in stainless steel ●	50-180 m/min		50-200 m/min		60-180 m/min		50-180 m/min		50-200 m/min		60-180 m/min	
						Vc in cast iron ●	80-200 m/min		80-200 m/min				80-200 m/min		80-200 m/min			
						Vc in special alloys ●					15-120 m/min						15-120 m/min	
W (mm)	Plate seat size piercing	Tolerance of plunge depth	R (mm)	f min./ max.	Tmax. (mm)		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.	
2	20	+/- 0.02 mm	0.15	0.03-0.1 mm/r	24		280	●	284	●	288	●	281	●	285	●	289	●
3	30	+/- 0.02 mm	0.2	0.05-0.15 mm/r	24		292	●	296	●	300	●	293	●	297	●	301	●
4	40	+/- 0.02 mm	0.3	0.06-0.2 mm/r	24		304	●	308	●	312	●	305	●	309	●	313	●

Prod. Gr. 1FR

ATORN Cutting inserts single-edge AE type F right/left

for radial grooving and cutting with soft-cutting chip geometry

Application:
For radial grooving and cutting with very positive and soft-cutting chip geometry.

Execution:
- Precision-sintered cutting insert, F geometry with extremely positive cutting edge

Advantage:
- Very low cutting forces and good chip control even at low feed rates.
- Very good cutting performance in materials with low strength.
- First choice for thin-walled components.

Right

Left

Tool design					Right		Right		Right		Left		Left		Left	
Carbide type					ACP20G		APU40G		APM45G		ACP20G		APU40G		APM45G	
Material to be processed					Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
Vc in steel ●					50-240 m/min		50-240 m/min		40-120 m/min		50-240 m/min		50-240 m/min		40-120 m/min	
Vc in stainless steel ●					50-180 m/min		50-200 m/min		60-180 m/min		50-180 m/min		50-200 m/min		60-180 m/min	
Vc in cast iron ●					80-200 m/min		80-200 m/min				80-200 m/min		80-200 m/min			
Vc in special alloys ●									15-120 m/min						15-120 m/min	
W (mm)	Tolerance of plunge depth	R (mm)	f min./ max.	Max. plunge depth (mm)	17672... Ident. No.		17672... Ident. No.		17672... Ident. No.		17672... Ident. No.		17672... Ident. No.		17672... Ident. No.	
2	+/- 0.02 mm	0.15	0.03-0.1 mm/r	50	140	●	144	●	148	●	141	●	145	●	149	●
3	+/- 0.02 mm	0.2	0.05-0.15 mm/r	50	152	●	156	●	160	●	153	●	157	●	161	●

Prod. Gr. 1FR

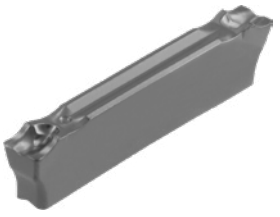
ATORN Cutting inserts dual-edge AD type ET neutral

for radial grooving and cutting with extremely positive cutting edge

Application:
For radial grooving and cutting with extremely positive chip geometry for stainless steels and special alloys that are difficult to cut.

Execution:
- Precision-sintered cutting insert, ET geometry with extremely positive cutting edge

Advantage:
- Highest service life in the series production of stainless steels
- A problem solver in special alloys that are difficult to cut!



Tool design						Neutral		Neutral		Neutral	
Carbide type						ACP20G		APU40G		APM45G	
Material to be processed						Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
Vc in steel ●						50-240 m/min		50-240 m/min		40-120 m/min	
Vc in stainless steel ●						50-180 m/min		50-200 m/min		60-180 m/min	
Vc in cast iron ●						80-200 m/min		80-200 m/min			
Vc in special alloys ●										15-120 m/min	
W (mm)	Plate seat size piercing	Tolerance of plunge depth	R (mm)	f min./max.	Tmax. (mm)	17861... Ident. No.		17861... Ident. No.		17861... Ident. No.	
1.5	15	+/- 0.02 mm	0.15	0.02-0.08 mm/r	24	320	●	325	●	330	●
2	20	+/- 0.02 mm	0.2	0.05-0.15 mm/r	24	335	●	340	●	345	●
3	30	+/- 0.02 mm	0.2	0.08-0.2 mm/r	24	350	●	355	●	360	●
4	40	+/- 0.02 mm	0.3	0.08-0.22 mm/r	24	365	●	370	●	375	●
5	50	+/- 0.02 mm	0.4	0.12-0.24 mm/r	24	380	●	385	●	390	●
6	60	+/- 0.02 mm	0.4	0.14-0.27 mm/r	24	395	●	400	●	405	●

Prod. Gr. 1FR

ATORN Cutting inserts single-edge AE type N Neutral

for radial grooving and cutting with extremely positive cutting edge

Application:
For radial grooving and cutting with extremely positive chip geometry for stainless steels and special alloys that are difficult to cut.

Execution:
- Precision-sintered cutting insert, ET geometry with extremely positive cutting edge

Advantage:
- Maximum service life in the series production of stainless steels
- A problem solver in special alloys that are difficult to cut!

				Tool design	Neutral		Neutral		Neutral	
				Carbide type	ACP20G		APU40G		APM45G	
				Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
				Vc in steel ●	50-240 m/min		50-240 m/min		50-240 m/min	
				Vc in stainless steel ●	50-180 m/min		50-200 m/min		60-180 m/min	
				Vc in cast iron ●	80-200 m/min		80-200 m/min		80-200 m/min	
				Vc in special alloys ●					15-120 m/min	
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.	Max. plunge depth (mm)	17672... Ident. No.		17672... Ident. No.		17672... Ident. No.	
2	+/- 0.02 mm	0.2	0.05-0.15 mm/r	50	180	●	185	●	190	●
3	+/- 0.02 mm	0.2	0.08-0.2 mm/r	50	195	●	200	●	205	●
4	+/- 0.02 mm	0.4	0.08-0.22 mm/r	50	210	●	215	●	220	●

Prod. Gr. 1FR

ATORN Cutting inserts dual-edge AD type ET right/left

for radial grooving and cutting with extremely positive cutting edge

Application:
For radial grooving and cutting with extremely positive chip geometry for stainless steels and special alloys that are difficult to cut.

Execution:
- Precision-sintered cutting insert, ET geometry with extremely positive cutting edge

Advantage:
- Maximum service life in the series production of stainless steels
- A problem solver in special alloys that are difficult to cut!

Right

Left

					Tool design	Right		Right		Right		Left		Left		Left	
					Carbide type	ACP20G		APU40G		APM45G		ACP20G		APU40G		APM45G	
					Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
					Vc in steel ●	50-240 m/min		50-240 m/min		40-120 m/min		50-240 m/min		50-240 m/min		40-120 m/min	
					Vc in stainless steel ●	50-180 m/min		50-200 m/min		60-180 m/min		50-180 m/min		50-200 m/min		60-180 m/min	
					Vc in cast iron ●	80-200 m/min		80-200 m/min				80-200 m/min		80-200 m/min			
					Vc in special alloys ●					15-120 m/min						15-120 m/min	
W (mm)	Plate seat size piercing	Tolerance of plunge depth	R (mm)	f min./ max.	Tmax. (mm)	17861... Ident. No.		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.	
2	20	+/- 0.02 mm	0.2	0.05-0.15 mm/r	24	420	●	424	●	428	●	421	●	425	●	429	●
3	30	+/- 0.02 mm	0.2	0.08-0.2 mm/r	24	432	●	436	●	440	●	433	●	437	●	441	●
4	40	+/- 0.02 mm	0.3	0.08-0.22 mm/r	24	444	●	448	●	452	●	445	●	449	●	453	●

Prod. Gr. 1FR

ATORN Cutting inserts single-edge AE type N_ET Neutral

for radial grooving and cutting with extremely positive cutting edge

Application:
For radial grooving and cutting with extremely positive chip geometry for stainless steels and special alloys that are difficult to cut.

Execution:
- Precision-sintered cutting insert, ET geometry with extremely positive cutting edge

Advantage:
- Maximum service life in the series production of stainless steels
- A problem solver in special alloys that are difficult to cut!

				Tool design	Neutral		Neutral		Neutral	
				Carbide type	ACP20G		APU40G		APM45G	
				Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
				Vc in steel ●	50-240 m/min		50-240 m/min		50-240 m/min	
				Vc in stainless steel ●	50-180 m/min		50-200 m/min		60-180 m/min	
				Vc in cast iron ●	80-200 m/min		80-200 m/min		80-200 m/min	
				Vc in special alloys ●					15-120 m/min	
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.	Max. plunge depth (mm)	17672... Ident. No.		17672... Ident. No.		17672... Ident. No.	
2	+/- 0.02 mm	0.2	0.05-0.15 mm/r	50	180	●	185	●	190	●
3	+/- 0.02 mm	0.2	0.08-0.2 mm/r	50	195	●	200	●	205	●
4	+/- 0.02 mm	0.4	0.08-0.22 mm/r	50	210	●	215	●	220	●

Prod. Gr. 1FR

ATORN Cutting inserts dual-edge AD type TR neutral

for radial longitudinal, contour and groove turning

Application:
For radial longitudinal, contour and groove turning with chip breaker for universal use

Execution:
- Precision-sintered cutting insert, TR geometry with chip breaker geometry

Advantage:
- Excellent chip control during longitudinal and contour turning work
- Chip breaker covers a wide range of materials

					Tool design	Neutral		Neutral		Neutral	
					Carbide type	ACP20G		APU40G		APM45G	
					Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
					Vc in steel ●	50-240 m/min		50-240 m/min		40-120 m/min	
					Vc in stainless steel ●	50-180 m/min		50-200 m/min		60-180 m/min	
					Vc in cast iron ●	80-200 m/min		80-200 m/min			
					Vc in special alloys ●					15-120 m/min	
W (mm)	Plate seat size piercing	Tolerance of plunge depth	R (mm)	f min./max.	Tmax. (mm)	17861... Ident. No.		17861... Ident. No.		17861... Ident. No.	
2	20	+/- 0.02 mm	0.2	0.06-0.14 mm/r	24	500	●	505	●	510	●
3	30	+/- 0.02 mm	0.3	0.06-0.16 mm/r	24	515	●	520	●	525	●
4	40	+/- 0.02 mm	0.4	0.08-0.22 mm/r	24	530	●	535	●	540	●
5	50	+/- 0.02 mm	0.4	0.12-0.25 mm/r	24	545	●	550	●	555	●
6	60	+/- 0.02 mm	0.4	0.14-0.26 mm/r	24	560	●	565	●	570	●

Prod. Gr. 1FR

ATORN Cutting inserts dual-edge AD type TR right/left

for radial longitudinal, contour and groove turning

Right

Left

Tool design						Right		Right		Right		Left		Left		Left	
Carbide type						ACP20G		APU40G		APM45G		ACP20G		APU40G		APM45G	
Material to be processed						Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
Vc in steel ●						50-240 m/min		50-240 m/min		40-120 m/min		50-240 m/min		50-240 m/min		40-120 m/min	
Vc in stainless steel ●						50-180 m/min		50-200 m/min		60-180 m/min		50-180 m/min		50-200 m/min		60-180 m/min	
Vc in cast iron ●						80-200 m/min		80-200 m/min				80-200 m/min		80-200 m/min			
Vc in special alloys ●										15-120 m/min						15-120 m/min	
W (mm)	Plate seat size piercing	Tolerance of plunge depth	R (mm)	f min./ max.	Tmax. (mm)	17861... Ident. No.		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.		17861... Ident. No.	
2	20	+/- 0.02 mm	0.2	0.06-0.14 mm/r	24	580	●	585	●	590	●	610	●	615	●	620	●
3	30	+/- 0.02 mm	0.3	0.06-0.16 mm/r	24	595	●	600	●	605	●	625	●	630	●	635	●

Prod. Gr. 1FR

ATORN Cutting inserts dual-edge AD type MN neutral

for radial grooving and cutting in non-ferrous metals

Application:

For radial grooving and longitudinal turning with positive special geometry for non-ferrous metals

Execution:

- Precision-sintered cutting insert, LC geometry with extremely positive cutting edge

Tool design						Neutral	
Carbide type						AWN15G	
Material to be processed						Non-ferrous metal	
Vc in non-ferrous metals ●						50-5000 m/min	
W (mm)	Plate seat size piercing	Tolerance of plunge depth	R (mm)	f min./max.	Tmax. (mm)	17861... Ident. No.	
2	20	+/- 0.02 mm	0.2	0.05-0.2 mm/r	24	480	●
3	30	+/- 0.02 mm	0.2	0.05-0.3 mm/r	24	485	●
4	40	+/- 0.02 mm	0.3	0.05-0.4 mm/r	24	490	●
5	50	+/- 0.02 mm	0.4	0.05-0.45 mm/r	24	491	●
6	60	+/- 0.02 mm	0.5	0.05-0.5 mm/r	24	492	●

Prod. Gr. 1FR

ATORN Cutting inserts dual-edge AD type circlip neutral

for radial grooving

Application:

For universal machining of circlip grooves

					Tool design	Neutral
					Carbide type	APU40G
					Material to be processed	Steel | Stainless steel | Cast metal
					Vc in steel ●	50-240 m/min
					Vc in stainless steel ●	50-200 m/min
					Vc in cast iron ●	80-200 m/min
W (mm)	Plate seat size piercing	R (mm)	f min./max.	Tmax. (mm)	17861... Ident. No.	
1	30	0	0.05-0.15 mm/r	1.27	750	●
1.3	30	0	0.05-0.15 mm/r	1.64	752	●
1.6	40	0.1	0.05-0.18 mm/r	1.94	754	●
1.85	40	0.1	0.05-0.18 mm/r	2.19	756	●
2.15	40	0.15	0.05-0.2 mm/r	2.49	758	●
2.65	50	0.15	0.05-0.2 mm/r	2.99	760	●
3.15	50	0.15	0.05-0.25 mm/r	3.49	762	●

Prod. Gr. 1FR

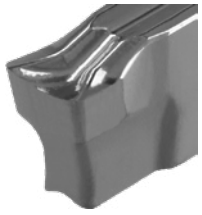
ATORN Cutting inserts single-edge AE type MN Neutral

for radial grooving and cutting in non-ferrous metals

Application:
For radial grooving and longitudinal turning with positive special geometry for non-ferrous metals

Execution:
- Precision-sintered cutting insert, LC geometry with extremely positive cutting edge

Advantage:
- Maximum service life in the series production of non-ferrous metals



				Carbide type	AWN15G
				Material to be processed	Non-ferrous metal
				Vc in non-ferrous metals ●	200-2000 m/min
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.	17672... Ident. No.	
2	+/- 0.02 mm	0.2	0.05-0.2 mm/r	230	●
3	+/- 0.02 mm	0.2	0.06-0.27 mm/r	235	●
4	+/- 0.02 mm	0.3	0.08-0.3 mm/r	240	●

Prod. Gr. 1FR

ATORN Cutting inserts dual-edge AD type R neutral

for radial longitudinal, contour and groove turning with chip breaker

Application:
For radial longitudinal, contour and groove turning with chip breaker for universal use

Execution:
- Precision-sintered cutting insert, R geometry with chip breaker geometry

Advantage:
- Excellent chip control due to continuous chip breaker during longitudinal and contour turning work

						Tool design	Neutral		Neutral		Neutral	
						Carbide type	ACP20G		APU40G		APM45G	
						Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
						Vc in steel ●	50-240 m/min		50-240 m/min		40-120 m/min	
						Vc in stainless steel ●	50-180 m/min		50-200 m/min		60-180 m/min	
						Vc in cast iron ●	80-200 m/min		80-200 m/min			
						Vc in special alloys ●					15-120 m/min	
W (mm)	Plate seat size piercing	Tolerance of plunge depth	R (mm)	f min./max.	Tmax. (mm)	17861... Ident. No.			17861... Ident. No.		17861... Ident. No.	
2	20	+/- 0.02 mm	1	0.08-0.25 mm/r	24	640	●		645	●	650	●
3	30	+/- 0.02 mm	1.5	0.08-0.3 mm/r	24	655	●		660	●	665	●
4	40	+/- 0.02 mm	2.0	0.15-0.35 mm/r	24	670	●		675	●	680	●
5	50	+/- 0.02 mm	2.5	0.16-0.37 mm/r	24	685	●		690	●	695	●
6	60	+/- 0.02 mm	3	0.18-0.4 mm/r	24	700	●		705	●	710	●

Prod. Gr. 1FR

ATORN Cutting inserts dual-edge AD type R neutral

for radial longitudinal, contour and groove turning with chip breaker

Application: For radial longitudinal, contour and groove turning with chip breaker for universal use

			Tool design	Neutral	
			Carbide type	APU40G	
			Material to be processed	Steel | Stainless steel	
			Vc in steel ●	40-120 m/min	
			Vc in stainless steel ●	60-200 m/min	
W (mm)	Plate seat size piercing	R (mm)	f min./max.	17861... Ident. No.	
2	20	1	0.15-0.27 mm/r	720	●
3	30	1.5	0.15-0.3 mm/r	723	●
4	40	2	0.15-0.4 mm/r	726	●
5	50	2.5	0.15-0.5 mm/r	729	●
6	60	3	0.15-0.6 mm/r	732	●

Prod. Gr. 1FR

ATORN Cutting inserts dual edge ADA type TR neutral

for axial grooving with ADA

				Carbide type	APU40G		ACP20G		APM45G	
				Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
				Vc in steel ●	50-240 m/min		50-240 m/min		50-240 m/min	
				Vc in stainless steel ●	50-200 m/min		50-200 m/min		50-200 m/min	
				Vc in cast iron ●	80-200 m/min		80-200 m/min		80-200 m/min	
				Vc in special alloys ●					15-120 m/min	
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.	Max. plunge depth (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
3	+/- 0.02 mm	0.3	0.06-0.15 mm/r	15	900	●	905	●	910	●
4	+/- 0.02 mm	0.4	0.06-0.18 mm/r	15	911	●	912	●	913	●
5	+/- 0.02 mm	0.4	0.06-0.2 mm/r	15	914	●	915	●	916	●

17673 900 = Prod. Gr. 1FR, 17673 905 = Prod. Gr. 1FR, 17673 910 = Prod. Gr. 1FR, 17673 911 = Prod. Gr. 1FS, 17673 912 = Prod. Gr. 1FS, 17673 913 = Prod. Gr. 1FS, 17673 914 = Prod. Gr. 1FS, 17673 915 = Prod. Gr. 1FS, 17673 916 = Prod. Gr. 1FS

ATORN Cutting inserts dual-edge ADA type R neutral

for axial grooving with ADA

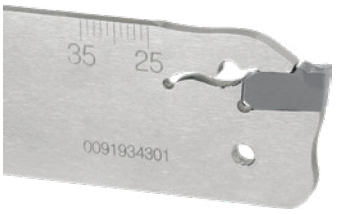
				Carbide type	ACP20G		APU40G		APM45G	
				Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
				Vc in steel ●	50-200 m/min		50-200 m/min		50-160 m/min	
				Vc in stainless steel ●			50-180 m/min		50-180 m/min	
				Vc in cast iron ●	60-160 m/min		60-160 m/min			
				Vc in special alloys ●					40-120 m/min	
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.		17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
3	+/- 0.02 mm	1.5	0.1-0.3 mm/r		921	●	920	●	922	●
4	+/- 0.02 mm	2	0.12-0.35 mm/r		925	●	924	●	926	●

Prod. Gr. 1FS

ATORN Cut-off and grooving blade GROOVE ABE Neutral

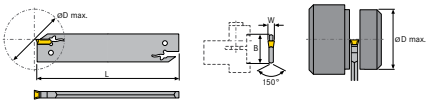
for deep grooving and cutting with ASS indexable grooving inserts

Application:
For external deep grooving and cutting.



Execution:
- precision-manufactured steel holder, nickel-plated and hardened

Advantage:
- high-quality and wear-resistant steel holder
- precisely manufactured insert fit



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				Cut-off and grooving blade GROOVE ABE Neutral		A-Groove installation key	
			Tool design	Neutral			
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.	
3	26	110	70	150	●	930	●
4	26	110	80	155	●	932	●
3	32	150	100	160	●	930	●
4	32	150	100	165	●	932	●
5	32	150	110	170	●	932	●
6	32	150	110	175	●	932	●

Prod. Gr. 1FS

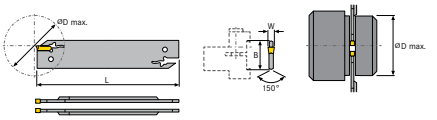
ATORN Cut-off and grooving blade GROOVE ABE right/left

for deep grooving and cutting with ASS indexable grooving inserts

Application:
For external deep grooving and cutting.

Execution:
- precision-manufactured steel holder, nickel-plated and hardened

Advantage:
- high-quality and wear-resistant steel holder
- precisely manufactured insert fit



Right-hand = Top grooving blade
Left-hand = Bottom grooving blade

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				Cut-off and grooving blade GROOVE ABE right/left				A-Groove installation key	
			Tool design	Right		Left			
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2	26	110	50	190	●	200	●	930	●
2	32	150	50	195	●	205	●	930	●

Prod. Gr. 1FS

ATORN Cut-off and grooving blade with internal cooling GROOVE ABE Neutral

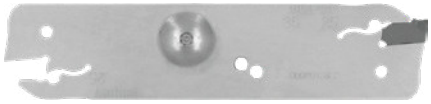
for deep grooving and cutting with ASS indexable grooving inserts

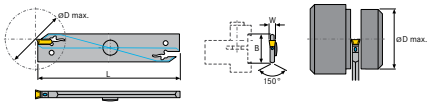
IK

Application:
For external deep grooving and cutting.

Execution:
- precision-manufactured steel holder, nickel-plated and hardened

Advantage:
- high-quality and wear-resistant steel holder
- precisely manufactured insert fit





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				Cut-off and grooving blade with internal cooling GROOVE ABE Neutral		A-Groove installation key		A-Groove screws	
			Tool design	Neutral					
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
3	26	110	70	220	●	930	●	940	●
4	26	110	80	225	●	932	●	940	●
3	32	150	100	230	●	930	●	940	●
4	32	150	100	235	●	932	●	940	●

Prod. Gr. 1FS

ATORN Cut-off and grooving blade with internal cooling ABE GROOVE right/left

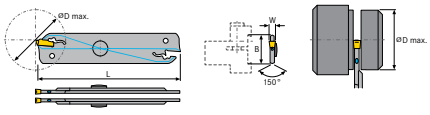
for deep grooving and cutting with ASS indexable grooving inserts

IK

Application:
For external deep grooving and cutting.

Execution:
- precision-manufactured steel holder, nickel-plated and hardened

Advantage:
- high-quality and wear-resistant steel holder
- precisely manufactured insert fit



Right-hand = Top grooving blade
Left-hand = Bottom grooving blade

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				Cut-off and grooving blade with internal cooling ABE GROOVE right/left				A-Groove screws	
			Tool design	Left		Right			
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2	26	110	50	260	●	250	●	940	●
2	32	150	50	265	●	255	●	940	●

Prod. Gr. 1FS

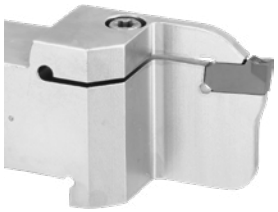
ATORN Insert holder AME GROOVE Neutral

for cutting, grooving and copying with indexable grooving inserts ASS

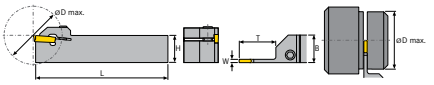
Application:
For cutting, grooving and copy turning externally.

Execution:
- Precision-manufactured steel support, nickel-plated and hardened with clamping element

Advantage:
- High-quality and wear-resistant steel support with high-strength clamping element
- precisely manufactured insert setting



Right-hand version



p. 782 p. 763

							Insert holder AME GROOVE Neutral				A-Groove screws	
						Tool design	Right		Left			
W (mm)	B (mm)	H (mm)	L (mm)	T (mm)	D max. (mm)	Max. tightening torque (Nm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2	16	16	125	20	40	4	464	●	465	●	938	●
2	20	20	125	20	40	4	466	●	467	●	938	●
3	16	16	150	20	40	4	480	●	502	●	936	●
3	20	20	150	20	40	4	485	●	503	●	938	●
3	25	25	150	20	40	4.8	490	●	504	●	942	●
4	20	20	125	25	50	4	496	●	511	●	938	●
4	25	25	150	25	50	4.8	497	●	512	●	938	●
5	25	25	150	25	50	4.8	495	○	505	●	942	●
5	20	20	125	25	50	4	498	●	513	●	938	●
6	25	25	150	32	64	4.8	500	●	510	●	942	●
6	20	20	125	25	50	4	499	●	514	●	938	●

Prod. Gr. 1FS

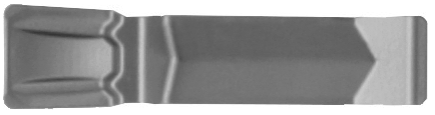
ATORN Cutting inserts single-edge ASS type MU Neutral

for radial grooving and cutting with universal robust cutting edge

Application:
For radial grooving, longitudinal turning and copy turning in a wide range of applications with excellent chip control.

Execution:
- Precision-sintered cutting insert, MU geometry with positive universal geometry

Advantage:
- Excellent chip breaking and chip control



				Carbide type	ACP20G		APU40G		APM45G	
				Material to be processed	Steel | Stainless steel | Cast metal		Steel | Stainless steel | Cast metal		Steel | Stainless steel | Cast metal	
				Vc in steel 🔵	70-200 m/min		70-200 m/min		60-150 m/min	
				Vc in stainless steel 🟡	60-180 m/min				60-180 m/min	
				Vc in cast iron 🔴	80-180 m/min		80-200 m/min			
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.		17672... Ident. No.		17672... Ident. No.		17672... Ident. No.	
2	+/- 0.2 mm	0.2	0.05-0.15 mm/r		575	●	580	●	585	●
3	+/- 0.2 mm	0.2	0.1-0.2 mm/r		590	●	595	●	600	●
4	+/- 0.2 mm	0.2	0.1-0.25 mm/r		605	●	610	●	604	●
5	+/- 0.2 mm	0.2	0.15-0.3 mm/r		620	●	625	●	630	●
6	+/- 0.2 mm	0.2	0.15-0.35 mm/r		635	●	640	●	645	●

Prod. Gr. 1FR

ATORN Cutting inserts single-cutting ASS type M Neutral

for radial grooving and cutting with universal robust cutting edge

Application:
For radial grooving and cutting in a wide range of applications with stable cutting edge.

Execution:
- Precision-sintered cutting insert, M geometry with positive cutting edge and rounded cutting edges

Advantage:
- Stable grooving geometry for a wide range of applications

			Carbide type	ACP20G		APU40G		APM45G	
			Material to be processed	Steel | Stainless steel | Cast metal		Steel | Stainless steel | Cast metal		Steel | Stainless steel | Cast metal	
			Vc in steel ●	70-200 m/min		70-200 m/min		60-150 m/min	
			Vc in stainless steel ●					60-180 m/min	
			Vc in cast iron ●	80-180 m/min		80-200 m/min			
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.	17672... Ident. No.		17672... Ident. No.		17672... Ident. No.	
2	+/- 0.2 mm	0.2	0.05-0.15 mm/r	500	●	505	●	510	●
3	+/- 0.2 mm	0.2	0.1-0.2 mm/r	515	●	520	●	525	●
4	+/- 0.2 mm	0.2	0.1-0.25 mm/r	530	●	535	●	540	●
5	+/- 0.2 mm	0.2	0.15-0.3 mm/r	545	●	550	●	555	●
6	+/- 0.2 mm	0.2	0.15-0.35 mm/r	560	●	565	●	570	●

Prod. Gr. 1FR

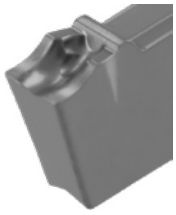
ATORN Cutting inserts single-edge ASS type ET Neutral

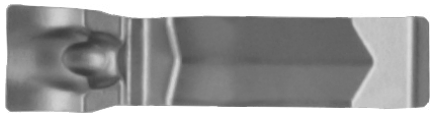
for radial grooving and cutting with extremely positive cutting edge

Application:
For radial grooving and cutting with extremely positive chip geometry for stainless steels and special alloys that are difficult to cut.

Execution:
- Precision-sintered cutting insert, ET geometry with extremely positive cutting edge

Advantage:
- Maximum service life in the series production of stainless steels
- A problem solver in special alloys that are difficult to cut!





			Carbide type	ACP20G		APU40G		APM45G	
			Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
			Vc in steel ●	70-200 m/min		60-150 m/min		60-150 m/min	
			Vc in stainless steel ●					60-180 m/min	
			Vc in cast iron ●	80-180 m/min		50-200 m/min			
			Vc in special alloys ●					15-120 m/min	
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.	17672... Ident. No.		17672... Ident. No.		17672... Ident. No.	
2	+/- 0.2 mm	0.2	0.05-0.15 mm/r	670	●	675	●	680	●
3	+/- 0.2 mm	0.2	0.08-0.2 mm/r	685	●	690	●	695	●
4	+/- 0.2 mm	0.4	0.08-0.22 mm/r	700	●	705	●	710	●
5	+/- 0.2 mm	0.4	0.12-0.24 mm/r	715	●	720	●	725	●
6	+/- 0.2 mm	0.4	0.14-0.27 mm/r	730	●	735	●	740	●

Prod. Gr. 1FR

ATORN Cutting inserts single-edge ASS type MN Neutral

for radial grooving and cutting in non-ferrous metals

Application:
For radial grooving and longitudinal turning with positive, polished special geometry optimised for processing non-ferrous metals.

Execution:
- Precision-sintered cutting insert, MN geometry with extremely positive, polished cutting edge

			Carbide type	AWN15G	
			Material to be processed	Non-ferrous metal	
			Vc in non-ferrous metals ●	200-2000 m/min	
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.	17672... Ident. No.	
2	+/- 0.2 mm	0.2	0.05-0.15 mm/r	650	●
3	+/- 0.2 mm	0.2	0.1-0.2 mm/r	655	●
4	+/- 0.2 mm	0.2	0.1-0.25 mm/r	660	●
5	+/- 0.2 mm	0.2	0.1-0.35 mm/r	661	●
6	+/- 0.2 mm	0.2	0.1-0.40 mm/r	662	○

Prod. Gr. 1FR

ATORN Cutting inserts single-edge ASS type M Neutral

for radial longitudinal, contour and groove turning with chip breaker

			Tool design	Neutral	
			Carbide type	APU40G	
			Material to be processed	Steel | Stainless steel | Cast metal	
			Vc in steel ●	50-240 m/min	
			Vc in stainless steel ●	50-200 m/min	
			Vc in cast iron ●	80-200 m/min	
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.	17672... Ident. No.	
2	+/- 0.02 mm	1	0.05-0.25 mm/r	800	●
3	+/- 0.02 mm	1.5	0.1-0.3 mm/r	804	●
4	+/- 0.02 mm	2	0.15-0.35 mm/r	808	●
5	+/- 0.02 mm	2.5	0.18-0.4 mm/r	812	●
6	+/- 0.02 mm	3	0.18-0.5 mm/r	816	●

Prod. Gr. 1FR

ATORN Cutting inserts single-edge ASS type MU Neutral

for radial grooving and cutting in non-ferrous metals

			Tool design	Neutral	
			Carbide type	APU40G	
			Material to be processed	Steel | Stainless steel | Cast metal	
			Vc in steel ●	50-240 m/min	
			Vc in stainless steel ●	50-200 m/min	
			Vc in cast iron ●	80-200 m/min	
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.	17672... Ident. No.	
2	+/- 0.2 mm	1	0.05-0.3 mm/r	802	●
3	+/- 0.2 mm	1.5	0.05-0.3 mm/r	806	●
4	+/- 0.2 mm	2	0.05-0.3 mm/r	810	●
5	+/- 0.2 mm	2.5	0.05-0.3 mm/r	814	●
6	+/- 0.2 mm	3	0.05-0.3 mm/r	818	●

Prod. Gr. 1FR

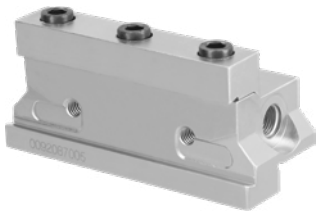
ATORN Clamping block for cut-off and grooving blade GROOVE

for clamping cut-off and grooving blade ABE-AD/AE/ASS

Application:
For clamping blade carriers AD/AE/ASS for grooving and cutting.

Execution:
- precision-manufactured steel holder, burnished, hardened with clamping element

Advantage:
- High-quality and wear-resistant steel support with high-strength clamping element



H (mm)	A (mm)	B (mm)	L (mm)	A1 (mm)	H2 (mm)	17673... Ident. No.	
20	20	26	90	37	43	580	●
25	25	32	110	38	49	585	●

Prod. Gr. 1FS

ATORN Clamping block for cut-off and grooving blade with internal cooling GROOVE

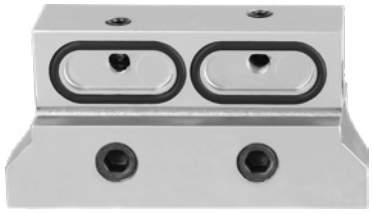
for clamping cut-off and grooving blade ABE-AD/AE/ASS

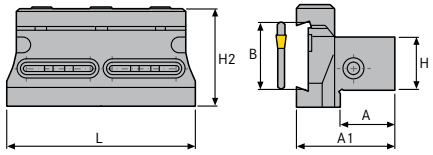
IK

Application:
For clamping blade carriers AD/AE/ASS for grooving and cutting.

Execution:
- precision-manufactured steel holder, burnished, hardened with clamping element

Advantage:
- high-quality and wear-resistant steel support with high-strength clamping element and internal cooling





H (mm)	A (mm)	B (mm)	L (mm)	A1 (mm)	H2 (mm)	17673... Ident. No.	
20	20	26	82	40	43	550	●
25	25	32	95	44.5	49	555	●

Prod. Gr. 1FS

ATORN Cut-off and grooving blade GROOVE TYPE ABE-AD/AE neutral

for deep grooving and cutting with AD/AE indexable grooving inserts

Application:
For deep grooving and cutting, external.

Execution:
- precision-manufactured steel support, nickel-plated and hardened

Advantage:
- High-quality and wear-resistant steel support
- precisely manufactured insert setting

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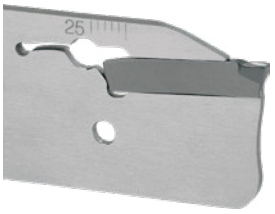
				Cut-off and grooving blade GROOVE TYPE ABE-AD/AE neutral		A-Groove installation key	
			Tool design	Neutral			
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.	
2.0	26	110	50	005	●	930	●
3.0	26	110	70	010	●	930	●
4.0	26	110	80	015	●	932	●
2.0	32	150	50	020	●	930	●
3.0	32	150	100	025	●	930	●
4.0	32	150	100	030	●	932	●

Prod. Gr. 1FS

ATORN Cut-off and grooving blade GROOVE TYPE ABE-AD/AE right/left

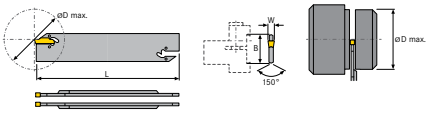
for deep grooving and cutting with AD/AE indexable grooving inserts

Application:
For deep grooving and cutting, external.



Execution:
- precision-manufactured steel support, nickel-plated and hardened

Advantage:
- High-quality and wear-resistant steel support
- precisely manufactured insert setting



Right-hand = Top grooving blade
Left-hand = Bottom grooving blade

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				Cut-off and grooving blade GROOVE TYPE ABE-AD/AE right/left				A-Groove installation key	
			Tool design	Right		Left			
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2.0	26	110	42	050	●	060	●	930	●
2.0	32	150	42	055	●	065	●	930	●

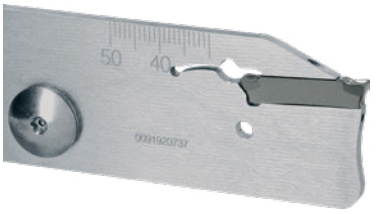
Prod. Gr. 1FS

ATORN Cut-off and grooving blade with internal cooling GROOVE TYPE ABE-AD/AE neutral

for deep grooving and cutting with AD/AE indexable grooving inserts

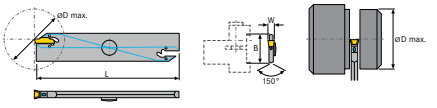
IK

Application:
For deep grooving and cutting, external.



Execution:
- Precision-manufactured steel tool holder with internal cooling, nickel-plated and hardened

Advantage:
- High-quality and wear-resistant steel support
- precisely manufactured insert setting



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				Cut-off and grooving blade with internal cooling GROOVE TYPE ABE-AD/AE neutral		A-Groove installation key		A-Groove screws	
			Tool design	Neutral					
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2.0	26	110	50	080	●	930	●	940	●
3.0	26	110	70	085	●	930	●	940	●
4.0	26	110	80	090	●	930	●	940	●
2.0	32	150	50	095	●	930	●	940	●
3.0	32	150	100	100	●	930	●	940	●
4.0	32	150	100	105	●	932	●	940	●

Prod. Gr. 1FS

ATORN Cut-off and grooving blade with internal cooling GROOVE TYPE ABE-AD/AE right/left

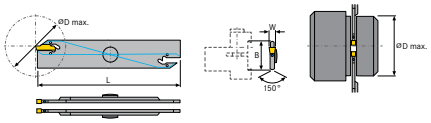
for deep grooving and cutting with AD/AE indexable grooving inserts

IK

Application:
For deep grooving and cutting, external.

Execution:
- Precision-manufactured steel tool holder with internal cooling, nickel-plated and hardened

Advantage:
- High-quality and wear-resistant steel support
- precisely manufactured insert setting



Right-hand = Top grooving blade
Left-hand = Bottom grooving blade

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				Cut-off and grooving blade with internal cooling GROOVE TYPE ABE-AD/AE right/left				A-Groove installation key		A-Groove screws	
			Tool design	Right		Left					
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2.0	26	110	50	120	●	125	●	930	●	940	●
2.0	32	150	50	130	●	135	●	930	●	940	●

Prod. Gr. 1FS

ATORN Installation key TYPE GROOVE

for mounting indexable grooving inserts

	Installation key TYPE GROOVE	
Type	17673... Ident. No.	
Installation key for AD-AE-ASS 2–3 mm	930	●
Installation key for AD-AE-ASS 4–6 mm	932	●

Prod. Gr. 1FS

ATORN GROOVE TYPE AME-AD/AE insert holder, neutral

for cutting, grooving and copying with indexable grooving inserts AD/AE

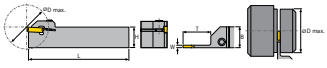
Application:
For cutting, grooving and copy turning externally.

Execution:
- Precision-manufactured steel support, nickel-plated and hardened with clamping element

Advantage:
- High-quality and wear-resistant steel support with high-strength clamping element
- precisely manufactured insert setting

Right-hand version

Groove width 1.5 mm



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						GROOVE TYPE AME-AD/AE insert holder, neutral				A-Groove screws	
					Tool design	Right		Left			
W (mm)	B (mm)	H (mm)	L (mm)	T (mm)	Max. tightening torque (Nm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
1.5	12	12	125	23	3.2	450	●	458	●	934	●
1.5	16	16	125	23	4	454	●	462	●	936	●
2	12	12	125	13	3.2	300	●	301	●	934	●
2	16	16	125	13	4	304	●	305	●	936	●
2	20	20	125	13	4	308	●	309	●	938	●

						GROOVE TYPE AME-AD/AE insert holder, neutral				A-Groove screws	
					Tool design	Right		Left			
W (mm)	B (mm)	H (mm)	L (mm)	T (mm)	Max. tightening torque (Nm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
3	12	12	125	13	3.2	312	●	313	●	934	●
3	16	16	125	13	4	316	●	317	●	936	●
3	16	16	125	25	4	320	●	321	●	936	●
3	20	20	125	13	4	324	●	325	●	938	●
3	20	20	125	25	4	328	●	329	●	938	●
3	25	25	125	13	4.8	332	●	333	●	938	●
3	25	25	125	25	4.8	336	●	337	●	938	●
4	16	16	125	25	4	340	●	341	●	936	●
4	20	20	125	25	4	344	●	345	●	938	●
4	25	25	125	25	4.8	348	●	349	●	938	●
5	20	20	150	25	4	352	●	353	●	938	●
5	25	25	150	25	4.8	356	●	357	●	938	●
6	20	20	150	25	4	360	●	361	●	938	●
6	25	25	150	25	4.8	364	●	365	●	938	●

Prod. Gr. 1FS

ATORN Insert holder with internal cooling GROOVE TYPE AME-AD/AE

for cutting, grooving and copying with indexable grooving inserts AD/AE

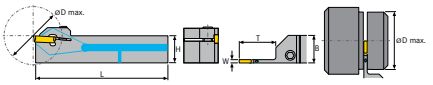
IK

Application:
For cutting, grooving and copy turning externally.

Execution:
- Precision-manufactured steel support, nickel-plated and hardened with clamping element

Advantage:
- High-quality and wear-resistant steel support with high-strength clamping element
- precisely manufactured insert setting

Right-hand version



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						Insert holder with internal cooling GROOVE TYPE AME-AD/AE				A-Groove screws	
					Tool design	Right		Left			
W (mm)	B (mm)	H (mm)	L (mm)	T (mm)	Max. tightening torque (Nm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2	16	16	125	13	4	400	●	401	●	936	●
2	20	20	125	13	4	404	●	405	●	938	●
3	16	16	125	25	4	408	●	409	●	936	●
3	20	20	125	25	4	412	●	413	●	938	●
3	25	25	125	25	4.8	416	●	417	●	942	●
4	16	16	125	25	4	420	●	421	●	936	●
4	20	20	125	25	4	424	●	425	●	938	●
4	25	25	125	25	4.8	428	●	429	○	942	●

Prod. Gr. 1FS

ATORN Insert holder AXIAL GROOVE TYPE AMA-ADA

for axial grooving with ADA

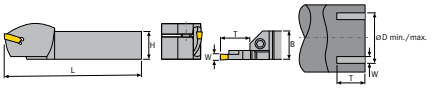
Application:
for external axial grooving with ADA blade insert

Execution:
- Precision-manufactured blade carrier,

nickel-plated and hardened

Ident. No. 800–825
Right-hand version

Ident. No. 830–855
Left-hand version



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						Insert holder AXIAL GROOVE TYPE AMA-ADA				A-Groove screws	
					Tool design	Right		Left			
W (mm)	Shank width (mm)	Shaft height (mm)	D min./max.	L (mm)	Max. plunge depth (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
3	25	25	40-50 mm	125	13	800	●	830	●	942	●
3	25	25	50-60 mm	125	13	805	●	835	●	942	●
3	25	25	60-75 mm	125	13	810	●	840	●	942	●
3	25	25	75-100 mm	125	13	815	●	845	●	942	●
3	25	25	100-140 mm	125	13	820	●	850	●	942	●
3	25	25	140-200 mm	125	13	825	●	855	●	942	●

Prod. Gr. 1FS

ATORN Modular blade carrier GROOVE TYPE AMR-AD/AE Radial

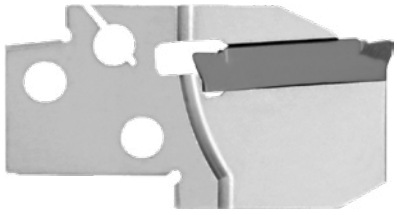
for cutting, grooving and copying with indexable grooving inserts AD/AE

Application:
For cutting, grooving and copy turning externally.

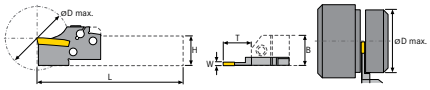
Execution:
- Precision-manufactured steel support, nickel-plated and hardened with clamping element

Advantage:
- High-quality and wear-resistant steel support with high-strength clamping element
- precisely manufactured insert setting

Notes:
Right-hand blade carrier = Left-hand basic holder/
Left-hand blade carrier = Right-hand basic holder



Right-hand version



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				Modular blade carrier GROOVE TYPE AMR-AD/AE Radial				A-Groove installation key	
			Tool design	Right		Left			
W (mm)	Shank width (mm)	Shaft height (mm)	Max. plunge depth (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2	20	20	25	700	●	715	●	930	●
3	20	20	25	705	●	720	●	930	●
4	20	20	25	710	●	725	●	932	●
2	25	25	25	730	●	745	●	930	●
3	25	25	25	735	●	750	●	930	●
4	25	25	25	740	●	755	●	932	●

Prod. Gr. 1FS

ATORN Modular blade carrier GROOVE TYPE AMAE-ADA Axial

for axial grooving and copying with indexable grooving inserts ADA

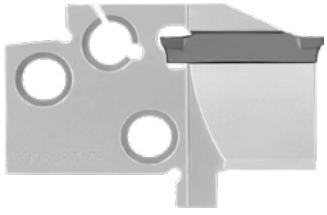
Application:
For cutting, grooving and copy turning externally.

Execution:
- Precision-manufactured steel support, nickel-plated and hardened with clamping element

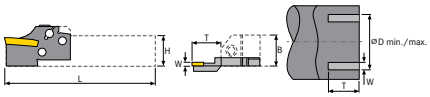
Advantage:
- High-quality and wear-resistant steel support with high-strength clamping element
- precisely manufactured insert setting

Notes:
Right-hand blade carrier = Left-hand basic holder
Left-hand blade carrier = Right-hand basic holder

Left-hand version



Right-hand version



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					Modular blade carrier GROOVE TYPE AMAE-ADA Axial				A-Groove installation key	
				Tool design	Right		Left			
W (mm)	Shank width (mm)	Shaft height (mm)	D min./max.	Max. plunge depth (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
3	25	25	40-50 mm	15	732	●	733	●	930	●
3	25	25	50-60 mm	15	737	●	738	●	930	●
3	25	25	60-75 mm	15	742	●	743	●	930	●
3	25	25	75-100 mm	15	747	●	748	●	930	●
3	25	25	100-140 mm	15	752	●	753	●	930	●
3	25	25	140-200 mm	15	757	●	758	●	930	●

Prod. Gr. 1FF

ATORN Holder for modular blade carrier GROOVE TYPE AMM 0°

for mounting AMR/AMAE modular blade carriers

Notes:
Right-hand blade carrier = Left-hand basic holder
Left-hand blade carrier = Right-hand basic holder

Shank width (mm)	Angle (Degree)	B (mm)	C (mm)	Tool design: Max. tightening torque (Nm)	Right: 17673... Ident. No.		Left: 17673... Ident. No.	
20	0	20	125	4	600	●	630	●
25	0	25	125	5	615	●	645	●

Prod. Gr. 1FS

Accessories for			17673 600	17673 615	17673 630
17673...	Screw for cassette	Ident. No.	949 ●	947 ●	949 ●

Accessories for			17673 645
17673...	Screw for cassette	Ident. No.	947 ● 950 ●

Right-hand version

p. 768

ATORN Holder for modular blade carrier GROOVE TYPE AMM 45°

for mounting AMR/AMAE modular blade carriers

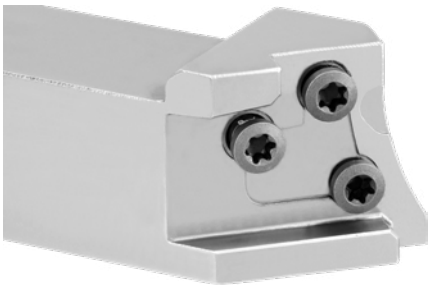
Notes:
Right-hand blade carrier = Left-hand basic holder
Left-hand blade carrier = Right-hand basic holder

Shank width (mm)	Angle (Degree)	B (mm)	C (mm)	Tool design: Max. tightening torque (Nm)	Right: 17673... Ident. No.		Left: 17673... Ident. No.	
20	45	20	125	4	605	●	635	●
25	45	25	125	5	620	●	650	●

Prod. Gr. 1FS

Accessories for			17673 605	17673 620	17673 635
17673...	Screw for cassette	Ident. No.	949 ● 950 ●	947 ● 948 ●	949 ● 950 ●

Accessories for			17673 650
17673...	Screw for cassette	Ident. No.	947 ● 948 ●



Right-hand version

p. 768

ATORN Holder for modular blade carrier GROOVE TYPE AMM 90°

for mounting AMR/AMAE modular blade carriers

Notes:
Right-hand blade carrier = Left-hand basic holder

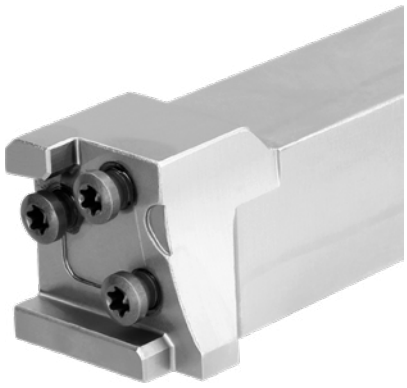
Left-hand blade carrier = Right-hand basic holder

Shank width (mm)	Angle (Degree)	B (mm)	C (mm)	Tool design Max. tightening torque (Nm)	Right 17673... Ident. No.		Left 17673... Ident. No.	
20	90	20	125	4	610	●	640	●
25	90	25	125	5	625	●	655	●

Prod. Gr. 1FS

Accessories for			17673 610	17673 625	17673 640
17673...	Screw for cassette	Ident. No.	949 ●	947 ●	949 ●

Accessories for			17673 655
17673...	Screw for cassette	Ident. No.	947 ●



Right-hand version

p. 768

ATORN Boring bar GROOVE TYPE AMI-AD/AE

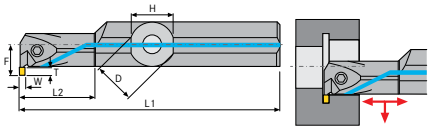
for grooving with indexable grooving inserts AD/AE

IK

Application:
For recessing and copy turning, internal

Execution:
▪ Precision-manufactured steel support,

nickel-plated and hardened with clamping element



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W (mm)	D (mm)	T (mm)	L2 (mm)	L1 (mm)	H (mm)	f (mm)	Tool design Min. bore Ø (mm)	Right 17673... Ident. No.		Left 17673... Ident. No.	
2	25	8	52	200	24.5	21	31.1	771	●	780	●
3	25	9	52	200	24.5	22	31.1	770	●	782	●
3	32	11	64	250	31	27.5	41	772	●	784	●
4	32	11	64	250	31	27.5	41	774	●	786	●
4	40	12	80	300	38.5	32.5	51.7	776	●	788	●
5	40	12	80	300	38.5	32.5	51.7	778	●	790	●

Prod. Gr. 1FF

Accessories for			17673 770	17673 771	17673 772	17673 774	17673 776	17673 778	17673 780
17673...	Screw for cassette	Ident. No.	947 ●	947 ●	947 ●	947 ●	947 ●	947 ●	947 ●

Accessories for			17673 782	17673 784	17673 786	17673 788	17673 790
17673...	Screw for cassette	Ident. No.	947 ●	947 ●	947 ●	947 ●	947 ●

ATORN Cutting inserts dual edge ADA type TR neutral

for axial grooving with ADA

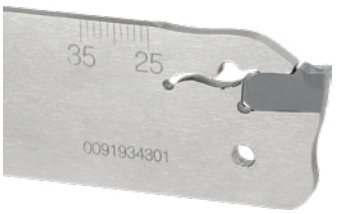
				Carbide type	APU40G		ACP20G		APM45G	
				Material to be processed	Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy		Steel | Stainless steel | Cast metal | Special alloy	
				Vc in steel ●	50-240 m/min		50-240 m/min		50-240 m/min	
				Vc in stainless steel ●	50-200 m/min		50-200 m/min		50-200 m/min	
				Vc in cast iron ●	80-200 m/min		80-200 m/min		80-200 m/min	
				Vc in special alloys ●					15-120 m/min	
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.	Max. plunge depth (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
3	+/- 0.02 mm	0.3	0.06-0.15 mm/r	15	900	●	905	●	910	●

Prod. Gr. 1FR

ATORN Cut-off and grooving blade GROOVE ABE Neutral

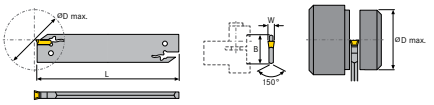
for deep grooving and cutting with ASS indexable grooving inserts

Application:
For external deep grooving and cutting.



Execution:
- precision-manufactured steel holder, nickel-plated and hardened

Advantage:
- high-quality and wear-resistant steel holder
- precisely manufactured insert fit



p. 782 p. 763 p. 785

				Cut-off and grooving blade GROOVE ABE Neutral		A-Groove installation key	
			Tool design	Neutral			
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.	
3	26	110	70	150	●	930	●
4	26	110	80	155	●	932	●
3	32	150	100	160	●	930	●
4	32	150	100	165	●	932	●
5	32	150	110	170	●	932	●
6	32	150	110	175	●	932	●

Prod. Gr. 1FS

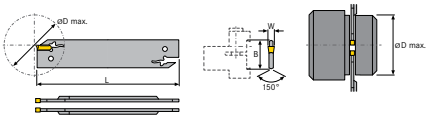
ATORN Cut-off and grooving blade GROOVE ABE right/left

for deep grooving and cutting with ASS indexable grooving inserts

Application:
For external deep grooving and cutting.

Execution:
- precision-manufactured steel holder, nickel-plated and hardened

Advantage:
- high-quality and wear-resistant steel holder
- precisely manufactured insert fit



Right-hand = Top grooving blade
Left-hand = Bottom grooving blade

p. 782 p. 763 p. 785

				Cut-off and grooving blade GROOVE ABE right/left				A-Groove installation key	
			Tool design	Right		Left			
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2	26	110	50	190	●	200	●	930	●
2	32	150	50	195	●	205	●	930	●

Prod. Gr. 1FS

ATORN Cut-off and grooving blade with internal cooling GROOVE ABE Neutral

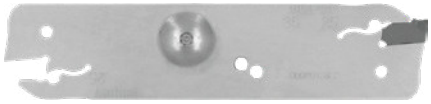
for deep grooving and cutting with ASS indexable grooving inserts

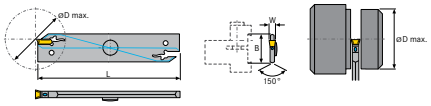
IK

Application:
For external deep grooving and cutting.

Execution:
- precision-manufactured steel holder, nickel-plated and hardened

Advantage:
- high-quality and wear-resistant steel holder
- precisely manufactured insert fit





p. 782 p. 763 p. 785

				Cut-off and grooving blade with internal cooling GROOVE ABE Neutral		A-Groove installation key		A-Groove screws	
			Tool design	Neutral					
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
3	26	110	70	220	●	930	●	940	●
4	26	110	80	225	●	932	●	940	●
3	32	150	100	230	●	930	●	940	●
4	32	150	100	235	●	932	●	940	●

Prod. Gr. 1FS

ATORN Cut-off and grooving blade with internal cooling ABE GROOVE right/left

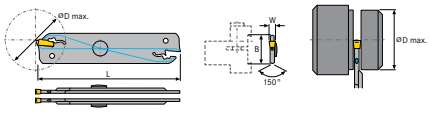
for deep grooving and cutting with ASS indexable grooving inserts

IK

Application:
For external deep grooving and cutting.

Execution:
- precision-manufactured steel holder, nickel-plated and hardened

Advantage:
- high-quality and wear-resistant steel holder
- precisely manufactured insert fit



Right-hand = Top grooving blade
Left-hand = Bottom grooving blade

p. 782 p. 763 p. 785

				Cut-off and grooving blade with internal cooling ABE GROOVE right/left				A-Groove screws	
			Tool design	Left		Right			
W (mm)	B (mm)	L (mm)	D max (mm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
2	26	110	50	260	●	250	●	940	●
2	32	150	50	265	●	255	●	940	●

Prod. Gr. 1FS

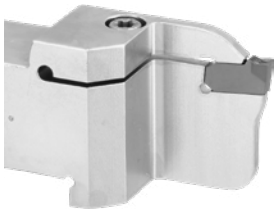
ATORN Insert holder AME GROOVE Neutral

for cutting, grooving and copying with indexable grooving inserts ASS

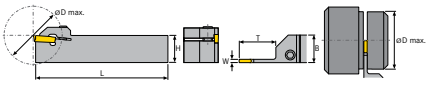
Application:
For cutting, grooving and copy turning externally.

Execution:
- Precision-manufactured steel support, nickel-plated and hardened with clamping element

Advantage:
- High-quality and wear-resistant steel support with high-strength clamping element
- precisely manufactured insert setting



Right-hand version



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p. 763

							Insert holder AME GROOVE Neutral				A-Groove screws	
						Tool design	Right		Left			
W (mm)	B (mm)	H (mm)	L (mm)	T (mm)	D max. (mm)	Max. tightening torque (Nm)	17673... Ident. No.		17673... Ident. No.		17673... Ident. No.	
3	16	16	150	20	40	4	480	●	502	●	936	●
3	20	20	150	20	40	4	485	●	503	●	938	●
3	25	25	150	20	40	4.8	490	●	504	●	942	●
5	25	25	150	25	50	4.8	495	○	505	●	942	●
6	25	25	150	32	64	4.8	500	●	510	●	942	●

Prod. Gr. 1FS

ATORN Cutting inserts single-edge ASS type MN Neutral

for radial grooving and cutting in non-ferrous metals

Application:
For radial grooving and longitudinal turning with positive, polished special geometry optimised for processing non-ferrous metals.

Execution:
- Precision-sintered cutting insert, MN geometry with extremely positive, polished cutting edge

				Carbide type	AWN15G
				Material to be processed	Non-ferrous metal
				Vc in non-ferrous metals ●	200-2000 m/min
W (mm)	Tolerance of plunge depth	R (mm)	f min./max.	17672... Ident. No.	
2	+/- 0.2 mm	0.2	0.05-0.15 mm/r	650	●
3	+/- 0.2 mm	0.2	0.1-0.2 mm/r	655	●
4	+/- 0.2 mm	0.2	0.1-0.25 mm/r	660	●

Prod. Gr. 1FR

ATORN Clamping block for cut-off and grooving blade GROOVE

for clamping cut-off and grooving blade ABE-AD/AE/ASS

Application:
For clamping blade carriers AD/AE/ASS for grooving and cutting.

Advantage:
- High-quality and wear-resistant steel support with high-strength clamping element

Execution:
- precision-manufactured steel holder, burnished, hardened with clamping element

H (mm)	A (mm)	B (mm)	L (mm)	A1 (mm)	H2 (mm)	17673... Ident. No.	
20	20	26	90	37	43	580	●
25	25	32	110	38	49	585	●

Prod. Gr. 1FS

Clamping block for cut-off and grooving blade with internal cooling GROOVE

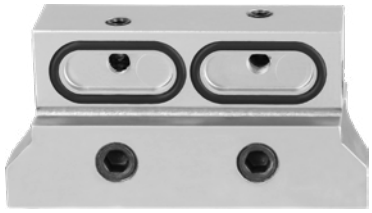
for clamping cut-off and grooving blade ABE-AD/AE/ASS

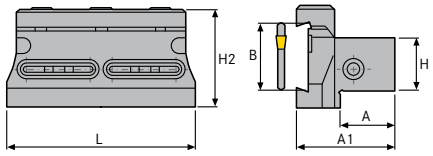
IK

Application:
For clamping blade carriers AD/AE/ASS for grooving and cutting.

Execution:
- precision-manufactured steel holder, burnished, hardened with clamping element

Advantage:
- high-quality and wear-resistant steel support with high-strength clamping element and internal cooling





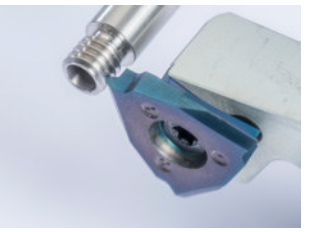
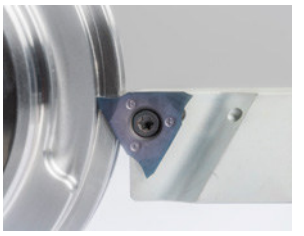
H (mm)	A (mm)	B (mm)	L (mm)	A1 (mm)	H2 (mm)	17673... Ident. No.	
20	20	26	82	40	43	550	●
25	25	32	95	44.5	49	555	●

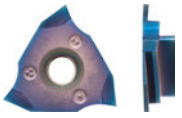
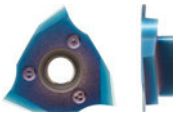
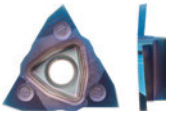
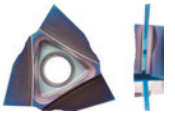
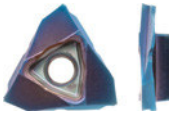
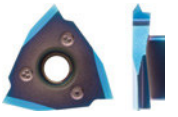
Prod. Gr. 1FS

Grooving and lathe system
For professional series users

Application:
The newly developed Atorn grooving and lathe system has been engineered for ambitious operators in serial machining. It caters to machining tasks such as grooving, tapping, thread cutting, lathing and recessing.

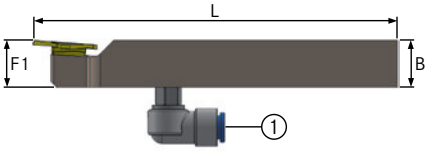
Advantages:
- Wide machining range with only one holder.
- High-performance cutting material and coating ensure a long service life and a wide machining range even in difficult materials such as stainless steel or titanium.
- 3 cutting edges make for a high level of profitability.
- High swapping accuracy - can be changed directly on the machine.
- Internal coolant supply ensures a long service life and high degree of process reliability.

ATORN Holder for cutting and turning system, 3 cutting edges
For cutting insert no. 17759

Application:
For carrying grooving inserts, 3 cutting edges



Advantage:
- Clamping system ensures high power transmission of the cutting insert
- High-strength carrier

Ident. No. 003–008

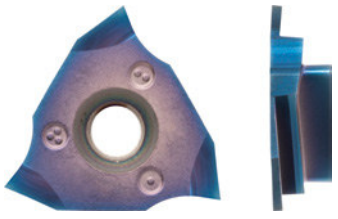
Ident. No. 009–014

								Tool design	Left		Right	
B=F1 (mm)	H (mm)	L1 (mm)	L (mm)	F (mm)	H (mm)	H1 (mm)	Coolant supply	Ø of the cooling duct connection	17759... Ident. No.		17759... Ident. No.	
16	8	17	125	8	8	8	External	4/6 mm	003	○	004	○
16	10	17	125	10	10	6	Internal	4/6 mm	005	○	006	●
16	12	17	125	12	12	4	Internal	4/6 mm	007	○	008	●
16	16	-	125	16	16	-	Internal	4/6 mm	009	●	010	●
20	20	-	125	20	20	-	Internal	4/6 mm	011	●	012	●
25	25	-	150	25	25	-	Internal	4/6 mm	013	●	014	●

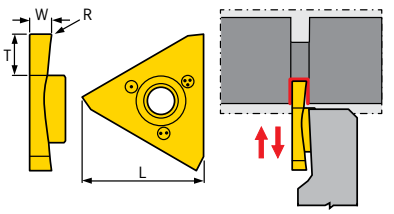
Prod. Gr. 1FF

ATORN 3-blade cutting insert
For grooving

Application:
For grooving.



Advantage:
- High-quality cutting material and innovative coating technology for long service life requirements



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				Machining direction		Right		Left	
				Vc in steel ●		40-150 m/min		40-150 m/min	
				Vc in stainless steel ●		30-120 m/min		30-120 m/min	
				Vc in special alloys ●		30-70 m/min		30-70 m/min	
				Vc in gehärtetem Stahl 50 HRC min./max. ●		20-50 m/min		20-50 m/min	
L (mm)	W (mm)	T (mm)	Radius (mm)	Min./max. f radial	Min./max. f axial	17759... Ident. No.		17759... Ident. No.	
19	0.5	1.5	-	0.01-0.06 mm/r	0.02-0.10 mm/r	050	●	051	○
19	0.6	1.6	-	0.01-0.06 mm/r	0.02-0.10 mm/r	052	○	053	○
19	0.7	1.7	-	0.01-0.06 mm/r	0.02-0.10 mm/r	054	●	055	○
19	0.8	2.0	0.05	0.01-0.06 mm/r	0.02-0.10 mm/r	056	●	057	●
19	1	2.5	0.05	0.02-0.07 mm/r	0.02-0.10 mm/r	058	●	059	●
19	1.2	3	0.05	0.02-0.07 mm/r	0.02-0.10 mm/r	060	●	061	●
19	1.4	3	0.05	0.03-0.08 mm/r	0.02-0.10 mm/r	062	●	063	○
19	1.5	3	0.05	0.03-0.08 mm/r	0.02-0.10 mm/r	064	●	065	●
19	1.7	4	0.05	0.04-0.09 mm/r	0.02-0.20 mm/r	066	●	067	○
20	2	4	0.1	0.05-0.10 mm/r	0.02-0.20 mm/r	068	●	069	●
20	2.25	5	0.1	0.05-0.10 mm/r	0.02-0.20 mm/r	070	●	071	○
20	2.5	6	0.1	0.05-0.10 mm/r	0.02-0.20 mm/r	072	●	073	●
20	3	6	0.1	0.05-0.10 mm/r	0.02-0.20 mm/r	074	●	075	○

Prod. Gr. 1FG

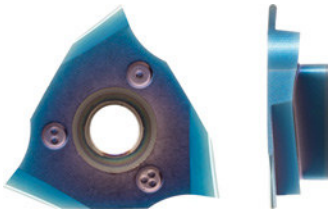
ATORN 3-blade cutting insert

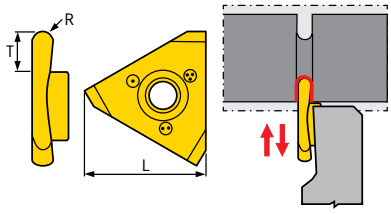
For grooving with radius

Application:
For grooving with radius.

Advantage:
- High-quality cutting material and

innovative coating technology for long service life requirements





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			Machining direction		Right		Left	
			Vc in steel ●		40-150 m/min		40-150 m/min	
			Vc in stainless steel ●		30-120 m/min		30-120 m/min	
			Vc in special alloys ●		30-70 m/min		30-70 m/min	
			Vc in gehärtetem Stahl 50 HRC min./max. ●		20-50 m/min		20-50 m/min	
L (mm)	T (mm)	Radius (mm)	Min./max. f radial	Min./max. f axial	17759... Ident. No.		17759... Ident. No.	
19	1.5	0.25	0.01-0.06 mm/r	0.02-0.10 mm/r	080	●	081	○
19	2.0	0.40	0.01-0.06 mm/r	0.02-0.10 mm/r	082	●	083	○
19	2.5	0.50	0.02-0.07 mm/r	0.02-0.10 mm/r	084	●	085	●
19	3.0	0.60	0.02-0.07 mm/r	0.02-0.10 mm/r	086	○	087	○
19	3.5	0.80	0.04-0.09 mm/r	0.02-0.20 mm/r	088	●	089	○
19	4.0	1.00	0.05-0.10 mm/r	0.02-0.20 mm/r	290	●	091	○
20	6.0	1.25	0.05-0.10 mm/r	0.02-0.20 mm/r	292	○	093	○
20	6.0	1.50	0.05-0.10 mm/r	0.02-0.20 mm/r	294	○	095	○

Prod. Gr. 1FG

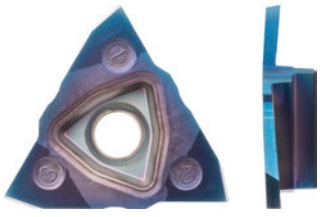
ATORN 3-blade cutting insert

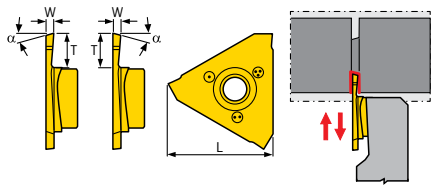
For cutting

Application:
For tapping.

Advantage:
- High-quality cutting material and

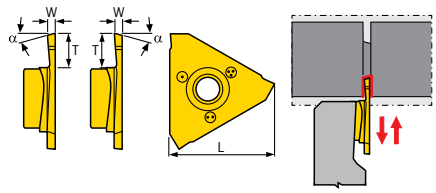
innovative coating technology for long service life requirements





Machining direction right

Cut-off direction
Right Left



Machining direction left

Cut-off direction
Right Left

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				Machining direction	Right		Right		Left		Left	
				Parting direction	Right		Left		Right		Left	
				Vc in steel ●	40-150 m/min		40-150 m/min		40-150 m/min		40-150 m/min	
				Vc in stainless steel ●	30-120 m/min		30-120 m/min		30-120 m/min		30-120 m/min	
				Vc in special alloys ●	30-70 m/min		30-70 m/min		30-70 m/min		30-70 m/min	
				Vc in gehärtetem Stahl 50 HRC min./max. ●	20-50 m/min		20-50 m/min		20-50 m/min		20-50 m/min	
L (mm)	W (mm)	α (Degree)	T (mm)	Min./max. f radial	17759... Ident. No.		17759... Ident. No.		17759... Ident. No.		17759... Ident. No.	
19	1.0	15	5.4	0.02-0.09 mm/r	090	●	092	○	121	●	122	○
19	1.2	15	5.4	0.02-0.09 mm/r	094	○	096	○	124	○	126	○
20	1.5	15	6.4	0.04-0.10 mm/r	098	●	100	○	128	●	130	●
20	1.8	15	6.4	0.04-0.10 mm/r	102	○	104	○	132	○	134	○
20	2.0	15	6.4	0.05-0.12 mm/r	106	●	108	○	136	○	138	○
20	2.5	15	6.4	0.05-0.12 mm/r	110	○	112	○	140	○	142	○
20	3.0	15	6.4	0.05-0.12 mm/r	114	○	120	○	144	○	146	○

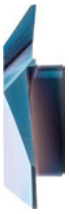
Prod. Gr. 1FG

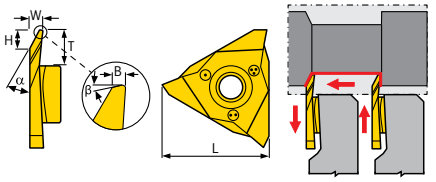
ATORN 3-blade cutting insert

For recessing

Application:
For recessing.

Advantage:
▪ High-quality cutting material and
innovative coating technology for long service life requirements





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								Machining direction	Right		Left	
								Vc in steel ●	40-150 m/min		40-150 m/min	
								Vc in stainless steel ●	30-120 m/min		30-120 m/min	
								Vc in special alloys ●	30-70 m/min		30-70 m/min	
								Vc in gehärtetem Stahl 50 HRC min./max. ●	20-50 m/min		20-50 m/min	
L (mm)	W (mm)	T (mm)	Radius (mm)	α (Degree)	β (Degree)	B (mm)	H (mm)	f min./max.	17759... Ident. No.		17759... Ident. No.	
19	3.4	5.4	0.1	30	12	0.5	4.3	0.05-0.15 mm/r	150	●	152	○
20	3.4	6.4	0.1	30	12	0.5	4.3	0.05-0.15 mm/r	154	○	156	○

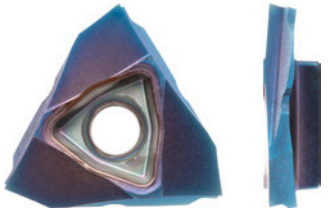
Prod. Gr. 1FG

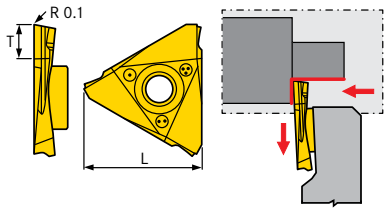
ATORN 3-blade cutting insert

For longitudinal turning and facing

Application:
For longitudinal and face turning

Advantage:
▪ High-quality cutting material and
innovative coating technology for long service life requirements





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				Machining direction	Right		Left	
				Vc in steel ●	40-150 m/min		40-150 m/min	
				Vc in stainless steel ●	30-120 m/min		30-120 m/min	
				Vc in special alloys ●	30-70 m/min		30-70 m/min	
				Vc in gehärtetem Stahl 50 HRC min./max. ●	20-50 m/min		20-50 m/min	
L	T (mm)	Radius (mm)	f min./max.		17759... Ident. No.		17759... Ident. No.	
19	5.4	0.1	0.05-0.15 mm/r		170	○	172	○
20	6.4	0.1	0.05-0.15 mm/r		174	●	176	○

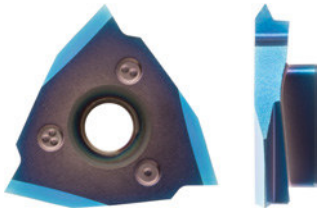
Prod. Gr. 1FG

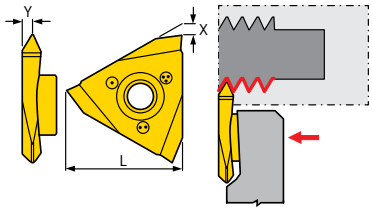
ATORN 3-blade cutting insert

For variable thread cutting 60° partial profile

Application:
For variable thread cutting, 60° sub-profile

Advantage:
▪ High-quality cutting material and
innovative coating technology for long service life requirements





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				Machining direction	Right		Left	
				Vc in steel ●	40-150 m/min		40-150 m/min	
				Vc in stainless steel ●	30-120 m/min		30-120 m/min	
				Vc in special alloys ●	30-70 m/min		30-70 m/min	
				Vc in gehärtetem Stahl 50 HRC min./max. ●	20-50 m/min		20-50 m/min	
L (mm)	Min./max. pitch	Min./max. number of thread starts per inch	X (mm)	Y (mm)	17759... Ident. No.		17759... Ident. No.	
19	0.5-1.5 mm	48-16	2.8	1.1	180	●	182	○
19	1.75-3.0 mm	14-8	2.8	1.7	184	●	186	●
19	0.5-3.0 mm	48-16	2.8	1.7	188	●	190	●

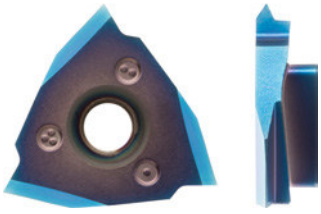
Prod. Gr. 1FG

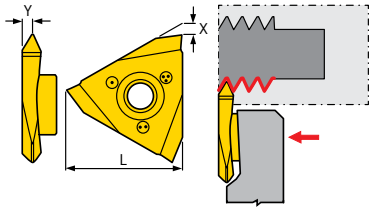
ATORN 3-blade cutting insert

For variable thread cutting 55° partial profile

Application:
For variable thread cutting, 55° sub-profile

Advantage:
▪ High-quality cutting material and
innovative coating technology for long service life requirements





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				Machining direction	Right		Left	
				Vc in steel ●	40-150 m/min		40-150 m/min	
				Vc in stainless steel ●	30-120 m/min		30-120 m/min	
				Vc in special alloys ●	30-70 m/min		30-70 m/min	
				Vc in gehärtetem Stahl 50 HRC min./max. ●	20-50 m/min		20-50 m/min	
L (mm)	Min./max. pitch	Min./max. number of thread starts per inch	X (mm)	Y (mm)	17759... Ident. No.		17759... Ident. No.	
19	0.5-1.5 mm	48-16	2.8	1	200	○	202	○
19	1.75-3.0 mm	14-8	2.8	1.7	204	○	206	○
19	0.5-3.0 mm	48-8	2.8	1.7	208	○	210	○

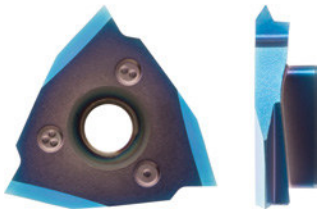
Prod. Gr. 1FG

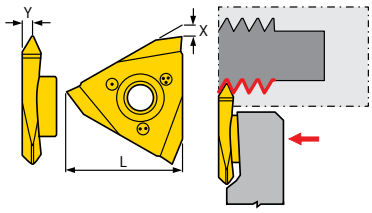
ATORN 3-blade cutting insert

For thread cutting, 60° full profile

Application:
For variable thread cutting, 60° full-profile

Advantage:
▪ High-quality cutting material and
innovative coating technology for long service life requirements





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				Machining direction	Right		Left	
				Vc in steel ●	40-150 m/min		40-150 m/min	
				Vc in stainless steel ●	30-120 m/min		30-120 m/min	
				Vc in special alloys ●	30-70 m/min		30-70 m/min	
				Vc in gehärtetem Stahl 50 HRC min./max. ●	20-50 m/min		20-50 m/min	
L (mm)	Pitch (mm)	X (mm)	Y (mm)		17759... Ident. No.		17759... Ident. No.	
19	0.5	2.8	0.6		220	○	222	○
19	0.7	2.8	0.7		224	○	226	○
19	0.75	2.8	0.7		228	○	230	○
19	0.8	2.8	0.7		232	○	234	○
19	1.0	2.8	0.8		236	●	238	○
19	1.25	2.8	1.0		240	○	242	○
19	1.5	2.8	1.1		244	○	246	○
19	1.75	2.8	1.3		248	●	250	○

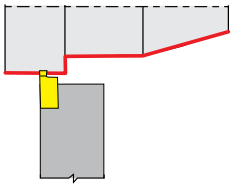
Prod. Gr. 1FG

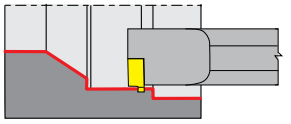
Cutting system with two-flute cutting insert
For demanding serial users

Application:
For grooving (circlips) and copy turning.
- Precision-ground cutting insert for the highest demands on accuracy
- High-performance substrate for universal use in a variety of materials
- Precise plate seats for highly accurate turning operations
- High-strength support material ensures a long service life of the carriers
- Only one cutting insert for external and internal machining

Holder

Boring bar





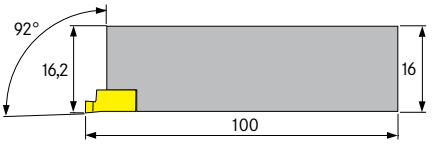
ORION® External holder for grooving inserts
For external grooving, for universal use up to 1,300 N/mm²

Application:
For external plunging with plunge insert no. 17670.

Execution:
- Steel tool holder with high-strength clamping screw

Advantage:
- High-quality and hard-wearing steel holder
- Precision-machined plate seat

Holder



					External holder for grooving inserts		Clamping screw for 2-cutter indexable insert	
Shank width (mm)	Shaft height (mm)	Tool design	Length (mm)	Min. bore Ø (mm)	17670... Ident. No.		17670... Ident. No.	
16	16	Right	100	17.8	013	●	008	●

Prod. Gr. 159

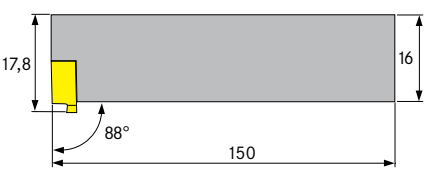
ORION® Internal holder for grooving inserts
For internal grooving, for universal use up to 1,300 N/mm²

Application:
For internal plunging with plunge insert no. 17670

Execution:
- Steel tool holder with high-strength clamping screw

Advantage:
- High-quality and hard-wearing steel holder
- Precision-machined plate seat

Boring bar



				External holder for grooving inserts		Clamping screw for 2-cutter indexable insert	
Shank Ø (mm)	Tool design	Length (mm)	Min. bore Ø (mm)	17670... Ident. No.		17670... Ident. No.	
16	Right	150	17.8	018	●	008	●

Prod. Gr. 159

ORION® Recessing set circlips

For internal and external grooving, for universal use up to 1,300 N/mm²

Application:
For internal and external plunging in steel (stainless steel), NF metal, cast and (special alloy) material groups in single part and series production.

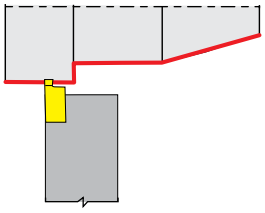
Execution:
- External blade holder with right-hand shank 16 x 16, right boring bar with diameter of 16 (for min. bores of > 17.8 mm) and 5 x 2 plunge inserts no. 17670002-006

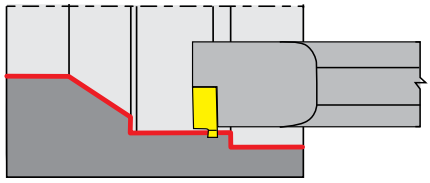
Advantage:
- Universal use; for internal and external plunging
- Precision-ground plunge insert for long service life and precise plunging

set

Holder

Boring bar





17670...	Ident. No.	001 ●

Prod. Gr. 159

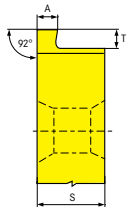
ORION® Plunge insert, 2-way cutter

For internal and external grooving, for universal use up to 1,300 N/mm²

Application:
For internal and external plunging in steel (stainless steel), NF metal, cast and (special alloy) material groups in single part and series production.

Execution:
- Precision-ground plunge insert with two cutters, TiN coating

Advantage:
- Universal use; for internal and external plunging
- Precision-ground plunge insert for long service life and precise plunging



Carbide type				OHC7620	
Material to be processed				Steel | Stainless steel | Non-ferrous metal | Special alloy	
Vc in steel ●				80-200 m/min	
Vc in stainless steel ●				80-120 m/min	
Vc in non-ferrous metals ●				150-250 m/min	
Vc in cast iron ●				80-150 m/min	
Vc in special alloys ●				60-80 m/min	
Nominal dimension of slot width (mm)	A (mm)	T (mm)	S (mm)	17670... Ident. No.	
1.1	1.2	1.2	4	002	●
1.3	1.4	1.2	4	003	●
1.6	1.7	1.5	4	004	●
1.85	1.95	1.8	4	005	●
2.15	2.25	2.0	4	006	●

Prod. Gr. 159

ORION® Grooving insert set, 2-way cutter

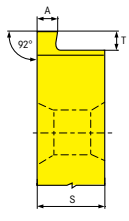
For internal and external grooving, for universal use up to 1,300 N/mm²

Application:
For internal and external plunging in steel (stainless steel), NF metal, cast and (special alloy) material groups in single part and series production.

Execution:
- Precision-ground plunge insert with 2 cutters, TiN-coated, two in each plunge width of 1.1/1.3/1.6/1.85/2.15

Advantage:
- Universal use; for internal and external plunging
- Precision-ground plunge insert for long service life and precise plunging

set



17670... Ident. No.	
007	●

Prod. Gr. 159

cutting system with triple-cutter cutting insert
For demanding serial users

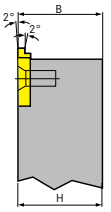
Application:
For grooving (circlips and grooves).
- Precision-ground cutting insert for the highest demands on accuracy
- Wide assortment of cutting widths
- High-performance substrate for universal use in a variety of materials
- Precise plate seats for highly accurate turning operations
- High-strength support material ensures a long service life of the carriers

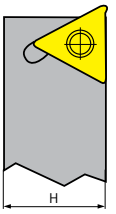
ORION® Blade holders for grooving inserts
For grooving circlip grooves

Application:
For external plunging for grooves and locking rings.

Execution:
- Precision-machined steel holder, burnished and hardened

Advantage:
- High-quality, hard-wearing steel holder
- Precision-machined plate seat





			Blade holders for grooving inserts				Clamping screw for 3-cutter indexable insert	
		Tool design	Right		Left			
B (mm)	H (mm)	B (mm)	17670... Ident. No.		17670... Ident. No.		17670... Ident. No.	
10	10	10.2	010	○	110	○	126	●
12	12	12.2	012	●	112	●	126	●
16	16	16.2	016	●	116	●	126	●
20	20	20.2	020	●	120	○	126	●
25	25	25.2	025	●	125	●	126	●

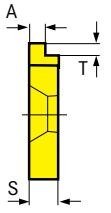
Prod. Gr. 159

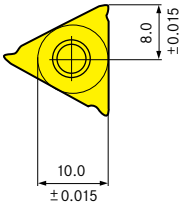
ORION® Grooving insert, 3-way cutter
For external grooving of grooves and circlips, for universal use up to 1,300 N/mm²

Application:
For external plunging for grooves and locking rings in steel, (stainless steel), cast, NF metal and (special alloy) material groups up to a strength of 1300 N/mm² in single part and series production.

Execution:
- Precision-ground plunge insert with three cutters, TiN coating

Advantage:
- Precision-ground cutting geometry with high-quality surface finish for universal use and long service life





					Right		Left	
				Machining direction				
				Surface	TiN		TiN	
				Vc in steel ●	70-200 m/min		70-200 m/min	
				Vc in stainless steel ●	30-100 m/min		30-100 m/min	
				Vc in non-ferrous metals ●	200-800 m/min		200-800 m/min	
				Vc in cast iron ●	70-140 m/min		70-140 m/min	
				Vc in special alloys ●	20-70 m/min		20-70 m/min	
Nominal dimension of slot width (mm)	A (mm)	T (mm)	S (mm)	f min./max.	17670... Ident. No.		17670... Ident. No.	
0.5	0.58	0.8	3	0-0.08 mm/r	130	●	150	●
0.7	0.78	0.8	3	0-0.08 mm/r	131	●	151	●
0.8	0.88	1	3	0-0.08 mm/r	132	●	152	●
0.9	0.98	1	3	0-0.08 mm/r	133	●	153	●
1.1	1.2	1.2	3	0-0.08 mm/r	134	●	154	●
1.3	1.4	1.4	3	0-0.08 mm/r	135	●	155	●
1.6	1.7	1.7	3	0-0.08 mm/r	136	●	156	●
1.85	1.95	1.95	3	0-0.08 mm/r	137	●	157	●
2.15	2.25	2.25	3	0-0.08 mm/r	138	●	158	●
2.65	2.75	2.75	3	0-0.08 mm/r	139	●	159	●
3.15	3.25	3.25	4	0-0.08 mm/r	140	●	160	●

Prod. Gr. 159

ORION® Grooving insert set, 3-way cutter

For external grooving of grooves and circlips, for universal use up to 1,300 N/mm²

Application:
For external plunging for grooves and locking rings in steel, (stainless steel), cast, NF metal and (special alloy) material groups up to a strength of 1300 N/mm² in single part and series production.

Execution:
- Precision-ground plunge insert with three cutters and TiN coating

Advantage:
- Precision-ground cutting geometry with high-quality surface finish, for universal use and long service life
- TiN coating for longer service life

Composition of set			1 plunge insert of each of the following sizes: A 0.58; 0.78; 0.88; 0.98; 1.20; 1.40; 1.70; 1.95; 2.25; 2.75
	Machining direction		
17670...	Right	Ident. No.	030 ●
17670...	Left	Ident. No.	031 ●

Prod. Gr. 159

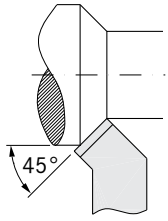
ORION® HSSE lathe chisel, similar to DIN 4952, square (DIN 4952 similar)

For longitudinal turning and facing, external, for universal use up to 1,300 N/mm²

Application:
For external longitudinal turning and face turning for the material groups of steel, (stainless steel), cast iron, non-ferrous metals and (special alloys) up to a strength of 1300 N/mm².

Execution:
- HSSE butt-welded design, with varnished and square shank

Advantage:
- wear-resistant cutting material and high-quality grinding ensure a long service life



Shank width (mm)		10	12	16	20
Shaft height (mm)		10	12	16	20
Length (mm)		100	110	140	160
17068...	Ident. No.	130 ●	160 ●	190 ●	220 ●

Prod. Gr. 159

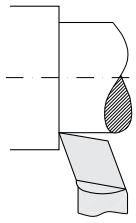
ORION® HSSE corner lathe chisel, curved, similar to DIN 4965, square (DIN 4965)

For corner turning, external, for universal use up to 1,300 N/mm²

Application:
For external longitudinal turning and facing (cutting corners) in the material groups steel, (stainless steel), cast materials, non-ferrous metals and special alloys up to a strength of 1300 N/mm².

Execution:
- Butt-welded version in HSSE with painted, square shaft

Advantage:
- Wear-resistant cutting material and high-quality ground finish for a long service life



Shank width (mm)		10	12	16	20
Shaft height (mm)		10	12	16	20
Length (mm)		100	110	140	160
17075...	Ident. No.	110 ●	121 ●	130 ●	160 ●

Prod. Gr. 159

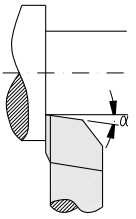
ORION® HSSE side lathe chisel, offset, similar to DIN 4960, square (DIN 4960 similar)

For longitudinal lathing, external, for universal use up to 1,300 N/mm²

Application:
For external longitudinal turning in the material groups steel, stainless steel, cast materials, non-ferrous metals and special alloys up to a strength of 1300 N/mm².

Execution:
- Butt-welded version in HSSE with painted and square shaft

Advantage:
- Wear-resistant cutting material and high-quality ground finish for a long service life



Shank width (mm)		10	12	16	20
Shaft height (mm)		10	12	16	20
Length (mm)		100	110	140	160
17081...	Ident. No.	130 ●	160 ●	190 ●	220 ●

Prod. Gr. 159

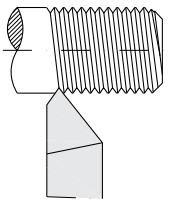
ORION® HSSE thread-cutting lathe chisel 60°, rectangular

For turning metric male threads, for universal application up to 1,300 N/mm²

Application:
For cutting external, 60° threads in the material groups steel, stainless steel, cast materials, non-ferrous metals and special alloys up to a strength of 1300 N/mm².

Execution:
- Butt-welded version in HSSE with painted shaft

Advantage:
- Wear-resistant cutting material and high-quality ground finish for a long service life



Shank width (mm)		16	20	12	16	20
Shaft height (mm)		10	12	12	16	20
Length (mm)		125	140	110	140	160
Width of cutting edge (mm)		4	4	4	5	6
Shank type		Rectangular	Rectangular	Square	Square	Square
17093...	Ident. No.	210 ●	220 ●	270 ○	280 ○	290 ●

Prod. Gr. 159

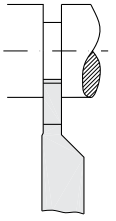
ORION® HSSE cutting-off lathe chisel, similar to DIN 4961, rectangular (DIN 4961 similar)

For external cutting, for universal use up to 1,300 N/mm²

Application:
For external parting off in steel, (stainless steel), cast iron, non-ferrous metals and (special alloys) material groups up to a strength of 1300 N/mm².

Execution:
- butt-welded design with varnished and rectangular shank

Advantage:
- wear-resistant cutting material and high-quality grinding ensure a long service life



Shank width (mm)		16	20
Shaft height (mm)		10	12
Length (mm)		125	140
Recessing width (mm)		3	4
Plunge depth (mm)		12	16
17084...	Ident. No.	160 ●	190 ●

Prod. Gr. 159

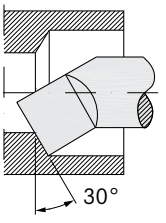
ORION® HSSE lathe chisel, similar to DIN 4953, square

For internal longitudinal lathing, for universal use up to 1,300 N/mm²

Application:
For internal longitudinal turning in steel, (stainless steel), cast iron, non-ferrous metals and (special alloys) material groups up to a strength of 1300 N/mm².

Execution:
- **Ident. No. 130–250:** butt-welded design with varnished and square shank
- **Ident. No. 340–430:** butt-welded design with varnished and round shank

Advantage:
- wear-resistant cutting material and high-quality grinding ensure a long service life



Shank Ø (mm)		-	-	-	-	-	8	10	12	16
Shank width (mm)		8	10	12	16	20	-	-	-	-
Shaft height (mm)		8	10	12	16	20	-	-	-	-
Length (mm)		140	160	180	180	220	140	160	180	210
Min. bore Ø (mm)		14	18	21	27	34	14	18	21	27
17087...	Ident. No.	130 ●	160 ●	190 ●	220 ●	250 ●	340 ●	370 ●	400 ○	430 ●

Prod. Gr. 159

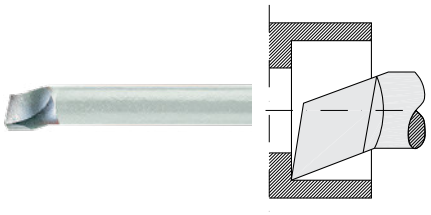
ORION® HSSE internal lathe chisel, similar to DIN 4954

For longitudinal turning, for universal use up to 1,300 N/mm²

Application:
For internal longitudinal turning in steel, (stainless steel), cast iron, non-ferrous metals and (special alloys) material groups up to a strength of 1300 N/mm².

Execution:
- **Ident. No. 130–250:** precision-ground, butt-welded design with varnished and square shank
- **Ident. No. 340–460:** butt-welded design with varnished and round shank

Advantage:
- wear-resistant cutting material and high-quality grinding ensure a long service life



Shank Ø (mm)		-	-	-	-	-	8	10	12	16	20
Shank width (mm)		8	10	12	16	20	-	-	-	-	-
Shaft height (mm)		8	10	12	16	20	-	-	-	-	-
Length (mm)		140	160	180	180	220	140	160	180	210	250
Min. bore Ø (mm)		14	18	21	27	34	14	18	21	27	34
17089...	Ident. No.	130 ●	160 ●	190 ●	220 ●	250 ●	340 ●	370 ●	400 ●	430 ○	460 ●

Prod. Gr. 159

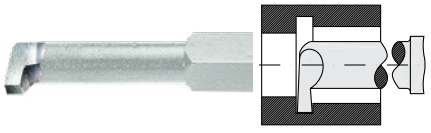
ORION® HSSE recessing lathe chisel, square (DIN 4963 similar)

For internal grooving, for universal use up to 1,300 N/mm²

Application:
For internal grooving in steel, (stainless steel), cast iron, non-ferrous metals and (special alloys) material groups up to a strength of 1300 N/mm².

Execution:
- butt-welded design with varnished and square shank

Advantage:
- wear-resistant cutting material and high-quality grinding ensure a long service life



Shank width (mm)		8	10	12	16	20
Shaft height (mm)		8	10	12	16	20
Length (mm)		140	160	180	180	220
Recessing width (mm)		2	3	3	3	4
Max. turning depth (mm)		4	6	8	8	8
17091...	Ident. No.	220 ●	230 ●	260 ●	290 ●	320 ●

Prod. Gr. 159

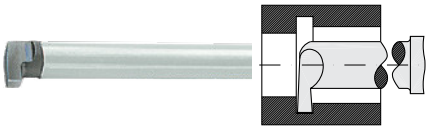
ORION® HSSE recessing lathe chisel, round (DIN 4963 similar)

For internal grooving, for universal use up to 1,300 N/mm²

Application:
For internal grooving in steel, (stainless steel), cast iron, non-ferrous metals and (special alloys) material groups up to a strength of 1300 N/mm².

Execution:
- butt-welded design with varnished and round shank

Advantage:
- wear-resistant cutting material and high-quality grinding ensure a long service life



Shank Ø (mm)		8	10	12	16	20
Length (mm)		140	160	180	220	250
Recessing width (mm)		2	3	3	4	5
Max. turning depth (mm)		4	6	8	10	14
17092...	Ident. No.	220 ●	230 ●	260 ●	290 ●	320 ●

Prod. Gr. 159

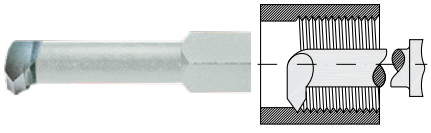
ORION® Thread-cutting lathe chisel, 60°, square

For female thread cutting of metric male threads, for universal use up to 1,300 N/mm²

Application:
For cutting internal, 60° threads in the material groups steel, stainless steel, cast materials, non-ferrous metals and special alloys up to a strength of 1300 N/mm².

Execution:
- Butt-welded version with painted, round shaft

Advantage:
- Wear-resistant cutting material and high-quality ground finish for a long service life



Shank width (mm)		8	10	12	16	20
Shaft height (mm)		8	10	12	16	20
Length (mm)		140	160	180	220	250
Width of cutting edge (mm)		3.5	4	5	6	8
17095...	Ident. No.	220 ●	230 ●	260 ●	290 ●	320 ●

Prod. Gr. 159

ORION® HSSE round lathe blank (DIN 4964)

Round cross-section

Application:
For grinding individual tool geometries with round cross-section.

Execution:
- precision-ground and round bar made from HSSE, W9 Co 10 (1.3207), 10% cobalt and 64-67 HRC

Advantage:
- top-quality and wear-resistant cutting material with high cobalt content
- precision-ground cross section with excellent surface quality

Cutting material	Ø (mm)	Length (mm)	Tolerance of outer dimension	17052... Ident. No.	
HSSE	4	63	h14	420	○
HSSE	4	80	h14	430	●
HSSE	4	100	h14	435	●
HSSE	5	100	h14	465	●
HSSE	6	63	h14	480	●
HSSE	6	100	h14	500	●
HSSE	6	160	h14	507	●
HSSE	8	40	h14	510	●
HSSE	8	63	h14	520	○
HSSE	8	80	h14	530	○
HSSE	8	100	h14	540	●
HSSE	8	125	h14	550	●
HSSE	8	160	h14	560	●
HSSE	8	200	h14	565	●
HSSE	10	80	h14	590	●
HSSE	10	100	h14	600	○

Cutting material	Ø (mm)	Length (mm)	Tolerance of outer dimension	17052... Ident. No.	
HSSE	10	125	h14	610	●
HSSE	10	160	h14	620	●
HSSE	10	200	h14	630	●
HSSE	12	100	h14	660	●
HSSE	12	160	h14	680	●
HSSE	12	200	h14	690	●
HSSE	14	125	h14	700	●
HSSE	14	160	h14	710	●
HSSE	16	125	h14	720	●
HSSE	16	200	h14	740	●
HSSE	18	160	h14	750	●
HSSE	18	200	h14	760	●
HSSE	20	125	h14	780	●
HSSE	20	160	h14	790	●
HSSE	20	200	h14	800	●

Prod. Gr. 159

ORION® HSSE square lathe blank (DIN 4964)

Square cross-section

Application:
For grinding individual tool geometries with square cross section.

Execution:
- precision-ground and square bar made from HSSE, W9 Co 10 (1.3207), 10% cobalt and 64-67 HRC

Advantage:
- top-quality and wear-resistant cutting material with high cobalt content
- precision-ground cross section with excellent surface quality

Cutting material	Width (mm)	Height (mm)	Length (mm)	Tolerance of outer dimension	17054... Ident. No.	
HSSE	4	4	63	h14	421	●
HSSE	4	4	80	h14	431	●
HSSE	5	5	63	h14	451	●
HSSE	5	5	80	h14	461	●
HSSE	5	5	100	h14	465	●
HSSE	6	6	40	h14	470	●
HSSE	6	6	63	h14	480	●
HSSE	6	6	80	h14	490	●
HSSE	6	6	100	h14	500	●
HSSE	6	6	125	h14	510	●
HSSE	6	6	160	h14	520	●
HSSE	8	8	63	h14	540	●
HSSE	8	8	80	h14	550	●
HSSE	8	8	100	h14	560	●
HSSE	8	8	125	h14	570	●
HSSE	8	8	160	h14	580	●
HSSE	8	8	200	h14	585	●
HSSE	10	10	63	h14	590	●
HSSE	10	10	80	h14	600	●
HSSE	10	10	100	h14	610	●

Cutting material	Width (mm)	Height (mm)	Length (mm)	Tolerance of outer dimension	17054... Ident. No.	
HSSE	10	10	125	h14	620	●
HSSE	10	10	160	h14	630	●
HSSE	10	10	200	h14	640	●
HSSE	12	12	80	h14	660	●
HSSE	12	12	100	h14	670	●
HSSE	12	12	125	h14	680	●
HSSE	12	12	160	h14	690	●
HSSE	12	12	200	h14	700	●
HSSE	14	14	100	h14	710	●
HSSE	14	14	125	h14	720	●
HSSE	14	14	160	h14	730	●
HSSE	14	14	200	h14	740	●
HSSE	16	16	100	h14	750	●
HSSE	16	16	125	h14	760	●
HSSE	16	16	160	h14	770	●
HSSE	16	16	200	h14	780	●
HSSE	20	20	160	h14	810	●
HSSE	20	20	200	h14	820	●
HSSE	20	20	250	h14	830	●
HSSE	25	25	250	h14	860	●

Prod. Gr. 159

ORION® HSSE trapezoidal lathe blank (DIN 4964)

Trapezoidal cross-section

Application:
For grinding individual tool geometries with trapezoidal cross-section.

Execution:
- precision-ground and trapezoidal bar made from HSSE, W9 Co 10 (1.3207), 10% cobalt and 64-67 HRC

Advantage:
- top-quality and wear-resistant cutting material with high cobalt content
- precision-ground cross section with excellent surface quality

Shape E ① = width

Cutting material	Width (mm)	Height (mm)	Length (mm)	Tolerance of outer dimension	17064... Ident. No.	
HSSE	2.5	10	80	h12	111	●
HSSE	2.5	10	125	h12	121	●
HSSE	3	12	160	h12	130	●
HSSE	4	16	100	h12	140	○

Cutting material	Width (mm)	Height (mm)	Length (mm)	Tolerance of outer dimension	17064... Ident. No.	
HSSE	4	16	160	h12	150	●
HSSE	5	20	100	h12	170	●
HSSE	5	20	160	h12	180	●

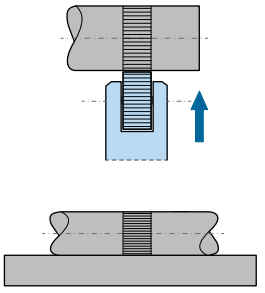
Prod. Gr. 159

Knurling - process

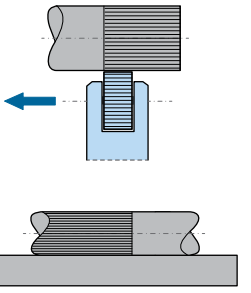
The knurling process is used for the defined production of surfaces. In principle, a knurl serves as a power transmission element on components that are operated manually. Through the knurling process, the surface on the component is raised and higher forces can be transmitted. The process is used in all sectors from the watchmaking industry to mechanical engineering. Knurling can be applied to a wide range of materials.

A distinction is made between two basic knurling processes:

Knurl pressing (forming) is a chip-free process in which the material begins to flow
- Recessed knurls (radial/tangential)
- Axial knurls (axial machining direction)



Knurl cutting is a cutting process
- Axial knurls (axial machining direction)



Advantages of knurl pressing:
- Knurls can be produced cost-effectively
- High stability, because the fibre structure is not interrupted
- Clean, plain surface

Disadvantages of knurl pressing:
- Increase in diameter
- The final diameter must be calculated
- High effort required, therefore, high load on the machine and workpiece
- Risk of material flaking
- Limitation of the components to be manufactured (very thin-walled components cannot be processed)

Advantages of knurl cutting:
- Small increase in workpiece diameter Material is machined
- Low surface compaction
- High precision and surface finish of the knurl
- Machining of hard-to-machine materials (VA steels)
- Processing of plastics (flat knurl preferred)
- Relief of the machine guides (low radial pressures)
- Use in CNC lathes (series production, process safety)
- VDI direct mounting (VDI 16 to VDI 50)
- Knurls of thin-walled pipes without deformation of the workpiece
- Diameter tolerances of up to ± 0.05 mm can be achieved
- Use as left-hand, right-hand and conventional tool: No tool available on the market offers these application options. Thanks to the patented adjustment mechanism, it is possible to transform a right-hand tool into a left-hand tool and vice versa, without dismantling the carrier. The carrier can be moved 25 mm in relation to the clamping shaft and fixated in any position. These tools can therefore be used on CNC and conventional machines at will.

Disadvantages of knurl cutting:
- Limited application range: Only RAA and RGE knurled profiles can be produced; only cylindrical workpieces in the axial machining direction can be processed
- To place the tool in the middle area of the workpiece, a groove is required.
- Time-consuming machining resulting in high cost
- Low strength. An interrupted fibre structure is created and notching effect produced
- Precise tool adjustment and fine adjustment as well as precise preparation of the workpiece are also required

Technical information, knurl pressing

in knurl pressing, the material is subject to chipless deformation. The material is cold-formed via the knurling wheel and flows outwards. This forming process increases the diameter of the workpiece. The following list provides an overview of bulging for the various pitches and materials.

the most suitable knurling materials are:
- All ferrous materials with a stability of max. 1700 N/mm2 and an elongation of at least 4 - 5%
- Non-ferrous base metals
- Hardwood
- Plastic corresponding to the requirements of the elongation and tensile strength

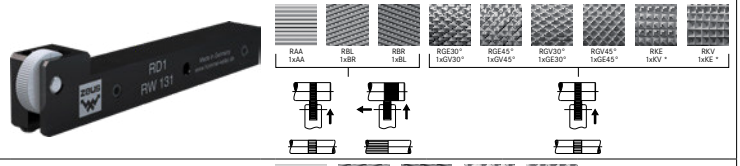
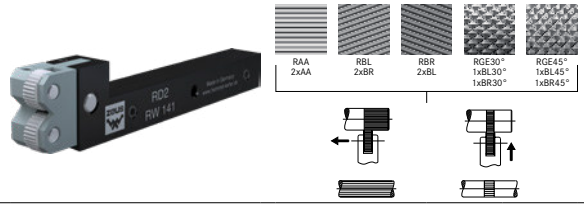
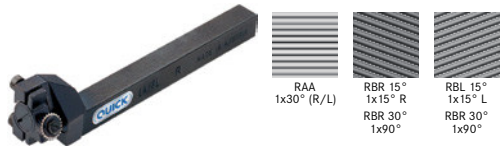
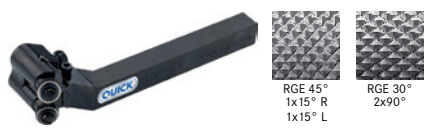
An increase in diameter is a particular characteristic of knurl forming. A diameter increase of approx. 40% of the used knurling pitch is considered an empirical value for larger initial diameters. the initial diameter can be calculated according to the following formula:

$$d_2 = d_1 - (X \cdot t)$$

d2 = Starting diameter (rotation diameter) [mm]
d1 = End diameter [mm]
X = The value X can be derived from the following table
t = Pitch

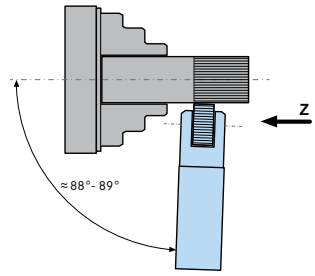
Knurl form	Value X
Parallel to axis, form AA	0.50
Left knurl, form BL	0.50
Right knurl, form BR	0.50
Cross knurl, tips raised, form KE	0.67
Cross knurl, tips recessed, form KV	0.33
Left/right knurl, tips raised, form GE	0.67
Left/right knurl, tips recessed, form GV	0.33

Application of knurl pressing and knurl cutting based on number of knurls

	Knurling wheels	Description	
Knurl pressing	1	▪ For recess knurls with various recess profiles ▪ Axial knurls are only possible with knurling wheels of form AA ▪ Knurling tools for recess knurling are clamped at 90° and knurling tools for axial knurling at 88° to the workpiece (prevention of material congestion towards front edge of the knurling wheel)	
	2	▪ For recess knurls with various recess profiles ▪ Axial knurls are only possible with knurling wheels of form AA (knurling parallel to axis) and forms BL + BR (left/right knurling) ▪ Knurling tools for recess knurling are clamped at 90° and knurling tools for axial knurling at 88° to the workpiece (prevention of material congestion towards front edge of the knurling wheel)	
Knurl cutting	1	▪ Exclusively for knurls parallel to the axis (RAA) ▪ For left-hand tools, a knurl cutter roller BL 30° is used and for right-hand tools, a knurl cutter roller BR 30° ▪ Tools must be clamped at right angles to the workpiece ▪ Marking points for the precise tip height are indicated on the side of the head; for tools for CNC machines, the top edge of the shaft is the reference edge	
	2	▪ Facilitates left/right knurling (RGE) with 30° and with 45° spiral ▪ For knurls RGE 30°, two knurl cutter rollers AA are inserted into the tool; for RGE 45° knurls, one knurl cutter wheel BR 15° and one knurl cutter wheel BL 15° ▪ The workpiece diameter and the exact tip height is set using the adjustment scale. Prior to the actual milling process, guide the tool against the workpiece and check whether the two knurl cutter rollers engage simultaneously	

Procedures and process parameters, knurl forming
Key steps

1. Tool setting - tip height
2. Clearance angle: max. 1° (only in the case of axial machining and wide projection lengths)
3. Infeed depth = pitch (for example 1 mm pitch requires 1 mm infeed in Ø)
4. Repeated insertion into profile possible
5. Knurling depth only sufficiently deep to produce sharp knurl
6. After a dwell time of 3-10 rotations, the workpiece is knurled under longitudinal feed
7. If the dwell time is too long, flaking may occur
8. Compliance with X-zero position for tangential tools



Reference values for process parameters

Material *	Workpiece diameter * (mm)	Speed n (rpm) *	Radial feed f (mm/r) *	Axial feed f (mm/r) *	Infeed depth (mm)
Up to a maximum of RM = 1000 N/mm²	10	650	0.08-0.1	0.08-0.1	p = Ø
Up to a maximum of RM = 1000 N/mm²	50	160	0.08-0.1	0.08-0.1	p = Ø
Up to a maximum of RM = 1000 N/mm²	100	100	0.08-0.1	0.08-0.1	p = Ø

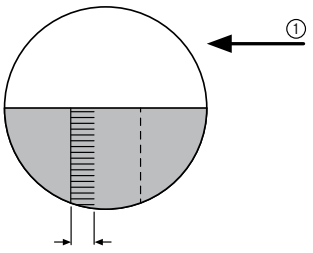
Note: The specified values (initial values) are recommendations and must be optimized in the application.

* The professional quality as well as the wear of the knurling wheels depend on:
- The combination of workpiece diameter and rotation speed
- The feed
- The material
- And the application (e.g. clamping situation - one or both sides)

Procedures and process parameters, knurl cutting
Key steps

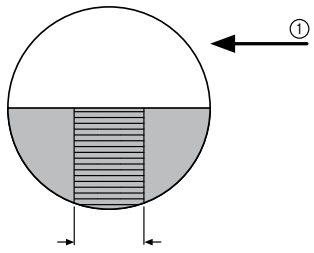
1. Tool setting - tip height
2. Align knurling wheels: Wheel must taper slightly on the spindle-side edge (approx. 1/3 of the wheel width)
3. Clearance angle: 1° - max. 3°
4. Infeed depth = pitch (for example 1 mm partition requires 1 mm infeed in Ø)
5. Knurling depth only sufficiently deep to produce sharp knurl
6. After a dwell time of 3-10 rotations, the workpiece is knurled under longitudinal feed

Correct imprint:
approx. 1/3 knurling width



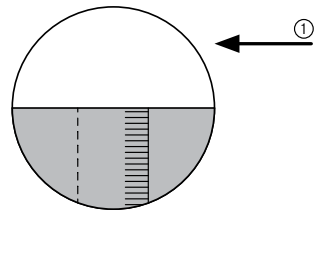
① Cutting direction

Incorrect imprint:
Complete knurling width



① Cutting direction

Incorrect imprint:
Knurling would “press”



① Cutting direction

Reference values for process parameters

Material *	Workpiece diameter * (mm)	Speed n (rpm) *	Radial feed f (mm/r) *	Axial feed f (mm/r) *	Infeed depth (mm)
Up to a maximum of RM = 1000 N/mm²	10	1000	0.08-0.1	0.1-0.15	p = Ø
Up to a maximum of RM = 1000 N/mm²	50	500	0.08-0.1	0.1-0.15	p = Ø
Up to a maximum of RM = 1000 N/mm²	100	300	0.08-0.1	0.1-0.15	p = Ø

Note: The specified values (initial values) are recommendations and must be optimized in the application.

* The professional quality as well as the wear of the knurling wheels depend on:
- The combination of workpiece diameter and rotation speed
- The feed
- The material
- And the application (e.g. clamping situation - one or both sides)

Knurling tool (series RD1 model 131)

for knurling on lathes and turning machines

Application:

Ident. No. 009–016: For pressing knurl profiles in accordance with DIN 82 RAA, RBL, RBR, RGE, RGV, (RKE, RKV on request) in the material groups of steel, stainless steel and non-ferrous metals.

Ident. No. 025–031: For forming knurl profiles in accordance with DIN 82 RAA, RBL, RBR, RGE, RGV, (RKE, RKV on request) in the steel, stainless steel and non-ferrous metals material groups.

Execution:

- **Ident. No. 009–016:** hardened steel tool holder, integrated tip height, cemented carbide runner pins, set screw in the shaft for clearance angle collection
- **Ident. No. 025–031:** hardened steel tool holder, integrated tip height, cemented carbide runner pins, set screw in the shank for clearance angle correction

Advantage:

- **Ident. No. 009–016:**
  - click-pin design for user-friendly handling
  - Easy conversion to a marking tool
  - Knurling without plunging also possible
  - inexpensive knurl production
- **Ident. No. 025–031:**
  - Click-pin version for user-friendly handling
  - easy conversion to a marking tool
  - Knurling without grooving also possible
  - cost-effective knurl production

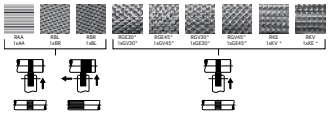
Notes:

Top edge of the shaft = tip height Supplied without knurling wheel

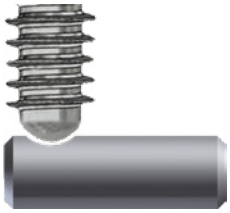
Ident. No. 009

Ident. No. 012–016

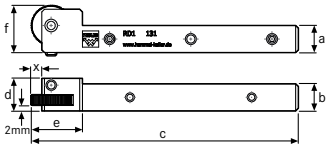
Ident. No. 025



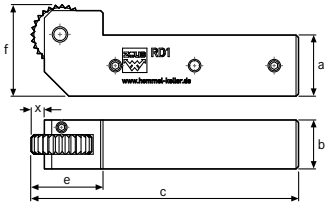
Ident. No. 031



Click-Pin design



Ident. No. 009–016



Ident. No. 025–031

								Knurling tool (series RD1 model 131)				knurl holder roller pin	
							Tool design	Right		Neutral			
Suitable for knurling size	b (mm)	c (mm)	a (mm)	d (mm)	f (mm)	e (mm)	For min./max. workpiece Ø	19003... Ident. No.		19003... Ident. No.		19011... Ident. No.	
10/15 x 4 x 4 mm	10	99	10	12	17.5	19	3-50 mm	009	●	-	-	623	●
10/15 x 4 x 4 mm	12	99	12	12	19.5	19	3-50 mm	012	●	-	-	623	●
10/15 x 4 x 4 mm	16	99	16	16	23.5	19	3-50 mm	016	●	-	-	624	●
20 x 8 x 6 mm | 25 x 8 x 6 mm	20	109.5	20	20	32.5	29.5	8-200 mm	-	-	031	●	621	●
20 x 8 x 6 mm | 25 x 8 x 6 mm	25	109.5	20	20	37.5	29.5	8-200 mm	-	-	025	●	621	●

Prod. Gr. 1FP

Knurling tool (series RD1 model 130)

for knurling on lathes and turning machines

Application:

For pressing knurl profiles in accordance with DIN 82 RAA, RBL, RBR, RGE, RGV, RKE and RKV in the steel, stainless steel and non-ferrous metals groups.

Execution:

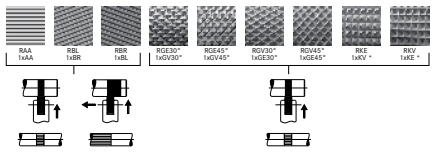
- Hardened steel tool holder, cemented carbide runner pins

Advantage:

- Easy conversion to a marking tool
- Knurling without plunging also possible
- inexpensive knurl production

Notes:

Tip height can be adjusted Supplied without knurling wheel



				Knurling tool (series RD1 model 130)		knurl holder roller pin	
Suitable for knurling size	b (mm)	a (mm)	For min./max. workpiece Ø	19004... Ident. No.		19011... Ident. No.	
15 x 4 x 4 mm	12	12	3-50 mm	160	●	412	●
15 x 6 x 4 mm	14	14	3-50 mm	161	●	414	●
20 x 6 x 6 mm	14	14	8-200 mm	210	●	614	●
20 x 8 x 6 mm	16	16	8-200 mm	211	●	616	●
20 x 10 x 6 mm	20	20	8-200 mm	220	●	618	●

Prod. Gr. 1FP

Knurling tool (series RD2 model 141)

for knurling on lathes and turning machines

Application:
For knurl forming for knurl profiles in accordance with DIN 82 RAA, RBL30°/45°, RBR30°/45°, RGE 30° and RGE 45° in the steel, stainless steel and non-ferrous metals material groups.

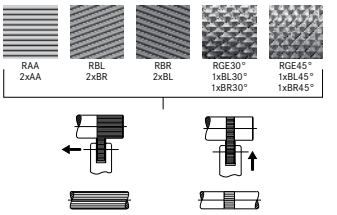
Execution:
- Hardened steel tool holder, integrated tip height, cemented carbide runner pins

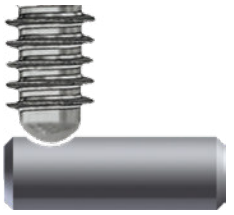
Advantage:
- click-pin design for user-friendly handling (only with 20x20 and 25x20 shaft designs)
- modular design enables right-handed and left-handed knurl forming
- Inexpensive knurl production
- Flexible centring and adjustable clearance angle

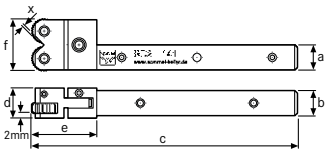
Notes:
Tip height = top edge of the shaft Supplied without knurling wheel

Ident. No. 012–016

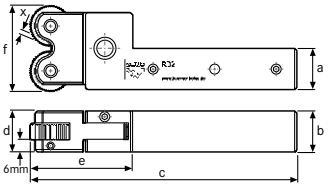
Ident. No. 021–025




Click-Pin design



Ident. No. 012–016



Ident. No. 021–025

								Knurling tool (series RD2 model 141)		knurl holder roller pin	
Suitable for knurling size	b (mm)	c (mm)	a (mm)	d (mm)	f (mm)	e (mm)	For min./max. workpiece Ø	19005... Ident. No.		19011... Ident. No.	
10 x 4 x 4 mm	12	105.5	12	12	22.5	25.5	3-25 mm	012	●	623	●
15 x 4 x 4 mm	16	119	16	16	33	39	6-60 mm	016	●	624	●
20 x 8 x 6 mm	20	130	20	20	42	50	10-110 mm	021	●	621	●
20 x 8 x 6 mm	25	130	20	20	42	50	10-110 mm	025	●	621	●

Prod. Gr. 1FP

Knurling tool (series RD2 model 851)

for knurling on lathes and turning machines

Application:
For knurl forming for knurl profiles in accordance with DIN 82 RAA, RBL30°/45°, RBR30°/45°, RGE 30° and RGE 45° in the steel, stainless steel and non-ferrous metals material groups.

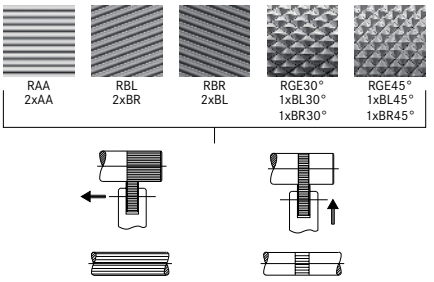
Execution:
- hardened steel tool holder, integrated tip height, HSS runner pin

Advantage:
- Available adapter system guarantees high compatibility
- modular design enables right-handed and left-handed knurl press holder
- Inexpensive knurl production
- flexible centring

Notes:
Top edge of the shaft = tip height Supplied without knurling wheel

				Knurling tool (series RD2 model 851)		knurl holder roller pin	
Suitable for knurling size	b (mm)	a (mm)	For min./max. workpiece Ø	19006... Ident. No.		19011... Ident. No.	
15 x 4 x 4 mm	12	12	6-60 mm	012	●	312	●
20 x 8 x 6 mm	20	20	10-120 mm	021	●	320	●

Prod. Gr. 1FP



Knurling tool adjustable (RD2 model 161)

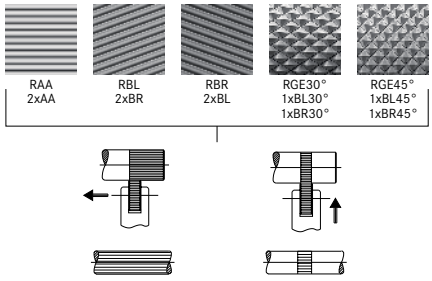
for knurling on lathes and turning machines

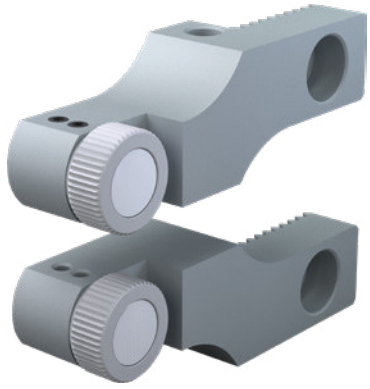
Application:
For knurl forming for knurl profiles in accordance with DIN 82 RAA, RBL30°/45°, RBR30°/45°, RGE 30° and RGE 45° in the steel, stainless steel and non-ferrous metals material groups.

Execution:
- Hardened steel tool holder, cemented carbide runner pins

Advantage:
- user-friendly setting of the work areas with a synchronised spindle
- reliable machining even with difficult materials thanks to low lateral contact pressure
- High wear resistance and long service life

Notes:
Ensure correct adjustment of tip height Supplied without knurling wheel





Jaw set for knurling up to collar

								Knurling tool adjustable (RD2 model 161)				jaw set for knurl forming		knurl holder roller pin	
							Tool design	Right		Neutral					
Suitable for knurling size	b (mm)	a (mm)	f (mm)	e (mm)	c (mm)	b (mm)	Min./max. working range	19008... Ident. No.		19008... Ident. No.		19008... Ident. No.		19011... Ident. No.	
15 x 4 x 4 mm	12	12	40	33.4	113.4	19.6	0-15 mm	012	○	-	-	100	○	712	○
15 x 4 x 4 mm	16	16	40	33.4	113.4	19.6	0-15 mm	016	○	-	-	100	○	712	○
20 x 8 x 6 mm | 25 x 8 x 6 mm	25	20	103	92.8	167.3	28.4	0-65 mm	-	-	032	●	102	○	622	●

Prod. Gr. 1FP

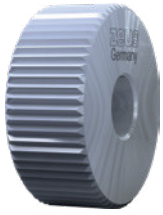
Precision press knurl HSSE-PM with chamfer shape AA (DIN 403)

with chamfers

Application:
For creating knurl profiles in accordance with DIN 82 RAA knurl in steel, stainless steel and NF metal material groups.

Execution:
- hardness: approx. HRC 62-64, teeth milled fine, face sides and hole ground, HSSE PM, 45° chamfer

Advantage:
- High wear resistance
- High hot hardness and compressive strength



Form				AA	
Knurling shape created on workpiece (DIN 82)				RAA	
Material to be processed				Steel | Stainless steel | Non-ferrous metal	
Vc in steel ●				25-50 m/min	
Vc in stainless steel ●				15-50 m/min	
Vc in non-ferrous metals ●				25-90 m/min	
Ø (mm)	Partition (mm)	Width (mm)	Bore Ø (mm)	19014... Ident. No.	
15	0.4	4	4	011	●
15	0.5	4	4	012	●
15	0.6	4	4	013	●
15	0.8	4	4	014	●
15	1	4	4	015	●
15	1.2	4	4	016	●
15	0.5	6	4	022	●
15	0.6	6	4	023	●
15	0.8	6	4	024	●
15	1	6	4	025	●
20	0.5	6	6	032	●
20	0.6	6	6	033	●
20	0.8	6	6	034	●
20	1	6	6	035	●
20	1.2	6	6	036	●
20	0.4	8	6	041	●
20	0.5	8	6	042	●
20	0.6	8	6	043	●

Form				AA	
Knurling shape created on workpiece (DIN 82)				RAA	
Material to be processed				Steel | Stainless steel | Non-ferrous metal	
Vc in steel ●				25-50 m/min	
Vc in stainless steel ●				15-50 m/min	
Vc in non-ferrous metals ●				25-90 m/min	
Ø (mm)	Partition (mm)	Width (mm)	Bore Ø (mm)	19014... Ident. No.	
20	0.8	8	6	044	●
20	1	8	6	045	●
20	1.2	8	6	046	●
20	1.5	8	6	047	●
20	2	8	6	049	●
20	0.5	10	6	052	●
20	0.6	10	6	054	●
20	0.8	10	6	056	●
20	1.0	10	6	058	●
20	1.2	10	6	060	●
20	1.5	10	6	062	●
25	0.5	8	6	064	○
25	0.6	8	6	066	●
25	0.8	8	6	068	●
25	1.0	8	6	070	●
25	1.2	8	6	072	●
25	1.5	8	6	074	●

Prod. Gr. 1FP

Precision press knurl HSSE-PM with chamfer shape GE30°/GE45° (DIN 403)

with chamfers

Application:

Ident. No. 312–349: For creating knurl press forms in accordance with DIN 82 RGV knurl, only for recessed knurls in steel, stainless steel and NF metal material groups.

Ident. No. 418–447: For creating knurl press forms in accordance with DIN 82 RGE knurl, only for recessed knurls in steel, stainless steel and NF metal material groups.

Ident. No. 702–707: For creating knurl press forms in accordance with DIN 82 RGV knurl, only for recessed knurls in steel, stainless steel and non-ferrous metals material groups.

Ident. No. 720–723: For creating knurl press forms in accordance with DIN 82 RGE knurl, only for recessed knurls in steel, stainless steel and non-ferrous metals material groups.

Execution:

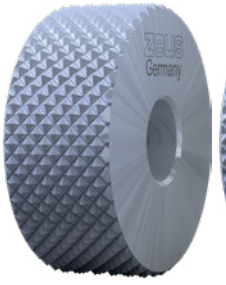
- hardness: approx. HRC 62-64, teeth milled fine, face sides and hole ground, HSSE PM, 45° chamfer

Advantage:

- High wear resistance
- High hot hardness and compressive strength

Ident. No. 312–349

Ident. No. 418–447



Ident. No. 702–707

Ident. No. 720–723

Form				GE 30°		GV 30°		GE 45°		GV 45°	
Knurling shape created on workpiece (DIN 82)				RGV		RGE		RGV		RGE	
Material to be processed				Steel | Stainless steel | Non-ferrous metal		Steel | Stainless steel | Non-ferrous metal		Steel | Stainless steel | Non-ferrous metal		Steel | Stainless steel | Non-ferrous metal	
Vc in steel ●				25-50 m/min		25-50 m/min		25-50 m/min		25-50 m/min	
Vc in stainless steel ●				15-50 m/min		15-50 m/min		15-50 m/min		15-50 m/min	
Vc in non-ferrous metals ●				25-90 m/min		25-90 m/min		25-90 m/min		25-90 m/min	
Ø (mm)	Partition (mm)	Width (mm)	Bore Ø (mm)	19014... Ident. No.		19014... Ident. No.		19014... Ident. No.		19014... Ident. No.	
15	0.5	4	4	312	●	418	●	-	-	-	-
15	0.6	4	4	313	●	419	●	-	-	-	-
15	0.8	4	4	314	●	420	●	-	-	-	-
15	1	4	4	315	●	421	○	-	-	-	-
15	0.5	6	4	316	○	422	○	-	-	-	-
15	0.6	6	4	317	○	423	○	-	-	-	-
15	0.8	6	4	324	●	424	●	-	-	-	-
15	1	6	4	325	○	425	●	-	-	-	-
15	0.5	6	6	332	○	426	○	-	-	-	-
15	0.6	6	6	333	○	427	○	-	-	-	-
15	0.8	6	6	334	○	-	-	-	-	-	-
15	0.5	8	6	-	-	436	●	-	-	-	-
15	0.6	8	6	-	-	437	●	-	-	-	-
20	1	6	6	335	●	435	●	-	-	-	-
20	0.5	8	6	342	●	-	-	702	○	720	●
20	0.6	8	6	343	●	-	-	703	○	721	○
20	0.8	8	6	344	●	444	●	704	●	722	●
20	1	8	6	345	●	445	●	705	●	723	●
20	1.2	8	6	346	●	446	●	706	●	-	-
20	1.5	8	6	347	●	447	●	707	●	-	-
20	2	8	6	349	●	-	-	-	-	-	-
20	0.8	6	6	-	-	434	●	-	-	-	-

Prod. Gr. 1FP

Precision press knurl HSSE-PM with chamfer shape BR/BL45° (DIN 403)

with chamfers

Application:

Ident. No. 513–585: For creating knurl press forms in accordance with DIN 82 RBL 45° knurl in steel, stainless steel and non-ferrous metals material groups.

Ident. No. 613–649: For creating knurl press forms in accordance with DIN 82 RBR 45° knurl in steel, stainless steel and non-ferrous metals material groups.

Execution:

- hardness: approx. HRC 62-64, teeth milled fine, face sides and hole ground, HSSE PM, 45° chamfer

Advantage:

- High wear resistance
- High hot hardness and compressive strength

Ident. No. 513–585 Ident. No. 613–649

Form				BR 45°		BL 45°	
Knurling shape created on workpiece (DIN 82)				RBR 45°		RBL 45°	
Material to be processed				Steel | Stainless steel | Non-ferrous metal		Steel | Stainless steel | Non-ferrous metal	
Vc in steel 🔵				25-50 m/min		25-50 m/min	
Vc in stainless steel 🟡				15-50 m/min		15-50 m/min	
Vc in non-ferrous metals 🟢				25-90 m/min		25-90 m/min	
Ø (mm)	Partition (mm)	Width (mm)	Bore Ø (mm)	19014... Ident. No.		19014... Ident. No.	
15	0.6	4	4	513	●	613	●
15	0.8	4	4	514	○	614	○
15	1	4	4	515	●	615	●
15	0.6	6	4	523	○	623	○
15	0.8	6	4	524	○	624	○
15	1	6	4	525	○	625	○
15	1.2	6	4	526	○	626	○
20	1	6	6	535	●	635	●
20	0.5	8	6	542	●	642	●
20	0.6	8	6	543	●	643	●
20	0.8	8	6	544	●	644	●
20	1	8	6	547	●	645	●
20	1.2	8	6	549	●	646	●
20	1.5	8	6	584	●	647	●
20	2	8	6	585	●	649	●

Prod. Gr. 1FP

Precision press knurl HSSE-PM with chamfer shape BR/BL 30° (DIN 403)

with chamfers

Application:

Ident. No. 113–149: For creating knurl press forms in accordance with DIN 82 RBL 30° knurl in steel, stainless steel and NF metal material groups.

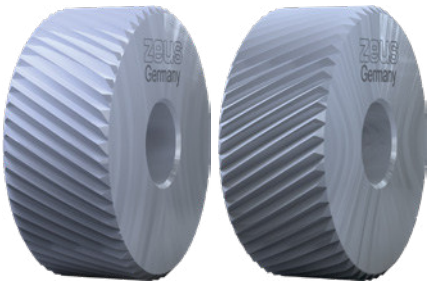
Ident. No. 213–249: For creating knurl press forms in accordance with DIN 82 RBR 30° knurl in steel, stainless steel and NF metal material groups.

Execution:

- hardness: approx. HRC 62-64, teeth milled fine, face sides and hole ground, HSSE PM, 45° chamfer

Advantage:

- High wear resistance
- High hot hardness and compressive strength



Ident. No. 113–149 Ident. No. 213–249

Form				BR 30°		BL 30°	
Knurling shape created on workpiece (DIN 82)				RBL 30°		RBR 30°	
Material to be processed				Steel | Stainless steel | Non-ferrous metal		Steel | Stainless steel | Non-ferrous metal	
Vc in steel ●				25-50 m/min		25-50 m/min	
Vc in stainless steel ●				15-50 m/min		15-50 m/min	
Vc in non-ferrous metals ●				25-90 m/min		25-90 m/min	
Ø (mm)	Partition (mm)	Width (mm)	Bore Ø (mm)	19014... Ident. No.		19014... Ident. No.	
15	0.6	4	4	113	●	213	●
15	0.8	4	4	114	●	214	●
15	1	4	4	115	●	215	●
15	0.6	6	4	123	●	223	●
15	0.8	6	4	124	●	224	●
15	1	6	4	125	●	225	●
15	1.2	6	4	126	●	226	●
20	1	6	6	135	●	235	●

Form				BR 30°		BL 30°	
Knurling shape created on workpiece (DIN 82)				RBL 30°		RBR 30°	
Material to be processed				Steel | Stainless steel | Non-ferrous metal		Steel | Stainless steel | Non-ferrous metal	
Vc in steel ●				25-50 m/min		25-50 m/min	
Vc in stainless steel ●				15-50 m/min		15-50 m/min	
Vc in non-ferrous metals ●				25-90 m/min		25-90 m/min	
Ø (mm)	Partition (mm)	Width (mm)	Bore Ø (mm)	19014... Ident. No.		19014... Ident. No.	
20	0.5	8	6	142	●	242	●
20	0.6	8	6	143	●	243	●
20	0.8	8	6	144	●	244	●
20	1	8	6	145	●	245	●
20	1.2	8	6	146	●	246	●
20	1.5	8	6	147	●	247	●
20	2	8	6	149	●	249	●

Prod. Gr. 1FP

Technical information on knurl cutting as PDF download

Access the information directly from your mobile phone

Knurling is a metal-cutting processing with the following advantages:

- Maximum precision and surface quality
- Allows knurling of thin-walled workpieces without deformation
- High cutting speed and fast feed save time
- For universal use in materials
- Low operating forces reduce machine wear

Knurling wheel Ø	8,9		14,5		21,5	
	VC m/min	s m/min	VC m/min	s m/min	VC m/min	s m/min
Steel 700 N/mm² ●	30-35	0,05-0,08	40-45	0,07-0,09	55-60	0,07-0,14
Steel 1000 N/mm² ●	20-25	0,04-0,05	30-35	0,06-0,08	40-50	0,06-0,12
VA ●	20-22	0,04-0,06	28-30	0,06-0,08	32-40	0,06-0,12
Non-ferrous metals ●	35-70	0,06-0,13	40-80	0,07-0,18	55-120	0,07-0,25
Cast metals ●	20-22	0,04-0,06	28-30	0,06-0,08	32-40	0,06-0,12

Questionnaire for the request: www.hahn-kolb.de - download centre: “Knurl pressing”

Knurling cutter holder model LA/FL (C601)

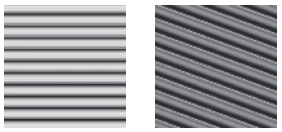
For knurl cutting on lathes and turning machines

Application:
For producing knurl cutting profiles in accordance with DIN 82 RAA, RBR 15°, RBL 15°, RBR 30° and RBL 30° in steel, stainless steel, non-ferrous metals and cast iron material groups.

Execution:
- high-strength steel tool holder for one knurl cutter, with cemented carbide bushings

Advantage:
- Compact and robust holder design for high process stability for small components
- User-friendly setting without disassembly
- cemented carbide bushings minimise maintenance costs

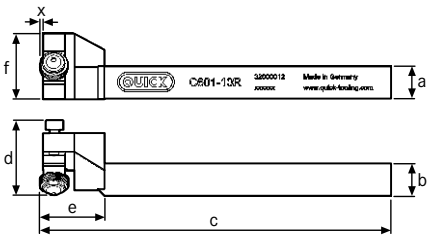
Notes:
Supplied without knurling cutter



RAA
1x30° (R/L)

RBR 15°
1x15° R
RBR 30°
1x90°

RBL 15°
1x15° L
RBR 30°
1x90°



									Tool design	Right		Left	
For min. workpiece Ø (mm)	For max. workpiece Ø (mm)	Suitable for knurling wheel Ø (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	19100... Ident. No.			19100... Ident. No.	
1.5	12	8.9	8	10	115	25	20	18	540	●		541	○
1.5	12	8.9	10	10	115	25	20	18	542	●		543	○
1.5	12	8.9	12	12	115	25	20	20	544	○		545	○
1.5	12	8.9	16	12	115	25	20	24	546	●		547	○
3	50	14.5	8	10	120	25	25	18	548	●		549	○
3	50	14.5	10	10	120	25	25	18	550	●		551	○
3	50	14.5	12	12	120	25	25	20	552	●		553	○
3	50	14.5	16	12	120	25	25	24	554	●		555	○

Prod. Gr. 192

Knurling cutter holder model LA/FL (C601)

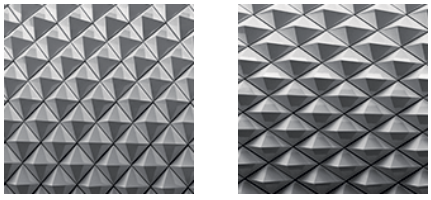
For knurl cutting on lathes and turning machines

Application:
For producing knurled milling profiles to DIN 82 RGE 45° and RGE 30° in the steel, stainless steel, non-ferrous metals and cast iron material groups.

Execution:
- High-strength steel tool holder, with carbide bushings

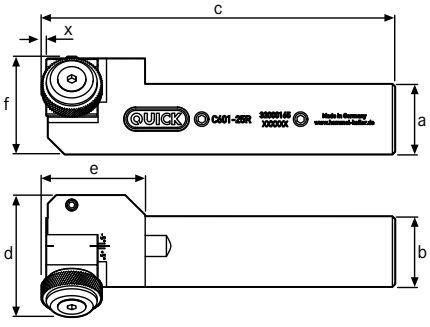
Advantage:
- Compact and robust holder design for high process stability with small components
- User-friendly adjustment without disassembly
- Carbide bushings minimise maintenance costs

Notes:
Supplied without knurl cutter



RGE 45°
1x15° R
1x15° L

RGE 30°
2x90°



									Tool design	Right		Left	
For min. workpiece Ø (mm)	For max. workpiece Ø (mm)	Suitable for knurling wheel Ø (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	19100... Ident. No.			19100... Ident. No.	
5	250	21.5	20	20	125	43	36	30	556	●		557	○
5	250	21.5	25	25	125	36	43	35	558	●		559	○

Prod. Gr. 192

Knurling cutter holder model C602

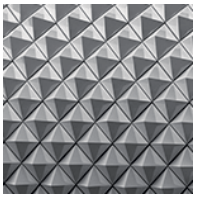
For knurl cutting on lathes and turning machines

Application:
For producing knurled milling profiles to DIN 82 RGE 45° and RGE 30° in the steel, stainless steel, non-ferrous metals and cast iron material groups.

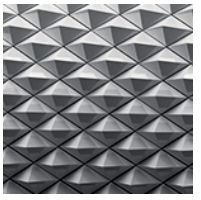
Execution:
- High-strength steel tool holder for two knurl cutters, with carbide bushings

Advantage:
- Compact and robust holder design for high process stability with small components
- User-friendly adjustment without disassembly
- Carbide bushings minimise maintenance costs

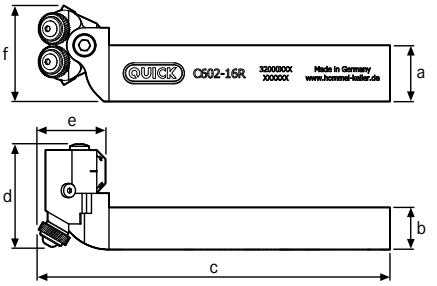
Notes:
Supplied without knurl cutter



RGE 45°
1x15° R
1x15° L



RGE 30°
2x90°



								Tool design	Right		Left	
For min. workpiece Ø (mm)	For max. workpiece Ø (mm)	Suitable for knurling wheel Ø (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	19100... Ident. No.		19100... Ident. No.	
1.5	12	8.9	10	10	100	30	20.2	22.7	570	●	571	○
1.5	12	8.9	12	12	100	30	20.2	23.3	572	●	573	○
1.5	12	8.9	16	12	100	30	20.2	27.3	574	○	575	○
3	50	14.5	10	10	107	31.5	27	29.5	576	●	577	○
3	50	14.5	12	12	107	31.5	27	29.5	578	○	579	○
3	50	14.5	16	12	107	31.5	27	30.7	580	○	581	○

Prod. Gr. 192

Knurling cutter holder model LA/KF (C602)

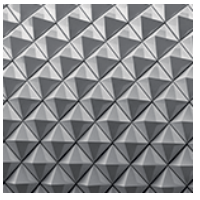
For knurl cutting on lathes and turning machines

Application:
For producing knurled milling profiles to DIN 82 RGE 45° and RGE 30° in the steel, stainless steel, non-ferrous metals and cast iron material groups.

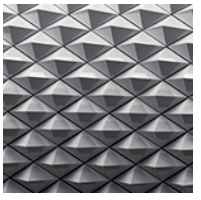
Execution:
- High-strength steel tool holder for two knurl cutters, with carbide bushings

Advantage:
- Compact and robust holder design for high process stability with small components
- User-friendly adjustment without disassembly
- Carbide bushings minimise maintenance costs

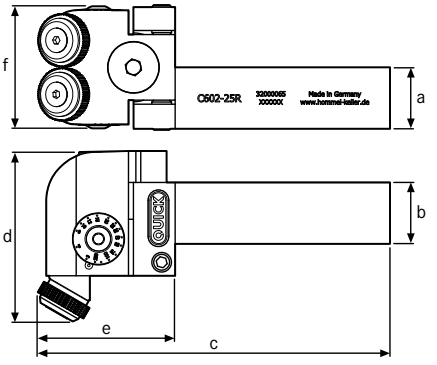
Notes:
Supplied without knurl cutter



RGE 45°
1x15° R
1x15° L



RGE 30°
2x90°



								Tool design	Right		Left	
For min. workpiece Ø (mm)	For max. workpiece Ø (mm)	Suitable for knurling wheel Ø (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	19100... Ident. No.		19100... Ident. No.	
5	250	21.5	16	20	143	69.4	56	50	582	●	583	○
5	250	21.5	20	20	143	69.4	56	50	584	○	585	○
5	250	21.5	25	25	143	69.4	56	50	586	○	587	○

Prod. Gr. 192

Knurling cutter holder model A1/FL (C611)

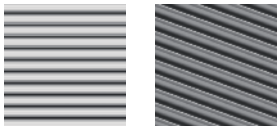
For knurl cutting on lathes and turning machines

Application:
For producing knurl cutting profiles in accordance with DIN 82 RAA, RBR 15°, RBL 15°, RBR 30° and RBL 30° in steel, stainless steel, non-ferrous metals and cast iron material groups.

Execution:
- high-strength steel tool holder, interchangeable head system for one knurl cutter, with cemented carbide bushings

Advantage:
- High flexibility with interchangeable shanks and use as right-hand and left-hand tool on main spindle and counter-spindle
- Clearance-free clamping for high surface quality and service life
- User-friendly setting without disassembly
- cemented carbide bushings minimise maintenance costs

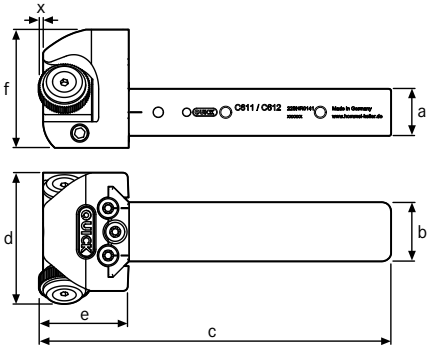
Notes:
Supplied without knurling cutter



RAA 1x30° (R/L)

RBR 15° 1x15° R
RBR 30° 1x90°

RBL 15° 1x15° L
RBR 30° 1x90°



									Tool design	Right | Left
For min. workpiece Ø (mm)	For max. workpiece Ø (mm)	Suitable for knurling wheel Ø (mm)	Min./max. possible division	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	19100... Ident. No.	
3	50	14.5	0.4-2.0 mm	16	10	106	35	25.6	**160**	○
3	50	14.5	0.4-2.0 mm	16	12	106	35	25.6	**170**	○
3	50	14.5	0.4-2.0 mm	16	16	106	35	25.6	**180**	○
5	250	21.5	0.4-2.0 mm	25	20	149	56.5	38.3	**200**	○
5	250	21.5	0.4-2.0 mm	25	25	149	56.5	38.3	**210**	○

Prod. Gr. 192

Knurling cutter holder model A2/KF (C612)

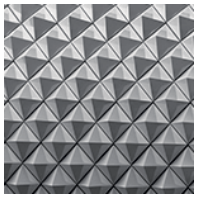
For knurl cutting on lathes and turning machines

Application:
For producing knurl cutting profiles to DIN 82 RGE 45° and RGE 30° in steel, stainless steel, non-ferrous metals and cast iron material groups.

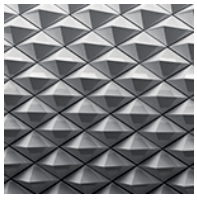
Execution:
- high-strength steel tool holder, interchangeable head system for two knurl cutters, with cemented carbide bushing

Advantage:
- High flexibility with interchangeable shanks and use as right-hand and left-hand tool on main spindle and counter-spindle
- Clearance-free clamping for high surface quality and service life
- User-friendly setting without disassembly
- cemented carbide bushing ensures low-maintenance work

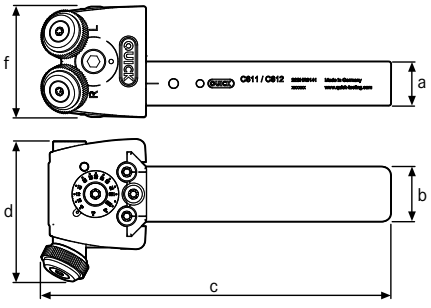
Notes:
Supplied without knurling cutter



RGE 45° 1x15° R 1x15° L



RGE 30° 2x90°



									Tool design	Right | Left
For min. workpiece Ø (mm)	For max. workpiece Ø (mm)	Suitable for knurling wheel Ø (mm)	Min./max. possible division	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	19100... Ident. No.	
3	50	14.5	0.4-2.0 mm	16	10	115	36	34.7	**250**	○
3	50	14.5	0.4-2.0 mm	16	12	115	36	34.7	**260**	○
3	50	14.5	0.4-2.0 mm	16	16	115	36	34.7	**270**	●
5	250	21.5	0.4-2.0 mm	25	20	158	64	47.7	**300**	●
5	250	21.5	0.4-2.0 mm	25	25	158	64	47.7	**310**	●

Prod. Gr. 192

Knurl cutting tool set A1 (C611) and A2 (C612)

Application:
For producing knurl cutting profiles to DIN 82 RAA, RGE 45° and RGE 30° in the steel, stainless steel, non-ferrous metals and cast iron material groups.

Execution:
- **Ident. No. 380:** set comprising: one each of interchangeable FL/KF head, 1 each of shaft 10x16, 12x16, 16x16, with cemented carbide bushings, setting gauge, instructions for use, cutting data and operating key
- **Ident. No. 390:** set comprising: one each of interchangeable FL/KF head, 1 each of 20x25, 25x25 shafts, with cemented carbide bushings, setting gauge, instructions for use, cutting data and operating key

Advantage:
- High flexibility with interchangeable shanks and use as right-hand and left-hand tool on main spindle and counter-spindle
- Clearance-free clamping for high surface quality and service life
- User-friendly setting without disassembly

Ident. No. 380
Set A1

Ident. No. 390
Set A2

For min. workpiece Ø (mm)	For max. workpiece Ø (mm)	Min./max. possible division	Suitable for knurling wheel Ø (mm)	Shaft length (mm)	19100... Ident. No.	
3	50	0.4-2.0 mm	14.5	80	380	●
5	250	0.4-2.0 mm	21.5	110	390	●

Prod. Gr. 192

Knurl cutter spare part set
For knurl cutting tools

Application:
For use on knurl cutters.

Execution:
- **Ident. No. 089:** Carbide bushing, cover disc and fastening screw
- **Ident. No. 146–216:** cemented carbide bushing, cover disc and fastening screw

Advantage:
- **Ident. No. 089:** Low-maintenance work thanks to carbide bushing
- **Ident. No. 146–216:** low-maintenance work thanks to cemented carbide bushing

Suitable for knurling wheel Ø (mm)		8.9	14.5	21.5
19100...	Ident. No.	089	146	216
		●	●	●

Prod. Gr. 192

HSSE-PM 15° knurl cutter
For use on knurl cutting tools 19100

Application:
For producing knurls in accordance with DIN 82 RGE 45° (for holders with 2 knurls) and RBR 15° and RBL 15° (for holders with 1 knurl), in the steel, stainless steel, non-ferrous metals and cast iron material groups.

Execution:
- HSSE PM 15°, ground tooth flanks, uncoated

Advantage:
- High precision with ground teeth and good cutting performance, even with difficult materials
- Very good surface quality and long service life with high-quality HSSE-PM cutting material
- **No. 19163–19164:** coating for increased service life requirements

No. 19161

No. 19162

No. 19163–19164
UNIDUR

Form				BR 15°		BL 15°		BR 15°		BL 15°	
Machining direction				Right		Left		Right		Left	
Surface				Uncoated		Uncoated		Coated		Coated	
Knurling wheel Ø (mm)	Partition (mm)	Bore Ø (mm)	Width (mm)	19161... Ident. No.		19162... Ident. No.		19163... Ident. No.		19164... Ident. No.	
8.9	0.4	4	2.5	004	○	004	○	-	-	-	-
8.9	0.5	4	2.5	005	○	005	○	-	-	-	-
8.9	0.6	4	2.5	006	○	006	○	-	-	-	-
8.9	0.8	4	2.5	008	○	008	○	-	-	-	-
8.9	1.0	4	2.5	010	○	010	○	-	-	-	-
8.9	0.4	-	-	-	-	-	-	004	○	004	○
8.9	0.5	-	-	-	-	-	-	005	●	005	●
8.9	0.6	-	-	-	-	-	-	006	○	006	○
8.9	0.8	-	-	-	-	-	-	008	○	008	○
8.9	1.0	-	-	-	-	-	-	010	○	010	○
14.5	0.8	5	3	208	○	208	●	-	-	-	-
14.5	1	5	3	210	●	210	●	-	-	-	-
14.5	1.2	5	3	212	○	212	○	-	-	-	-
14.5	1	-	-	-	-	-	-	210	●	210	●
21.5	0.5	8	5	305	●	305	●	-	-	-	-
21.5	0.6	8	5	306	○	306	○	-	-	-	-
21.5	0.8	8	5	308	●	308	●	-	-	-	-
21.5	1	8	5	310	●	310	●	-	-	-	-
21.5	1.2	8	5	312	●	312	●	-	-	-	-
21.5	1.5	8	5	315	●	315	●	-	-	-	-

			Form	BR 15°		BL 15°		BR 15°		BL 15°	
			Machining direction	Right		Left		Right		Left	
			Surface	Uncoated		Uncoated		Coated		Coated	
Knurling wheel Ø (mm)	Partition (mm)	Bore Ø (mm)	Width (mm)	19161... Ident. No.		19162... Ident. No.		19163... Ident. No.		19164... Ident. No.	
21.5	1.6	8	5	316	●	316	●	-	-	-	-
21.5	2	8	5	320	●	320	●	-	-	-	-
21.5	0.8	-	-	-	-	-	-	308	●	308	●
21.5	1	-	-	-	-	-	-	310	●	310	●
21.5	1.2	-	-	-	-	-	-	312	●	312	●
21.5	1.5	-	-	-	-	-	-	315	●	315	●

Prod. Gr. 192

HSSE-PM 90° knurl cutter

For use on knurl cutting tools 19100

Application:

For producing knurls in accordance with DIN 82 RGE 30° (in holders with 2 knurls) and RBL30° or RBR30° (in holders with 1 knurl) in the steel, stainless steel, non-ferrous metals and cast iron material groups.

Execution:

- **No. 19165:** HSSE PM 90°, ground tooth flanks, uncoated
- **No. 19166:** HSSE PM 90°, ground tooth flanks, coated

Advantage:

- High precision with ground teeth and good cutting performance, even with difficult materials
- Very good surface quality and long service life with high-quality HSSE-PM cutting material
- **No. 19166:** coating for increased service life requirements

No. 19165

No. 19166
UNIDUR

			Form	AA		AA	
			Surface	Uncoated		Coated	
Knurling wheel Ø (mm)	Partition (mm)	Bore Ø (mm)	Width (mm)	19165... Ident. No.		19166... Ident. No.	
8.9	0.4	4	2.5	004	○	-	-
8.9	0.5	4	2.5	005	○	-	-
8.9	0.6	4	2.5	006	○	-	-
8.9	0.8	4	2.5	008	●	-	-
8.9	1.0	4	2.5	010	●	-	-
8.9	0.4	-	-	-	-	004	○
8.9	0.5	-	-	-	-	005	○
8.9	0.6	-	-	-	-	006	○
8.9	0.8	-	-	-	-	008	●
8.9	1.0	-	-	-	-	010	○
14.5	0.6	5	3	206	○	-	-
14.5	0.8	5	3	208	●	-	-
14.5	1	5	3	210	●	-	-
21.5	0.6	8	5	306	●	-	-
21.5	0.8	8	5	308	●	-	-
21.5	1	8	5	310	●	-	-
21.5	1.2	8	5	312	●	-	-
21.5	1.5	8	5	315	●	-	-
21.5	2	8	5	320	●	-	-
21.5	0.6	-	-	-	-	306	●
21.5	0.8	-	-	-	-	308	●
21.5	1	-	-	-	-	310	●
21.5	1.2	-	-	-	-	312	●

Prod. Gr. 192

HSSE-PM 30° knurl cutter

For use on knurl cutting tools 19100

Application:

For producing straight knurls in accordance with DIN 82 RAA (in holders with 1 knurl) in steel, stainless steel, non-ferrous metals and cast iron material groups.

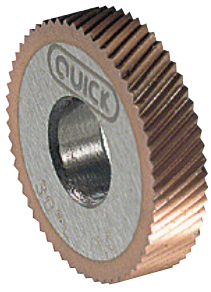
Execution:

- **No. 19170–19171:** HSSE PM 30°, ground tooth flanks, uncoated
- **No. 19172–19173:** HSSE PM 30°, ground tooth flanks, coated

Advantage:

- **No. 19170–19171:**
  - High precision with ground teeth and good cutting performance, even with difficult materials
  - Very good surface quality and long service life with high-quality HSSE-PM cutting material
- **No. 19172–19173:**
  - high degree of precision thanks to ground teeth and good cutting performance, even on hard-to-machine materials
  - excellent finish quality and long service life thanks to high-quality HSSE-PM cutting material
  - coating for increased service life requirements

No. 19170



No. 19172–19173
UNIDUR

			Form	BR 30°		BL 30°					
			Machining direction	Right		Left		Right		Left	
			Surface	Uncoated		Uncoated		Coated		Coated	
Knurling wheel Ø (mm)	Partition (mm)	Bore Ø (mm)	Width (mm)	19170... Ident. No.		19171... Ident. No.		19172... Ident. No.		19173... Ident. No.	
8.9	0.4	4	2.5	004	○	004	○	-	-	-	-
8.9	0.5	4	2.5	005	○	005	○	-	-	-	-
8.9	0.6	4	2.5	006	○	006	○	-	-	-	-
8.9	0.8	4	2.5	008	○	008	○	-	-	-	-

			Form	BR 30°		BL 30°					
			Machining direction	Right		Left		Right		Left	
			Surface	Uncoated		Uncoated		Coated		Coated	
Knurling wheel Ø (mm)	Partition (mm)	Bore Ø (mm)	Width (mm)	19170... Ident. No.		19171... Ident. No.		19172... Ident. No.		19173... Ident. No.	
8.9	1.0	4	2.5	010	○	010	○	-	-	-	-
8.9	0.4	-	-	-	-	-	-	004	○	004	○
8.9	0.5	-	-	-	-	-	-	005	○	005	○
8.9	0.6	-	-	-	-	-	-	006	●	006	○
8.9	0.8	-	-	-	-	-	-	008	●	008	○
8.9	1.0	-	-	-	-	-	-	010	○	010	○
14.5	0.6	5	3	206	●	206	●	-	-	-	-
14.5	0.8	5	3	208	●	208	●	-	-	-	-
14.5	1	5	3	210	●	210	●	-	-	-	-
14.5	1.2	5	3	212	○	-	-	-	-	-	-
21.5	0.6	8	5	306	●	306	●	-	-	-	-
21.5	0.8	8	5	308	●	308	●	-	-	-	-
21.5	1	8	5	310	●	310	●	-	-	-	-
21.5	1.2	8	5	312	●	312	●	-	-	-	-
21.5	1.5	8	5	315	●	315	●	-	-	-	-
21.5	2	8	5	320	●	320	●	-	-	-	-
21.5	0.6	-	-	-	-	-	-	306	●	306	●
21.5	0.8	-	-	-	-	-	-	308	●	308	●
21.5	1	-	-	-	-	-	-	310	●	310	●
21.5	1.2	-	-	-	-	-	-	312	●	312	●

Prod. Gr. 192

Troubleshooting guidelines for knurl cutting and knurl pressing

Knurl not parallel

Process	Error	Cause	Solution
Knurl cutting	Spiral formation in RAA profile / knurl not parallel	1. Tip height is not correct 2. Clearance angle is not correct 3. Knurled head position is not correct	1. Read the operating instructions 2. Correction of tip height 3. Correction of clearance angle 4. Correction of knurled head position
Knurl forming	Spiral formation in RAA profile / knurl not parallel	1. Tip height is not correct 2. Deflection of the workpiece 3. Clearance angle is not correct 4. Feed selected too high	1. Read the operating instructions 2. Correction of tip height 3. Correction of clearance angle 4. Support the workpiece 5. Correction of adjustment parameters

Incorrect contour formation of the knurl

Process	Error	Cause	Solution
Knurl cutting	Radius formation in tooth base	1. Tip height is not correct	1. Read the operating instructions 2. Correction of tip height
Knurl cutting / forming	Surface on tooth tip	1. Infeed depth is not sufficient	1. Read the operating instructions 2. Increase infeed depth until tips are distinct

Over-pressurised profile, diameter reduction

Process	Error	Cause	Solution
Knurl cutting / forming	Over-pressurised profile, diameter reduction	1. Infeed depth selected too high	1. Read the operating instructions 2. Correction of infeed depth (plus correction)

An increase in diameter must always be observed in the forming and cutting process!
Forming process: Pitch- / material-dependent diameter increase
Cutting process: Diameter increase up to max. 0.1 mm

Tooth breakage

Process	Error	Cause	Solution
Knurl cutting / forming	Tooth breakage	1. Tensile strength of the material too high 2. Hardness of the material too high	1. Knurl cutting: Fitting of 10° chamfer on the knurling wheel 2. Knurl forming: Fitting of 60° chamfer on the knurling wheel

Non-uniform marking pattern

Process	Error	Cause	Solution
Knurl forming	Non-uniform marking pattern of the knurling profile	1. Material bending 2. Projection of the workpiece	1. Correction of the knurling holder position up to max. 1° 2. Set tool in the centre of the area of the workpiece to be machined

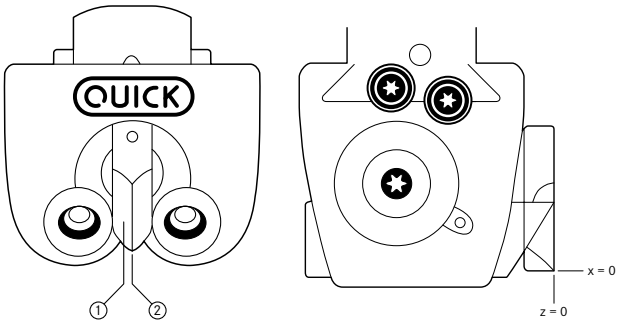
Installation and adjustment instructions for knurl cutting
Tool presetting and procedure

Tool presetting

All QUICK tools that are suitable for use on CNC machines can be measured optically with a dedicated setting gauge on pre-setting devices. This setting gauge is supplied with every CNC tool.

KF tools

Default settings for KF tools



① Setting gauge ② Tip height

Procedure for KF tools

1. Disassemble knurl cutters and liners
2. Set part drum to the smallest diameter
3. Mount setting gauge on clamping segment
4. Set the centre of rotation with the threaded spindle in the shank
5. The X and Z values can now be read off on the pre-setting device

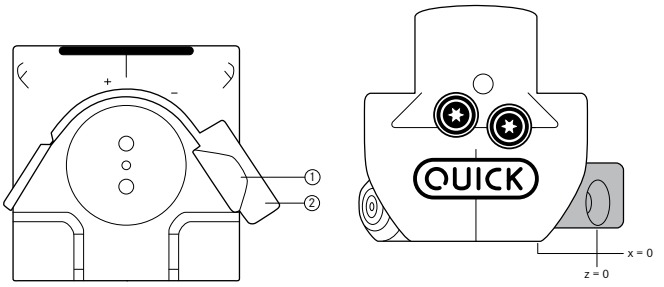
The measured Z value is the beginning of the knurl, not the collision dimension. For A1/KF tools, the measured X value is adopted with a workpiece diameter of 5 mm; for A2/KF tools, it is adopted at 8 mm without correction value. Depending on the workpiece diameter, the dimensions specified in the table must be added to the X-values. With this dimension, the cutters are approx. 0.2 - 0.3 mm over the diameter to be knurled. The exact setting of the tool must be made on the machine.

Correction value table for A2/KF (radius values):

Ø	X+	Ø	X+	Ø	X+
5	0	10	0,9	23	1,8
6	0,3	13	1,2	31	2,1
8	0,6	17	1,5	50	2,5

FL tools

Default settings for FL tools



① Tip height ② Setting gauge

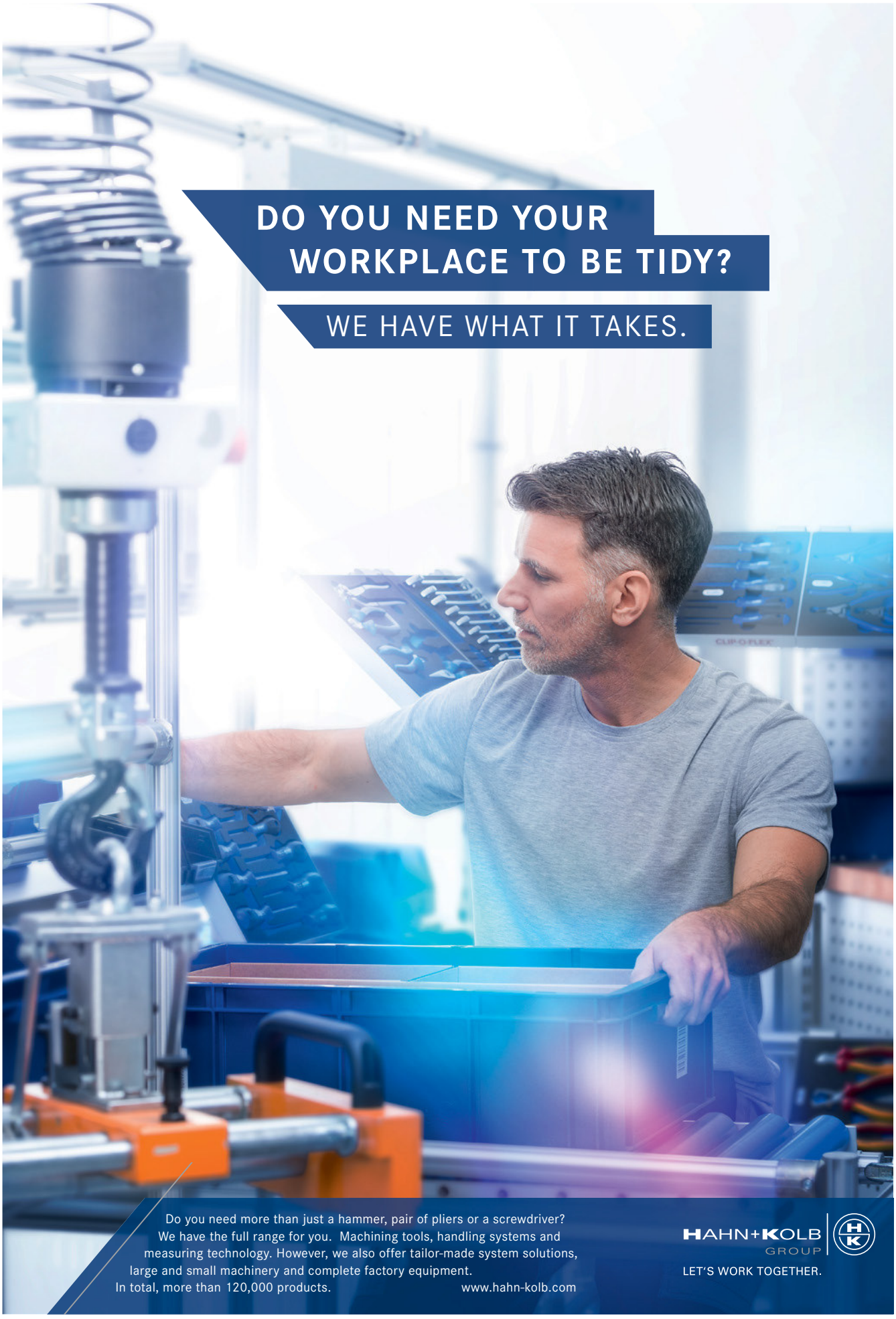
Procedure for FL tools

1. Disassemble knurl cutters and liners
2. Mount setting gauge in place of the liner
3. Set the centre of rotation with the threaded spindle in the shank
4. The X and Z values can now be read off on the pre-setting device

The measured Z value is the beginning of the knurl, not the collision dimension. If the measured X-value is programmed, the knurl cutter is approx. 0.2 - 0.3 mm above the diameter to be knurled and the exact setting must be made on the machine.

Correction value table for A1/KF (radius values):

Ø	X+	Ø	X+	Ø	X+
8	0	27	1,9	80	3,2
11	0,3	35	2,2	120	3,5
14	0,6	45	2,5	150	3,6
16	0,9	55	2,8	200	3,7
19	1,2	65	3,0	250	3,8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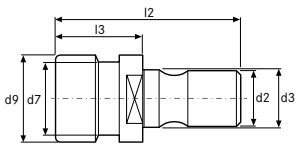
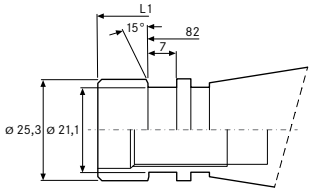
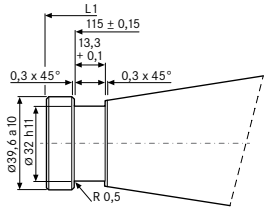
standard for steep tapers in accordance with DIN 2080 and corresponding pull studs

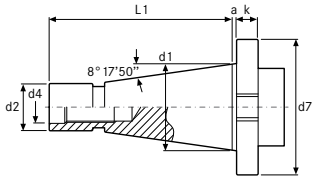
pull stud Ott-ring groove
on spindle nose DIN 2079
only in conjunction with stones type C





tool chuck compliant with DIN 2080





Ott-ring groove pull stud

design	steep taper size	d_2	d_3 g6	d_7	d_9	l_2	l_3
Ott-ring groove	40	M16	17	21,1	25	53,1	25

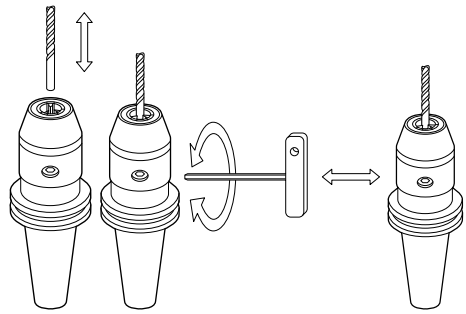
tool chuck DIN 2080

steep taper size	$a^{\pm 0.2}$	b^{H12}	d_1	d_2 a10	$d_7^{-0.1}$	d_4	$k^{\pm 0.15}$	l_1	l_7 max.
30	1,6	16,1	31,75	17,4	50	M12	8	68,4	16,2
40	1,6	16,1	44,45	25,3	63	M16	10	93,4	22,5
50	3,2	25,7	69,85	39,6	97,5	M24	12	126,8	35,3

all dimensions in mm

ATORN drill chucks — components and functional principle

① Open the clamping jaws anti-clockwise to insert the respective cutter.
② The cutter must be pushed in all the way to the stop, so that the tool shaft is against the entire length of the clamping jaws. (Caution: Do not clamp conical shafts, as there is a risk of accident!)
③ Turn the key clockwise to the specified tightening torque, to properly clamp the tool. Extensions or tightening aids must not be used, as too much tightening torque can break the bevel gear drive. Here, the pinion serves as a predetermined breaking point to avoid more significant damage to the drill chuck.
④ Once it has been verified that the cutter is clamped correctly and centred, the drill chuck is ready for use.



Secure clamping:
All ATORN drill chucks are clamped with a hexagonal cross handle key via a bevel gear drive at the side. The key is turned clockwise to clamp the drill chuck. The drill chuck is opened in the anti-clockwise direction (see markings on the pinion bore). Step-by-step instructions can be found in the respective operating instructions.

Care and maintenance:
ATORN drill chucks are maintenance free. After use, the drill chucks should be wiped with a clean cloth. Before storing, the drill chucks should be oiled to prevent corrosion.
Caution: Do not use compressed air to clean drill chucks as fine chips can enter the clamping mechanism. The drill chucks must not be cleaned with solvents or cleaners containing solvents, as these can cause corrosion.

ATORN drill chuck and micro universal chuck - specifications

ATORN standard	Drill chuck
Clamping range	0.5-16 mm
Maximum concentricity deviation	< 0.02 mm (*)
Tightening torque in relation to concentricity deviation	15 Nm
Transferable torque	45 Nm (**)
Maximum permissible tightening torque	20 Nm
Transferable torque at maximum permissible tightening torque	90 Nm (**)
Maximum permissible speed	35,000 rpm (***)

MICRO 03	MICRO 06
0.2-3.4 mm	0.2-6.4 mm
< 0.005 mm (*)	< 0.005 mm (*)
1.5 Nm	3 Nm
4.5 Nm (**)	9 Nm (**)
2 Nm	4 Nm
7 Nm (**)	12 Nm (**)
60,000 rpm (***)	60,000 rpm (***)

(*) Check of concentricity deviation according to test protocol “Precision”

(**) All CNC drill chucks are clamped via a lateral bevel gear using a T-handle hex key. A torque of 8 Nm or 15 Nm is sufficient when tightening a drill chuck using a T-handle hex key. The higher holding torques achievable with the CNC drill chucks are additional an additional safety margin and therefore not necessary for normal use.

(***) When “unbalanced”, the CNC drill chucks are suitable for use up to 7000 rpm. For applications at speeds of exceeding 7,000 rpm (to max. 35,000 rpm), such as in aluminium or wood processing, the drill chuck must also be balanced according to the balancing classes, taking into account the speed and balancing quality.

(*) Check of concentricity deviation according to test protocol “MICRO universal chuck”.

(**) All MICRO universal chucks are fitted with a hexagonal T-key on the side via a bevel gear.
A torque of 1.5 Nm (MICRO 03) or 3 Nm (MICRO 06) is sufficient when tightening a MICRO universal chuck using a T-handle hex key. The higher holding torques achievable with the MICRO universal chucks are additional security and are not necessary for normal use.

(***) When “unbalanced”, the MICRO universal chucks are suitable for use up to 18,000 rpm. For applications at speeds of over 18,000 rpm to 60,000 rpm (such as in aluminium or wood processing), the MICRO universal chucks must also be balanced as per the balancing classes, taking into account the speed and balancing quality.

ATORN precision collet chucks
maximum concentricity for optimum surface quality and maximum tool life

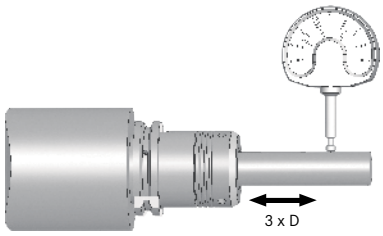


fig. 1

total concentricity on ATORN precision collet chuck 3 µm (fig. 1)
- high-gloss polished surface
- precision collet chuck without clamp bridge
- collet chuck sits completely in the inner taper of the collet chuck (tolerance in µ range) **(Figure 2)**
- collet chuck and clamping nut with a 30° trapezoidal thread ① and two cylindrical guides form a single unit ②.

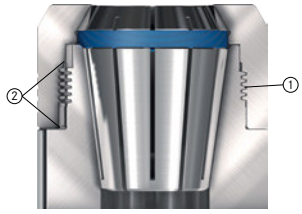
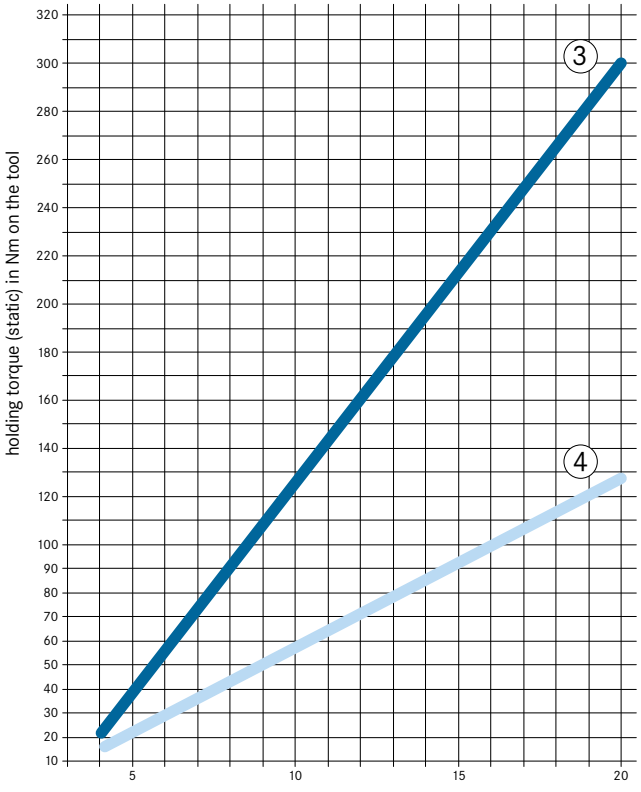


Fig. 2
with ATORN UP 2 µm or Fahrion 2 µm HP collet chuck

all of these innovations have led to the following advantages compared with other systems:
- more uniform engagement of all cutting edges
- longer tool life
- optimised surface
- fewer chatter marks
- minimised vibration
- higher cutting data
- **system concentricity ≤ 3 µm**



③ ATORN precision collet chuck 160 Nm Ø 12 mm
④ standard collet chuck ER32 69 Nm Ø 12 mm

ATORN hydro expansion chucks — advantages

our hydro expansion chucks or HPH (High Performance Holders) with axial and radial length adjustment are used on woodworking and metalworking machines with rotating tools. depending on the type of use, various versions are available, e. g.:

- **automatic tool change chucks in acc. with:** ISO 7388-1 (DIN 69871); DIN 69893-A, DIN 69893-F, DIN 69893-E and ISO 7388-2 (JIS B6339)

Advantages of the ATORN hydro expansion clamping technology:

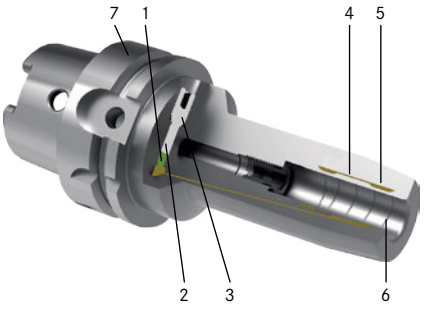
- Tool change in the shortest possible time
- High concentricity
- Vibration-damping tool clamping
- Increased tool service life
- Reduction of micro abrasions on the tool cutting edge
- Improvement in surface quality
- Reducing sleeves allow flexible use
- Low maintenance requirements through closed clamping system
- Easy operation
- High torque transmission
- Design corresponds to DIN 69882-7
- High positioning accuracy and repeatability
- Tool clamping with excellent concentricity (maximum 3 µm)
- Continual further development
- Products certified according to DIN EN ISO 9001:2008, manufactured in Germany

ATORN 3 degree hydro expansion chuck ultra-slim 3D-printed design

ATORN hydro expansion clamping technology — elements and functional principle

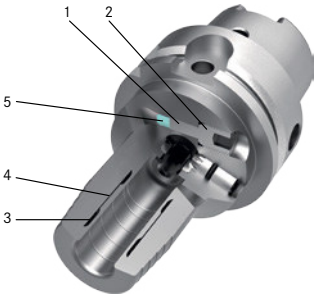
Elements of the hydro expansion clamping technology:

① Sealing element; leakage at the clamping bore is prevented by the sealing lip.
② Clamping piston; presses the hydraulic medium into the chamber system.
③ Clamping screw; tightening to operate the clamping piston can be done without a torque wrench.
④ Expansion sleeve; clamps the tool shaft centrally with even pressure.
⑤ Chamber system; is formed through the connection between expansion sleeve and basic body. Has a dampening effect on the tool through the hydraulic medium, which therefore reduces wear.
⑥ Groove; residual oil, grease or lubricant is forced into the groove by the high clamping pressure. The clamping surfaces remain largely dry, which ensures proper transfer of torque.
⑦ Basic body; ATORN hydro expansion chucks are available for all common machine interfaces (HSK-A, HSK-C, HSK-E, HSK-F, SK, BT and flange module).



Functional principle

When clamping with hydro expansion technology, an even pressure is built up within a closed chamber system by means of a clamping screw and clamping piston. The integrated expansion sleeve transfers this pressure to the tool.

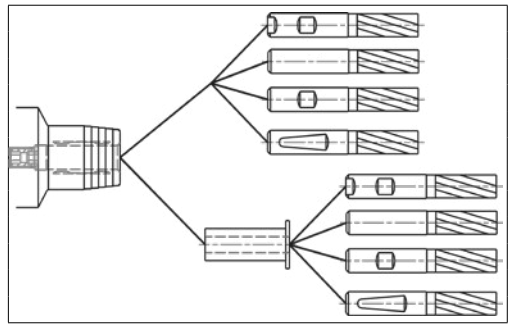


① The clamping screw is screwed in with a hexagon key until it stops.
② The clamping piston pushes the hydraulic medium into the
③ expansion chamber and causes an increase in pressure.
④ The thin-walled expansion sleeve curves evenly against the tool shaft. In this clamping process, the tool shaft is first centred and then clamped firmly over its full surface.
⑤ The sealing element ensures a perfect seal and a long service life.

ATORN hydro expansion chuck – technical data

technical data:

- material 1600-1800 N/mm² tensile strength
- hardness 52 + 2HRc
- balanced holder
- laser marked
- max. speed 40,000 rpm (observing limit speed, interface, precision balancing recommended!)
- operating temperature 20-50°C; higher temperatures on request, do not use above 80°C
- maximum coolant pressure 80 bar
- adjustment path 10 mm
- clamp shafts (tolerance h6) with and without reducing sleeves:
  - DIN 1835 Form A, B, C, D
  - DIN 6535 Form H, HB, HE



permissible transferable torques with direct clamping

clamping diameter in mm	6	8	10	12	14	16	18	20	25	32
minimum clamping depth in mm	27	27	31	36	36	39	39	41	47	51
transferable torque in Nm (min. dimension h6)	20	30	47	80	100	160	200	330	400	650
maximum transferable torque in Nm (max. dimension h6)	30	45	85	140	160	230	270	400	470	730

reliably transferable torques for ATORN hydraulic expansion chuck, clamping diameter 32 mm with reducing sleeve

clamping diameter in mm	6	8	10	12	14	16	18	20	25
transferable torque in Nm (min. dimension h6)	30	45	60	120	120	180	220	250	360
maximum transferable torque in Nm (max. dimension h6)	45	65	110	170	170	230	300	320	440

reliably transferable torques for ATORN hydraulic expansion chuck, clamping diameter 20 mm with reducing sleeve

clamping diameter in mm	3	4	5	6	8	10	12	14	16
transferable torque in Nm (min. dimension h6)	6	9	16	30	55	90	120	135	190
maximum transferable torque in Nm (max. dimension h6)	10	12	22	40	75	120	150	170	260

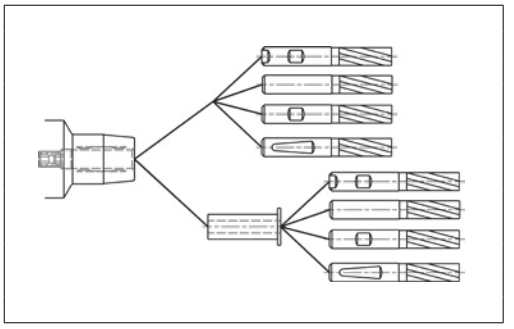
reliably transferable torques for ATORN hydraulic expansion chuck, clamping diameter 12 mm with reducing sleeve

clamping diameter in mm	3	4	5	6	8
transferable torque in Nm (min. dimension h6)	3	4	7	12	18
maximum transferable torque in Nm (max. dimension h6)	4	8	12	20	26

ATORN HPH – high-performance hydro-expansion chuck – technical data

technical data:

- material 1600-1800 N/mm² tensile strength
- hardness 52 + 2HRc
- balanced holder
- laser marking
- max. speed 40,000 rpm (observing limit speed, interface, precision balancing recommended!)
- operating temperature 20-120°C
- maximum coolant pressure 80 bar
- adjustment path 10 mm
- clamp shafts (tolerance h6) with and without reducing sleeves:
  - DIN 1835 Form A, B, C, D
  - DIN 6535 Form H, HB, HE



permissible transferable torque with direct clamping HPH (high-performance holder) – high-performance hydro-expansion chuck holder

clamping diameter in mm	6	8	10	12	14	16	18	20	25	32
minimum clamping depth in mm	27	27	31	36	36	39	39	41	47	51
transferable torque in Nm (min. dimension h6)	30	50	100	150	210	280	360	550	650	800
maximum transferable torque in Nm (max. dimension h6)	40	65	135	190	280	380	450	650	750	890

permissible transferable torque with direct clamping HPH 3° Multi

clamping diameter in mm	3	4	5	6	8	10	12	14	16	18	20
minimum clamping depth in mm	12	16	20	27	27	31	36	36	39	39	41
transferable torque in Nm (min. dimension h6)	3	6	10	20	35	65	110	120	160	200	260
maximum transferable torque in Nm (max. dimension h6)	6	10	14	35	55	90	150	160	200	260	340

ATORN shrink technology - benefits

The shrink technology uses heat-induced expansion for tool clamping. An induction coil heats the shrink-fit chuck. The chuck expands and the cold tool shaft can be inserted. The shrink-fit chuck is cooled down again, contracts and forms a friction-locked connection with the tool due to the oversize at the tool shaft.

Advantages:

- Simple tool holder design
- High concentricity in tool clamping
- Reliable power transmission
- Slim design
- Efficiency
- High torque transfer
- Long service life and temperature resistance thanks to the use of high-strength heat-resistant steel
- Distortion-free thanks to optimal heat treatment
- Optimum balancing quality
- From a clamping diameter of 6 mm, standard threaded hole for balancing
- Design complies with DIN 69882-8
- High positioning and repeat accuracy
- Ensures maximum concentricity - maximum 3 µm
- Laser marking for secure product traceability
- Certified products according to DIN EN ISO 9001:2008 - manufactured in Germany
- Flexible shrink-fit system thanks to the use of ATORN shrink-fit extensions
- Stop screw adjustable on both sides

ATORN shrink-fit chuck - functional principle

ATORN shrink-fit chucks are used on woodworking and metalworking machines with rotating tools. Shrink-fit chucks use heat-induced expansion to clamp tools. The application areas for these chucks range from a wide variety of milling tasks to heavy-duty machining, woodwork and drilling. ATORN shrink-fit chucks are produced with an internal coolant feed as a standard feature.

Selected product groups in the range additionally feature flange cooling. Custom designs featuring lateral coolant bores are available on request.

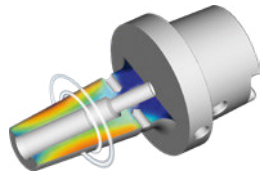
For automatic tool changing, ATORN shrink-fit chucks are available in the following versions: ISO 7388-1 (DIN 69871), DIN 69893-A, DIN 69893-E, DIN 69893-F and ISO 7388-2 (JIS B6339).

Functional principle:

① **Chuck warming:** Specifically the clamping point of the chuck is heated using state-of-the-art induction technology. An induction coil generates rapidly varying eddy currents, which directly affect the shrink-fit chuck and specifically heat the point that holds the tool shaft. The bore diameter expands.

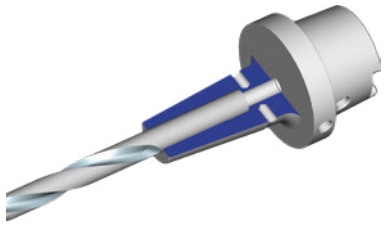
② **Insert the tool shaft:** The cold tool shaft is inserted into the heated shrink-fit chuck.

③ **Cooling:** The shrink-fit chuck is cooled, the clamping diameter returns to its initial dimension and clamps the tool shaft. A powerful device with water-cooled heat sinks allows rapid cooling within 30 seconds. This means neither the taper nor the data chips will heat up. Extensions or non-standard shrink-fit chucks can be cooled using adapters in the heat sinks.



The result:

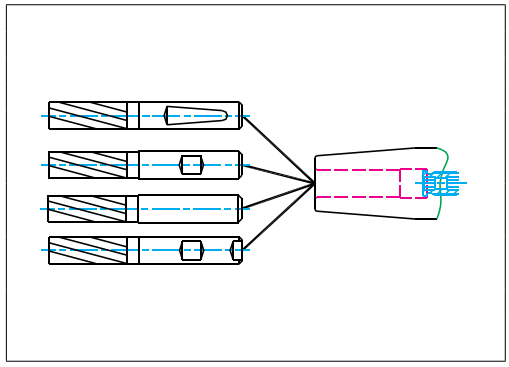
Inductive heating allows for tool changes in seconds. Shrink-fit chuck and tool shaft form a friction-locked connection. Carbide and even HSS tools can be clamped. The tool fits precisely into the tool chuck with maximum clamping force.



ATORN shrink-fit chuck - specifications

Specifications:

- Material 1600-1800 N/mm² tensile strength
- Hardness 52 + 2HRc
- Balanced holder by default
- Laser labeller
- Max. speed 40,000 rpm (compliance with limit speed, interface and precision balancing recommended!)
- Shrink temperature 100-420°C
- Maximum shrink temperature 500°C
- Maximum coolant pressure 80 bar
- Adjustment travel 10 mm, can be adjusted on both sides
- Can be clamped: cylinder shafts tolerance outside diameter h6
- Clamping and removal of carbide and HSS tools when using the corresponding shrinking devices



Maximum transferable torque for direct clamping

Clamping diameter in mm	3	4	5	6	8	10	12	14	16	18	20	25	32
Minimum clamping depth in mm	12	16	20	26	26	31	37	37	40	40	42	48	52
Transferable torque in Nm	4	11	17	24	45	82	145	190	200	290	450	530	700

Chuck application overview

Chuck/tool chuck for cylindrical tool shanks	Shrink-fit chuck	Hydro expansion chuck	Surface chuck (Weldon)	Collet chuck, Type ER
Properties	▪ Maximum concentricity ▪ Very slim interfering contour ▪ Good rigidity ▪ high clamping force ▪ Can be extended modularly	▪ High attenuation at the highest concentricity ▪ easy to handle ▪ Flexible use due to reducing sleeves	▪ Robust, affordable chuck for heavy machining in lower rotation speed and accuracy range	▪ Very flexible chuck for a wide range of shaft dimensions and tolerances ▪ For different machining tasks
Primary application	▪ Drilling ▪ Countersinking ▪ Milling ▪ Grinding ▪ Threads ▪ Universal and HSC applications	▪ Medium machining ▪ Reaming ▪ Drilling ▪ Countersinking ▪ HSC application	▪ Rough machining ▪ Milling ▪ Drilling ▪ Threads	▪ Medium machining ▪ Centring ▪ Chamfering ▪ Drilling ▪ Threads ▪ Intermediate shafts
Main property	▪ Precise and universal ▪ slim ▪ high clamping force	▪ easy to handle	▪ simple operation ▪ Safe voltage	▪ high flexibility
Concentricity	< 3 µm	< 3 µm	< 10 µm	< 10 µm
With 5xD	< 5 µm	< 5 µm	< 25 µm	< 25 µm
Clamping force	Very high	Very high	Very secure	Medium
Rigidity	Very high	high	Very high	low
Attenuation	low	Very high	low	high
Interference contour	small/micro	Medium	large	Large (mini = small)
Handling	good	Very good/very flexible	good	good
Actuation	Shrink fit machine	Hexagonal key	Hexagonal key	Hook wrenches

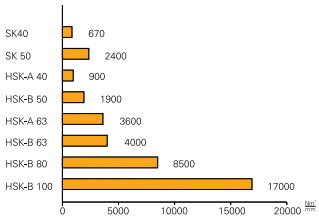
Hollow shank taper tools
For automatic and manual tool exchange

Tool holder HSK-32/40/50/63/80/100 shape A to F

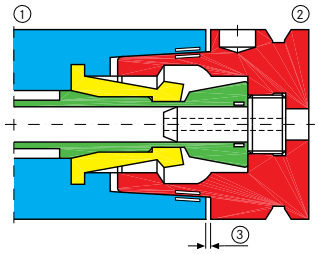
To prepare a quotation, we require the size of your spindle and relevant tool holder.

Advantages vis-à-vis steep taper:

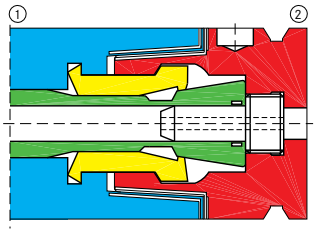
- **High rigidity:** considerably greater bending resistance is achieved with the same tool sizes as a result of the support at the collar (planar contact face).
- **Excellent change precision:** the flange attachment facilitates axial positioning precision in the µm range. The form-fit, tight taper tolerance prevents any radial run-out.
- **Good torque transmission:** the hollow shank taper is held in the receiving spindle so that torque transmission is possible as a result of friction contact. 2 carrier blocks also engage in the slots at the shank end.
- **Ideal for high rotation speeds:** The spindle expands at high rotation speeds due to centrifugal force This could cause the steep taper to slip in the spindle and jam. This is prevented by the planar contact face. In addition, the clamping elements are pushed outwards by centrifugal force which increases the clamping force.
- **Integrated tool system:** the hollow shank taper was designed for both stationary and rotating tool chucks. This enables the tool holders to be used on milling machines and lathes and as modular tools.



Radial nominal rigidity of various machine tool interfaces

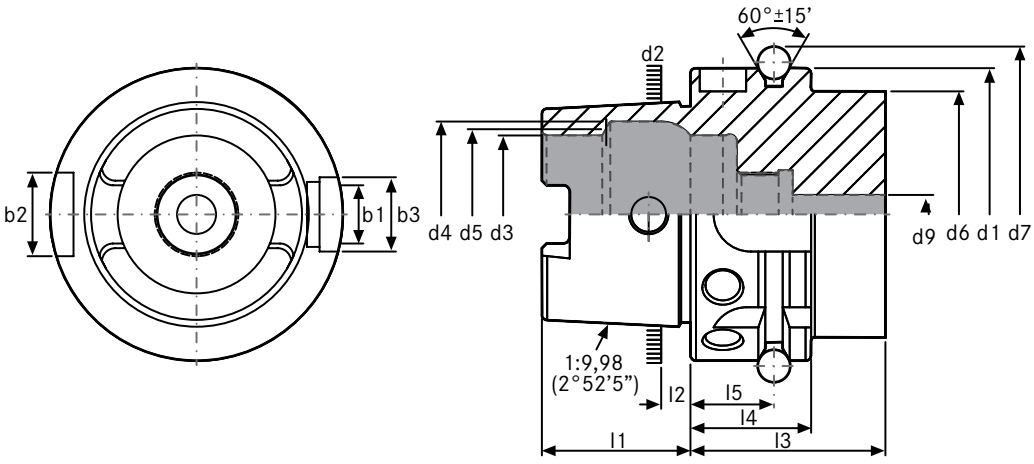


Functional principle of the HSK interface
① Spindle ② Tool ③ Free space



Connecting position with locating faces
① Spindle ② Tool

Clamping situation with locating faces



HSK	d_1^{h10}	d_2	d_3^{H10}	d_4^{H11}	d_5	d_6 max.	$d_7^{-0.1}$	d_8	d_9 max.	$l_1^{-0.2}$	l_2	l_3 min.	$l_4^{-0.1}$	$l_5^{\pm 0.1}$	$b_1^{\pm 0.04}$	b_2^{H10}	b_3^{H10}
25	25	19,006	14	16,4	15	20	28,5	3	3	13	2,5	20	10	4,5	6,05	6	7
32	32	24,007	17	20,5	19	26	37	4	4,2	16	3,2	35	20	16	7,05	7	9
40	40	30,007	21	25,5	23	34	45	4	5	20	4	35	20	16	8,05	9	11
50	50	38,009	26	32	29	42	59,3	7	6,8	25	5	42	26	18	10,54	12	14
63	63	48,010	34	40	37	53	72,3	7	8,4	32	6,3	42	26	18	12,54	16	18
80	80	60,012	42	50	46	68	88,8	7	10,2	40	8	42	26	18	16,04	18	20
100	100	75,013	53	63	58	88	109,75	7	12	50	10	45	29	20	20,02	20	22
125	125	95,016	67	80	73	111	134,75	7	14	63	12,5	45	29	20	25,02	25	28

all dimensions in mm

ATORN Weldon surface chucks (ISO 12164-1)

HSK 100 | HSK 63 | Form A | IK | G 2,5 25000 rpm | DIN 69893 | ISO 12164-1

Application:

Ident. No. 600–645: For clamping tools with straight shank and clamping surface in accordance with DIN 1835 B.

Ident. No. 646–689: For clamping tools with a straight shank and clamping flat in accordance with DIN 1835 B.

Execution:

- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- All functional surfaces are machined
- With Balluff chip hole
- **Ident. No. 600–645:** Alloyed case-hardening steel with core tensile strength of at least 950 N/mm²
- **Ident. No. 646–689:** Alloyed case-hardening steel with a core tensile strength of at least 950 N/mm²

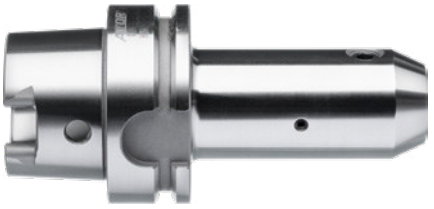
Delivery:

Ident. No. 600–645: 1x HSK63 or HSK100 surface chuck (Weldon) (ISO 12164)

Ident. No. 646–689: 1x surface chuck (Weldon) HSK 63 or HSK 100 (ISO 12164)

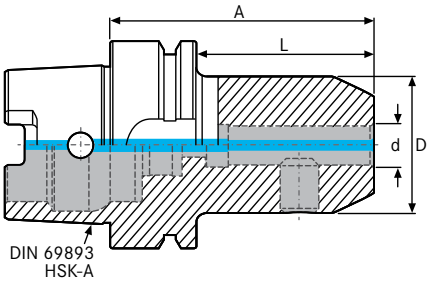
Notes:

The previous standard DIN 69871 was superseded by ISO 12164.



Ident. No. 600–634

Ident. No. 635–645



Ident. No. 600–645

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Tool holding device	d (mm)	A (mm)	D (mm)	L (mm)	Coolant supply	23157... Ident. No.	
HSK 63	6	65	25	39	Internal axial	600	●
HSK 63	6	100	25	74	Internal axial	601	●
HSK 63	6	130	25	104	Internal axial	602	●
HSK 63	6	160	25	126	Internal axial	603	●
HSK 63	6	200	25	174	Internal axial	604	○
HSK 63	8	65	28	39	Internal axial	605	●
HSK 63	8	100	28	74	Internal axial	606	●
HSK 63	8	130	28	104	Internal axial	607	●
HSK 63	8	160	28	134	Internal axial	608	●
HSK 63	8	200	28	174	Internal axial	609	○
HSK 63	10	65	35	39	Internal axial	610	●
HSK 63	10	100	35	74	Internal axial	611	●
HSK 63	10	130	35	104	Internal axial	612	●
HSK 63	10	160	35	134	Internal axial	613	●
HSK 63	10	200	35	174	Internal axial	614	○
HSK 63	12	80	42	54	Internal axial	615	●
HSK 63	12	100	42	74	Internal axial	616	●
HSK 63	12	130	42	104	Internal axial	617	●
HSK 63	12	160	42	134	Internal axial	618	●
HSK 63	12	200	42	174	Internal axial	619	○
HSK 63	14	80	45	54	Internal axial	620	●
HSK 63	14	100	45	74	Internal axial	621	●
HSK 63	14	130	45	104	Internal axial	622	●
HSK 63	14	160	45	134	Internal axial	623	●
HSK 63	14	200	45	174	Internal axial	624	○
HSK 63	16	80	48	54	Internal axial	625	●
HSK 63	16	100	48	74	Internal axial	626	●
HSK 63	16	130	48	104	Internal axial	627	●
HSK 63	16	160	48	134	Internal axial	628	●
HSK 63	16	200	48	174	Internal axial	629	○
HSK 63	18	80	50	54	Internal axial	630	●
HSK 63	18	100	50	74	Internal axial	631	○
HSK 63	18	130	50	104	Internal axial	632	●
HSK 63	18	160	50	134	Internal axial	633	●
HSK 63	18	200	50	174	Internal axial	634	○
HSK 63	20	80	52	54	Internal axial	635	●
HSK 63	20	100	52	74	Internal axial	636	●
HSK 63	20	130	52	104	Internal axial	637	○
HSK 63	20	160	52	134	Internal axial	638	○
HSK 63	20	200	52	174	Internal axial	639	○
HSK 63	25	110	63	84	Internal axial	640	●
HSK 63	25	160	63	134	Internal axial	641	●
HSK 63	32	110	72	81	Internal axial	642	●
HSK 63	32	160	72	134	Internal axial	643	●
HSK 63	40	125	80	99	Internal axial	644	●
HSK 63	40	160	80	134	Internal axial	645	●

Tool holding device	d (mm)	A (mm)	D (mm)	L (mm)	Coolant supply	23157... Ident. No.	
HSK 100	6	100	25	71	Internal axial	646	●
HSK 100	6	130	25	101	Internal axial	647	●
HSK 100	6	160	25	131	Internal axial	648	●
HSK 100	6	200	25	171	Internal axial	649	○
HSK 100	8	100	28	71	Internal axial	650	●
HSK 100	8	130	28	101	Internal axial	651	●
HSK 100	8	160	28	131	Internal axial	652	●
HSK 100	8	200	28	171	Internal axial	653	○
HSK 100	10	100	35	71	Internal axial	654	●
HSK 100	10	130	35	101	Internal axial	655	●
HSK 100	10	160	35	131	Internal axial	656	●
HSK 100	10	200	35	171	Internal axial	657	○
HSK 100	12	100	42	71	Internal axial	658	●
HSK 100	12	130	42	101	Internal axial	659	●
HSK 100	12	160	42	131	Internal axial	660	●
HSK 100	12	200	42	171	Internal axial	661	○
HSK 100	14	100	45	71	Internal axial	662	●
HSK 100	14	130	45	101	Internal axial	663	●
HSK 100	14	160	45	131	Internal axial	664	○
HSK 100	14	200	45	171	Internal axial	665	○
HSK 100	16	100	48	71	Internal axial	666	●
HSK 100	16	130	48	101	Internal axial	667	●
HSK 100	16	160	48	131	Internal axial	668	●
HSK 100	16	200	48	171	Internal axial	669	○
HSK 100	18	100	50	71	Internal axial	670	○
HSK 100	18	130	50	101	Internal axial	671	●
HSK 100	18	160	50	131	Internal axial	672	●
HSK 100	18	200	50	171	Internal axial	673	○
HSK 100	20	100	52	71	Internal axial	674	●
HSK 100	20	130	52	101	Internal axial	675	○
HSK 100	20	160	52	131	Internal axial	676	●
HSK 100	20	200	52	171	Internal axial	677	○
HSK 100	25	100	65	71	Internal axial	678	●
HSK 100	25	130	65	101	Internal axial	679	●
HSK 100	25	160	65	131	Internal axial	680	●
HSK 100	25	200	65	171	Internal axial	681	○
HSK 100	32	100	72	71	Internal axial	682	●
HSK 100	32	130	72	101	Internal axial	683	●
HSK 100	32	160	72	131	Internal axial	684	○
HSK 100	32	200	72	171	Internal axial	685	○
HSK 100	40	105	80	76	Internal axial	686	○
HSK 100	40	130	80	101	Internal axial	687	●
HSK 100	40	160	80	131	Internal axial	688	●
HSK 100	40	200	80	171	Internal axial	689	○

Prod. Gr. 2AR

ATORN Surface chuck (Weldon) (ISO 12164-1)

KKB= resealable cooling duct holes

HSK 100 | HSK 63 | Form A | G 2,5 25000 rpm | DIN 69893 | ISO 12164-1

Application:
For clamping tools with straight shank and clamping surface in accordance with DIN 1835 B.

Execution:
- Alloyed case-hardening steel with core tensile strength of at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- All functional surfaces are machined
- With Balluff chip hole

Delivery:
1x surface chuck (Weldon) HSK 63 or HSK 100 (ISO 12164)

Notes:
The previous standard DIN 69871 was superseded by ISO 12164.

Ident. No. 690–734

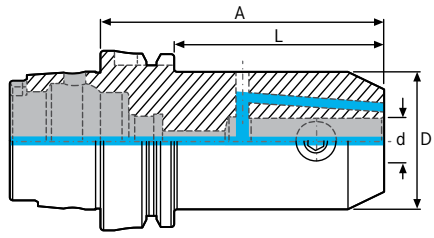
With KKB= resealable coolant bores

Tool holding device	d (mm)	A (mm)	D (mm)	L (mm)	23157... Ident. No.	
HSK 63	6	65	25	39	690	●
HSK 63	6	100	25	74	691	●
HSK 63	6	130	25	104	692	●
HSK 63	6	160	25	134	693	●
HSK 63	6	200	25	174	694	○
HSK 63	8	65	28	39	695	●
HSK 63	8	100	28	74	696	●
HSK 63	8	130	28	104	697	●
HSK 63	8	160	28	134	698	●
HSK 63	8	200	28	174	699	○
HSK 63	10	65	35	39	700	●
HSK 63	10	100	35	74	701	●
HSK 63	10	130	35	104	702	●

Tool holding device	d (mm)	A (mm)	D (mm)	L (mm)	23157... Ident. No.	
HSK 63	10	160	35	134	703	●
HSK 63	10	200	35	174	704	○
HSK 63	12	80	42	54	705	●
HSK 63	12	100	42	74	706	●
HSK 63	12	130	42	104	707	●
HSK 63	12	160	42	134	708	●
HSK 63	12	200	42	174	709	○
HSK 63	14	80	45	54	710	●
HSK 63	14	100	45	74	711	●
HSK 63	14	130	45	104	712	●
HSK 63	14	160	45	134	713	○
HSK 63	14	200	45	174	714	○
HSK 63	16	80	48	54	715	●
HSK 63	16	100	48	74	716	●
HSK 63	16	130	48	104	717	●
HSK 63	16	160	48	134	718	●
HSK 63	16	200	48	174	719	○
HSK 63	18	80	50	54	720	○
HSK 63	18	100	50	74	721	○
HSK 63	18	130	50	104	722	●
HSK 63	18	160	50	134	723	●
HSK 63	18	200	50	174	724	○
HSK 63	20	80	52	54	725	●
HSK 63	20	100	52	74	726	●
HSK 63	20	130	52	104	727	●
HSK 63	20	160	52	134	728	●
HSK 63	20	200	52	174	729	○
HSK 63	25	110	63	84	730	●
HSK 63	25	160	63	134	731	●
HSK 63	32	110	72	84	732	●
HSK 63	32	160	72	134	733	●
HSK 63	40	125	80	99	734	●
HSK 63	40	160	80	134	735	●
HSK 100	6	100	25	71	736	○
HSK 100	6	130	25	101	737	○
HSK 100	6	160	25	131	738	○
HSK 100	6	200	25	171	739	○
HSK 100	8	100	28	71	740	○
HSK 100	8	130	28	101	741	○
HSK 100	8	160	28	131	742	○
HSK 100	8	200	28	171	743	○
HSK 100	10	100	35	71	744	○
HSK 100	10	130	35	101	745	○
HSK 100	10	160	35	131	746	○
HSK 100	10	200	35	171	747	○
HSK 100	12	100	42	71	748	○
HSK 100	12	130	42	101	749	○
HSK 100	12	160	42	131	750	○
HSK 100	12	200	42	171	751	○
HSK 100	14	100	45	71	752	○
HSK 100	14	130	45	101	753	○
HSK 100	14	160	45	131	754	○
HSK 100	14	200	45	171	755	○
HSK 100	16	100	48	71	756	○
HSK 100	16	130	48	101	757	○
HSK 100	16	160	48	131	758	○
HSK 100	16	200	48	171	759	○
HSK 100	18	100	50	71	760	○
HSK 100	18	130	50	101	761	○
HSK 100	18	160	50	131	762	○
HSK 100	18	200	50	171	763	○
HSK 100	20	100	52	71	764	○
HSK 100	20	130	52	101	765	○
HSK 100	20	160	52	131	766	○
HSK 100	20	200	52	171	767	○
HSK 100	25	100	65	71	768	○
HSK 100	25	130	65	101	769	○
HSK 100	25	160	65	131	770	○
HSK 100	25	200	65	171	771	○
HSK 100	32	100	72	71	772	○
HSK 100	32	130	72	101	773	○
HSK 100	32	160	72	131	774	○
HSK 100	32	200	72	171	775	○
HSK 100	40	105	80	76	776	○
HSK 100	40	130	80	101	777	○
HSK 100	40	160	80	131	778	○
HSK 100	40	200	80	171	779	○

Prod. Gr. 2AR

With KKB= resealable coolant bores



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ORION® Surface chuck (Weldon) HSK-A (DIN 69893-1)

HSK 63 | Form A | IK | G 6,3 15000 rpm | DIN 69893

Application:
For clamping tools with straight shanks and clamping surfaces in line with DIN 1835 B.

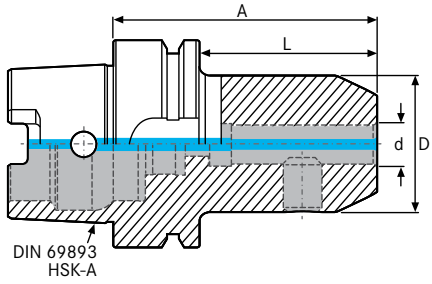
Execution:
- All tapers and tolerances are precision-ground.
- Taper tolerance AT3.
- Strength HRC 57-60.
- Core strength 1,000-1,200 N/mm².
- With Balluff chip hole.
- All functional surfaces machined.

Advantage:
- Prevents the tool from slipping while maintaining high concentricity.

Delivery:
1x surface chuck (Weldon) in accordance with ISO 12164 (DIN 69893).

Tool holding device	d (mm)	A (mm)	D (mm)	L (mm)	Coolant supply	23157... Ident. No.	
HSK 63	6	65	25	39	Internal axial	200	●
HSK 63	6	100	25	74	Internal axial	201	●
HSK 63	8	65	28	39	Internal axial	203	●
HSK 63	8	100	28	74	Internal axial	204	●
HSK 63	10	65	35	39	Internal axial	206	●
HSK 63	10	100	35	74	Internal axial	207	●
HSK 63	12	80	42	54	Internal axial	209	●
HSK 63	12	100	42	74	Internal axial	210	●
HSK 63	16	80	48	54	Internal axial	215	●
HSK 63	16	100	48	74	Internal axial	216	●
HSK 63	20	80	52	54	Internal axial	221	●
HSK 63	20	100	52	74	Internal axial	222	●
HSK 63	25	110	65	84	Internal axial	224	●
HSK 63	32	110	72	84	Internal axial	225	●
HSK 63	40	125	80	99	Internal axial	226	●

Prod. Gr. 2AV



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ATORN Tool holder for indexable insert drill bit shape E1 (ISO 12164-1)

HSK 100 | HSK 63 | Form A | IK | G 2,5 25000 rpm | DIN 69893

Application:
This chuck is used to clamp indexable insert solid drill bits that are fixed with two screws, similar to a surface chuck.

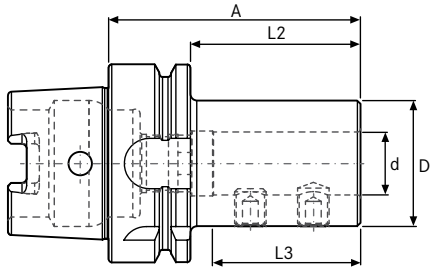
Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm, black oxide finish
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm

Delivery:
1x HSK63 or HSK100 solid drill chuck (ISO 12164)

Notes:
The previous standard DIN 69871 was superseded by ISO 12164.

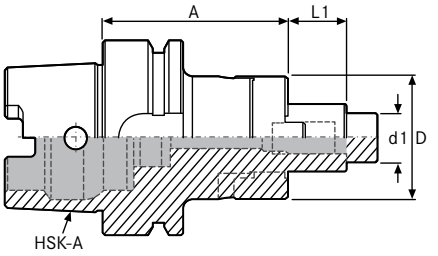
Tool holding device	d (mm)	A (mm)	L2 (mm)	D (mm)	L3 (mm)	23163... Ident. No.	
HSK 63	20	80	54	40	47	100	○
HSK 63	25	90	64	45	51	101	○
HSK 63	32	90	64	52	56	102	○
HSK 63	40	105	76	60	67	103	○
HSK 100	20	90	61	40	46	104	○
HSK 100	25	95	66	45	51	105	○
HSK 100	32	100	71	52	55	106	○
HSK 100	40	110	81	60	57	107	○

Prod. Gr. 2AR



ATORN Combination shell end mill arbours (DIN 6358) (ISO 12164-1)

HSK 100 | HSK 63 | Form A | IK | G 2,5 25000 rpm | DIN 69893



Application:
For holding shell end mills and single angle milling cutters with longitudinal groove in accordance with DIN 842.

Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- All functional surfaces are machined
- Max. concentricity < 0.005 mm
- With Balluff chip hole
- Internal cooling with A dimension of 160 mm and 200 mm only

Delivery:
1x HSK63 or HSK100 combination shell end mill arbour (ISO 12164); incl. retaining screw, key and drive ring

Notes:
The previous standard DIN 69871 was superseded by ISO 12164.

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Tool holding device	d1 (mm)	L1 (mm)	A (mm)	D (mm)	Coolant supply	23160... Ident. No.	
HSK 63	16	17	60	32	No	260	●
HSK 63	16	17	100	32	No	261	○
HSK 63	16	17	130	32	No	262	○
HSK 63	16	17	160	32	Internal axial	263	●
HSK 63	22	19	60	40	No	264	●
HSK 63	22	19	100	40	No	265	●
HSK 63	22	19	130	40	No	266	●
HSK 63	22	19	160	40	Internal axial	267	●
HSK 63	27	21	60	48	No	268	●
HSK 63	27	21	100	48	No	269	●
HSK 63	27	21	130	48	No	270	●
HSK 63	27	21	160	48	Internal axial	271	●
HSK 63	32	24	60	58	No	272	●
HSK 63	32	24	100	58	No	273	●
HSK 63	32	24	130	58	No	274	●
HSK 63	32	24	160	58	Internal axial	275	●
HSK 63	40	27	70	70	No	276	○
HSK 63	40	27	100	70	No	277	○
HSK 63	40	27	130	70	No	278	●
HSK 63	40	27	160	70	Internal axial	279	○
HSK 100	16	17	60	32	No	280	●
HSK 100	16	17	100	32	No	281	●
HSK 100	16	17	130	32	No	282	○
HSK 100	16	17	160	32	Internal axial	283	●
HSK 100	16	17	200	32	Internal axial	284	○
HSK 100	22	19	60	40	No	285	○
HSK 100	22	19	100	40	No	286	●
HSK 100	22	19	130	40	No	287	○
HSK 100	22	19	160	40	Internal axial	288	●
HSK 100	22	19	200	40	Internal axial	289	○
HSK 100	27	21	60	48	No	290	○
HSK 100	27	21	100	48	No	291	●
HSK 100	27	21	130	48	No	292	○
HSK 100	27	21	160	48	Internal axial	293	●
HSK 100	27	21	200	48	Internal axial	294	○
HSK 100	32	24	60	58	Internal axial	295	○
HSK 100	32	24	100	58	Internal axial	296	●
HSK 100	32	24	130	58	Internal axial	297	○
HSK 100	32	24	160	58	Internal axial	298	●
HSK 100	32	24	200	58	Internal axial	299	○
HSK 100	40	27	70	70	No	300	○
HSK 100	40	27	100	70	No	301	●
HSK 100	40	27	130	70	No	302	○
HSK 100	40	27	160	70	Internal axial	303	●
HSK 100	40	27	200	70	Internal axial	304	○

Prod. Gr. 2AR

ATORN Transverse drive shell end mill arbour DIN 6357 (ISO 12164-1)

Increased collar diameter (face mill arbour)

HSK 63 | Form A | IK | G 2,5 25000 rpm | DIN 69893

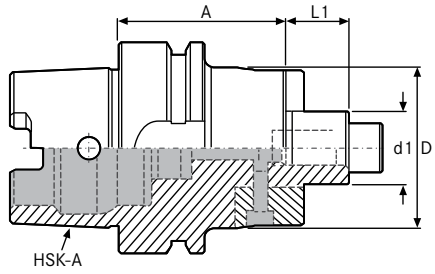
Application:
For accommodating shell end mills and angular milling cutters with longitudinal groove in accordance with DIN 842.

Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Internal coolant supply
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm

- Max. concentricity < 0.005 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- With Balluff chip hole

Delivery:
1x HSK63 or HSK100 transverse drive shell end mill arbour (ISO 12164); with retaining screw

Notes:
The previous standard DIN 69871 was superseded by ISO 12164.



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Tool holding device	d1 (mm)	L1 (mm)	A (mm)	D (mm)	Coolant supply	23162... Ident. No.	
HSK 63	16	17	50	38	Internal axial	125	●
HSK 63	16	17	100	38	Internal axial	126	○
HSK 63	16	17	130	38	Internal axial	127	●
HSK 63	16	17	160	38	Internal axial	128	○
HSK 63	22	19	50	48	Internal axial	129	●
HSK 63	22	19	100	48	Internal axial	130	○
HSK 63	22	19	130	48	Internal axial	131	●
HSK 63	22	19	160	48	Internal axial	132	○
HSK 63	27	21	60	58	Internal axial	133	●
HSK 63	27	21	100	58	Internal axial	134	○
HSK 63	27	21	130	58	Internal axial	135	●
HSK 63	27	21	160	58	Internal axial	136	○
HSK 63	32	24	60	78	Internal axial	137	○
HSK 63	32	24	100	78	Internal axial	138	○
HSK 63	32	24	130	78	Internal axial	139	●
HSK 63	32	24	160	78	Internal axial	140	○
HSK 63	40	27	60	88	Internal axial	141	○
HSK 63	40	27	100	88	Internal axial	142	○

Prod. Gr. 2AR

ATORN Tool holders for screw-in milling cutters (ISO 12164-1)

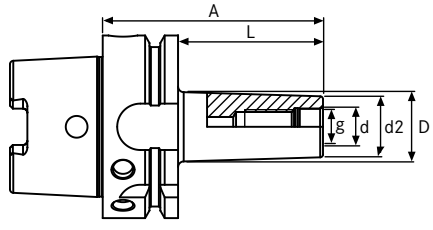
HSK 63 | Form A | IK | G 2,5 25000 rpm | DIN 69893

Application:
For accommodating threaded screw-in milling cutters.

Execution:
- Taper angle tolerance AT3
- Concentricity < 0.005 mm

Delivery:
1x HSK63 or HSK100 screw-in holder (ISO 12164)

Notes:
The previous standard DIN 69871 was superseded by ISO 12164.



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Tool holding device	d (mm)	d2 (mm)	A (mm)	L (mm)	D (mm)	23161... Ident. No.	
HSK 63	10	10	51	25	13	635	○
HSK 63	13	8.5	51	25	15	636	○
HSK 63	13	8.5	76	50	23	637	○
HSK 63	13	8.5	101	75	23	638	○
HSK 63	18	10.5	51	25	20	639	○
HSK 63	18	10.5	76	50	23	640	○
HSK 63	18	10.5	126	100	32	641	○
HSK 63	18	10.5	176	150	36	642	○
HSK 63	12.5	21	51	25	24	643	●
HSK 63	12.5	21	76	50	24	644	●
HSK 63	21	12.5	101	75	30	645	○
HSK 63	21	12.5	126	100	33	646	○
HSK 63	21	12.5	176	150	40	647	○
HSK 63	29	17	51	25	29	648	●
HSK 63	29	17	76	50	34	649	●
HSK 63	29	17	101	75	34	650	●
HSK 63	29	17	126	100	36	651	●
HSK 63	29	17	176	150	42	652	○

Prod. Gr. 2AR

ATORN CNC precision short drill chuck (DIN 69893-1)

With spur gear mechanism

HSK 63 | Form A | IK | R/L | G 6,3 25000 rpm | DIN 69893

Application:
For use on machining centres and CNC milling machines with tool change. For drilling, reaming, countersinking and also light milling and smoothing tasks.

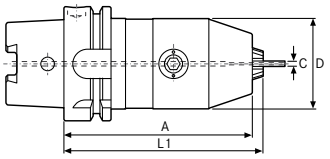
Execution:
- Shank in accordance with DIN 69893, HSK shape A
- Integrated spur gear ensures high retaining torque
- Glass bead blasted

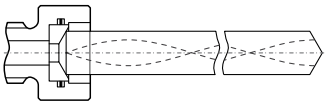
Advantage:
- Wear parts hardened and polished for a long service life
- Remains securely clamped even if the spindle stops suddenly

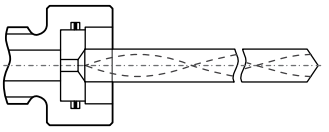
Delivery:
1x HSK63 precision drill chuck (ISO 12164)

Notes:
The previous standard DIN 69871 was superseded by ISO 12164.

With IC




(1) Sealing washer ATORN 16 (dia. 4.2 mm) integrated in the drill chuck head, for cooling channel drills dia. 6-16 mm with smooth shaft in accordance with DIN 6535, shape HA.


(2) Sealing washer ATORN 16 (dia. 2.05 mm) included, for cooling channel drills dia. 3-6 mm with smooth shaft in accordance with DIN 6535, shape HA.

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Tool holding device	Min./max. clamping width	A (mm)	D (mm)	L1 (mm)	21329... Ident. No.	
HSK 63	0.5-16 mm	109	57	113	542	●

Prod. Gr. 2BB

BIG DAISHOWA Hi-Power high-performance power chuck HSK-A63 (DIN 69893-1)

High-performance power chuck

HSK 63 | G 6,3 15000 rpm | Form A | DIN 69893

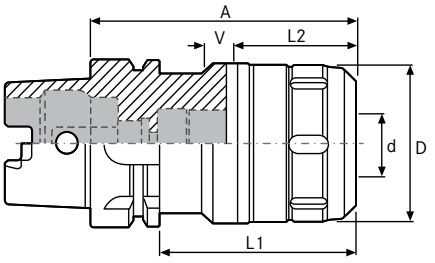
Application:
The high-performance power chuck combines high precision with high torque transmission and rigidity. Perfect for use in heavy machining during milling, but also for drilling and fine drilling operations.

Execution:
- High clamping force thanks to special slotted design and needle bearing.
- Very high clamping force.
- High rigidity for heavy machining.
- High-precision concentricity.
- With Balluff chip hole.

Advantage:
- Various applications when used with reduction sleeves ref. no. 23336450-455.
- Perfect for heavy machining.

Delivery:
1x high-performance power chuck in accordance with ISO 12164 (DIN 69893).

Notes:
For clamping the BIG DAISHOWA Hi-Power high-performance power chuck,
use hook wrench art. no. 23297010.
We stock all other BIG DAISHOWA articles and versions.



Tool holding device	d (mm)	A (mm)	D (mm)	L1 (mm)	L2 (mm)	Verstellweg V (mm)	23297... Ident. No.	
HSK 63	20	90	50	66	50	6	202	○

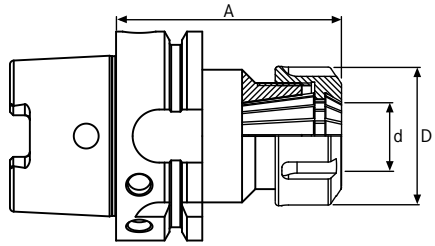
Prod. Gr. 2AX

Accessories for		23297 202
23297... BIG DAISHOWA hook spanner wrench FK45-50L Accessories for power chuck	Ident. No.	010 ○

ATORN Collet chuck type ER DIN 6499 (ISO 12164-1)

HSK 100 | HSK 63 | Form A | IK | G 2,5 25000 rpm | DIN 69893 | ISO 12164-1

Ident. No. 495–509



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Application:
For clamping tools with straight shank in ER collet chucks in accordance with DIN 6499.

Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Internal coolant supply
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- With Balluff chip hole
- All functional surfaces are machined
- All ER16 collet chucks feature a hexagon nut

Delivery:
1x HSK63 or HSK100 ER collet chuck (ISO 12164)

Notes:
The previous standard DIN 69871 was superseded by ISO 12164.

Tool holding device	Collet type	Min./max. clamping range	A (mm)	L1 (mm)	D (mm)	23296... Ident. No.	
HSK 63	ER 16	0.5-10 mm	100	74	28	495	●
HSK 63	ER 16	0.5-10 mm	130	104	28	496	●
HSK 63	ER 16	0.5-10 mm	160	134	28	497	●
HSK 63	ER 16	0.5-10 mm	200	174	28	498	○
HSK 63	ER 25	1-16 mm	100	74	42	499	●
HSK 63	ER 25	1-16 mm	130	104	42	500	●
HSK 63	ER 25	1-16 mm	160	134	42	501	●
HSK 63	ER 25	1-16 mm	200	174	42	502	○
HSK 63	ER 32	2-20 mm	100	74	50	503	●
HSK 63	ER 32	2-20 mm	130	104	50	504	●
HSK 63	ER 32	2-20 mm	160	134	50	505	●
HSK 63	ER 32	2-20 mm	200	174	50	506	○
HSK 63	ER 40	3-26 mm	120	94	63	507	●
HSK 63	ER 40	3-26 mm	160	134	63	508	●
HSK 63	ER 40	3-26 mm	200	174	63	509	○
HSK 100	ER 16	0.5-10 mm	100	74	28	510	○
HSK 100	ER 16	0.5-10 mm	130	104	28	511	○
HSK 100	ER 16	0.5-10 mm	160	134	28	512	○
HSK 100	ER 16	0.5-10 mm	200	174	28	513	○
HSK 100	ER 25	1-16 mm	100	74	42	514	●
HSK 100	ER 25	1-16 mm	130	104	42	515	○
HSK 100	ER 25	1-16 mm	160	134	42	516	●
HSK 100	ER 25	1-16 mm	200	174	42	517	○
HSK 100	ER 32	2-20 mm	100	74	50	518	●
HSK 100	ER 32	2-20 mm	130	104	50	519	○
HSK 100	ER 32	2-20 mm	160	134	50	520	○
HSK 100	ER 32	2-20 mm	200	174	50	521	○
HSK 100	ER 40	3-26 mm	120	94	63	522	●
HSK 100	ER 40	3-26 mm	160	134	63	523	○
HSK 100	ER 40	3-26 mm	200	174	63	524	○

Prod. Gr. 2AR

ORION Collet chuck type ER (DIN 69893-1)

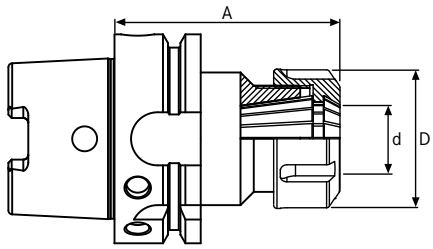
HSK 63 | Form A | IK | G 6,3 20000 rpm | DIN 69893

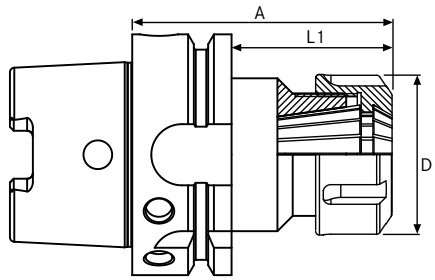
Application:
For clamping tools with straight shanks in ER collet chucks in line with DIN 6499.

Execution:
- With Balluff chip hole.
- All functional surfaces machined.
- All ER16 collet chucks feature a hexagon nut.

Delivery:
1x ER collet chuck in accordance with ISO 12164 (DIN 69893); incl. clamping nut.

Notes:
For ER 16 = normal version, please use our single open-end wrench no. 52002 025.





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Tool holding device	Collet type	Min./max. clamping range d	A (mm)	D (mm)	23296... Ident. No.	
HSK 63	ER 16	0.5-10 mm	100	32	180	●
HSK 63	ER 16	0.5-10 mm	160	32	181	●
HSK 63	ER 25	1-16 mm	100	42	182	●
HSK 63	ER 25	1-16 mm	160	42	183	●
HSK 63	ER 32	2-20 mm	100	50	184	●
HSK 63	ER 32	2-20 mm	160	50	185	●
HSK 63	ER 40	3-26 mm	120	63	186	●

Prod. Gr. 2AV

BIG BIG DAISHOWA Hi-Power high-performance power chuck HSK-A63 (DIN 69893-1)

High-performance power chuck

HSK 63 | G 6,3 15000 rpm | Form A | DIN 69893

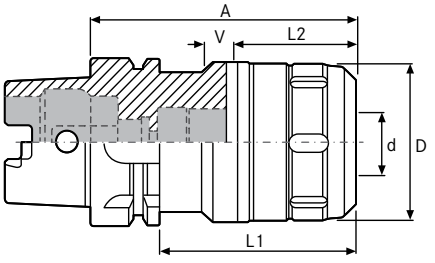
Application:
The high-performance power chuck combines high precision with high torque transmission and rigidity. Perfect for use in heavy machining during milling, but also for drilling and fine drilling operations.

Execution:
- High clamping force thanks to special slotted design and needle bearing.
- Very high clamping force.
- High rigidity for heavy machining.
- High-precision concentricity.
- With Balluff chip hole.

Advantage:
- Various applications when used with reduction sleeves ref. no. 23336450-455.
- Perfect for heavy machining.

Delivery:
1x high-performance power chuck in accordance with ISO 12164 (DIN 69893).

Notes:
For clamping the BIG DAISHOWA Hi-Power high-performance power chuck,
use hook wrench art. no. 23297010.
We stock all other BIG DAISHOWA articles and versions.



Tool holding device	d (mm)	A (mm)	D (mm)	L1 (mm)	L2 (mm)	Verstellweg V (mm)	23297... Ident. No.	
HSK 63	20	90	50	66	50	6	202	○

Prod. Gr. 2AX

Accessories for		23297 202
23297... BIG DAISHOWA hook spanner wrench FK45-50L Accessories for power chuck	Ident. No.	010 ○

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ATORN Collet chuck type ER with miniature nut DIN 6499 (ISO 12164-1)

Slimline version

HSK 63 | Form A | IK | G 2,5 25000 rpm | DIN 69893 | ISO 12164-1

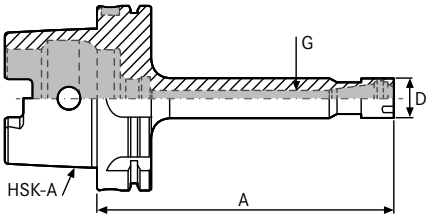
Application:
For clamping tools with a straight shank in ER collets in accordance with DIN 6499.

Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Internal coolant supply
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm

- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- With Balluff chip hole
- All functional surfaces are machined

Delivery:
1x HSK63 ER miniature collet chuck (ISO 12164)

Notes:
The previous standard DIN 69871 was superseded by ISO 12164.



Tool holding device	Collet type	Min./max. clamping range	A (mm)	D (mm)	23297... Ident. No.	
HSK 63	ER 11	0.5-7 mm	110	16	100	●
HSK 63	ER 11	0.5-7 mm	130	16	101	●
HSK 63	ER 11	0.5-7 mm	160	16	102	●
HSK 63	ER 16	0.5-10 mm	100	22	103	●
HSK 63	ER 16	0.5-10 mm	130	22	104	●
HSK 63	ER 16	0.5-10 mm	160	22	105	●
HSK 63	ER 25	1-16 mm	100	35	106	●
HSK 63	ER 25	1-16 mm	130	35	107	○
HSK 63	ER 25	1-16 mm	160	35	108	○

Prod. Gr. 2AR

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ATORN Hydraulic expansion chuck 3°, ultra-slim (ISO 12164-1)

3D-printed

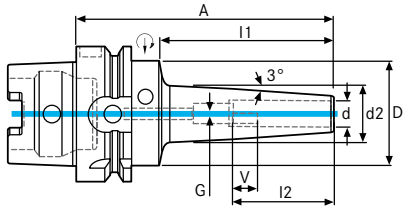
HSK 63 | Form A | IK | G 2,5 25000 rpm | ≤0,003 | DIN 69893

Application:
Produced using an innovative process, the ultra-slim hydro expansion chuck combines the advantages of an expansion chuck and a shrink-fit chuck in a single product.

Execution:
- Extremely high clamping forces
- Extremely high temperature resistance (up to 120 °C) ensures that the chuck retains its accuracy
- Slim shrink-fit chuck-style design makes it suitable for narrow interference contours
- Excellent damping properties
- Standard tool changes as with expansion chucks without requiring additional devices
- Reducer bushings enable various applications
- With Balluff chip hole

Delivery:
1x ultra-slim HSK63 hydraulic expansion chuck (ISO 12164)

Notes:
The previous standard DIN 69871 was superseded by ISO 12164.



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Tool holding device	d (mm)	A (mm)	d2 (mm)	d3 (mm)	D (mm)	l1 (mm)	l2 (mm)	G	max. V (mm)	23733... Ident. No.	
HSK 63	3	120	9	16.7	50	73	28	M2.5	10	303	●
HSK 63	4	120	10	17.7	50	73	28	M2.5	10	304	●
HSK 63	5	120	11	18.7	50	73	28	M2.5	10	305	●
HSK 63	6	120	12	19.8	50	73	37	M5	10	306	●
HSK 63	8	120	14	21.8	50	74	37	M6	10	308	●
HSK 63	10	120	16	23.8	50	74	41	M8 x 1	10	310	●
HSK 63	12	120	18	25.9	50	75	46	M10 x 1	10	312	○

Prod. Gr. 2BC

ATORN Precision collet chuck (DIN 69893-1)

HSK 63 | Form A | IK | G 2,5 25000 rpm | DIN 69893

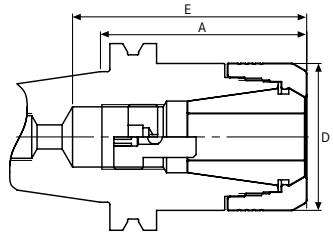
Application:
For clamping tools with straight shanks without loss of concentricity or clamping force up to shank tolerance h10, for economic machining of individual and series parts with extremely high-precision machining results. Ideal for HPC and HSC machining.

Execution:
- 30° trapezoidal thread with polished, extra-long double guide with special anti-friction coating for less friction
- Clamping forces are evenly distributed across the entire cylindrical shell surface and perfect surfaces are achieved due to optimally absorbed radial forces
- Precise centring when tightening the clamping nut
- Suitable torque wrench attachments 23360 960-966, torque wrench is recommended, suitable collet chucks type ER no. 23323 617-658

Advantage:
- Resistant to fluctuations in temperature and entirely suitable for drying processes and hard milling up to 200 °C
- Reinforcement of the chuck body over the diameter of the clamping nut ensures outstanding stability with an optimum interference contour
- Extremely low system concentricity of < 3 µm with the 2 µm ATORN UP collets. With Fahrion 2 µm HPD sealed collets to 80 bar for internal cooling (without sealing washer)
- Completely enclosed in the chuck cone for optimum stability and even distribution of clamping forces
- Retention force twice that of conventional collet chucks

Delivery:
1x HSK63 ER precision collet chuck (ISO 12164)

Notes:
The previous standard DIN 69871 was superseded by ISO 12164.



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Tool holding device	Clamping nut type	Collet type	Min./max. clamping range	A (mm)	D (mm)	E (mm)	Max. tightening torque (Nm)	23761... Ident. No.	
HSK 63	HPC 16	ER 16 (426 E)	1-10 mm	55	30	32	55	001	○
HSK 63	HPC 16	ER 16 (426 E)	1-10 mm	100	30	71	55	002	●
HSK 63	HPC 16	ER 16 (426 E)	1-10 mm	160	30	106	55	003	○
HSK 63	HPC 16	ER 16 (426 E)	1-10 mm	200	30	136	55	004	○
HSK 63	HPC 25	ER 25 (430 E)	2-16 mm	100	40	70	85	005	●
HSK 63	HPC 25	ER 25 (430 E)	2-16 mm	160	40	128	85	006	●
HSK 63	HPC 25	ER 25 (430 E)	2-16 mm	200	40	148	85	007	○
HSK 63	HPC 32	ER 32 (470 E)	2-20 mm	70	50	46	140	008	●
HSK 63	HPC 32	ER 32 (470 E)	2-20 mm	100	50	114	140	009	●
HSK 63	HPC 32	ER 32 (470 E)	2-20 mm	160	50	129	140	010	○

Prod. Gr. 263

Compatible ER-type collet chucks no. 23323 617-658 and no. 23322 501-636 page 888

ATORN Shrink-fit chuck HSK A-63 4.5 degrees (DIN 69893-1)

HSK 63 | Form A | IK | G 2,5 25000 rpm | ≤0,003 | DIN 69893

Application:

Ident. No. 003–025: For clamping milling tools and drill bits with straight shank, tolerance h6. Suitable for shrinking on inductive contact and hot air devices.

Ident. No. 103–332: For clamping cutters and drills with straight shank with h6 tolerance. Suitable for shrinking onto inductive contact and hot air devices.

Execution:

- Heat-resistant and high-temperature tool steel 1,600-1,800 N/mm²
- Hardness 52 + 2 HRC
- Maximum coolant pressure 80 bar
- Adjustment travel 10 mm, can be adjusted on both sides
- Shrink grip and shrink release of carbide and HSS tools
- 4 additional drill holes for fine balancing
- With Balluff chip hole

Advantage:

- High positioning and repeat accuracy
- Ideal for high rotation speeds
- Slim design with minimal interference contour
- Very high torque transfer
- Ideal for HSC machining

Delivery:

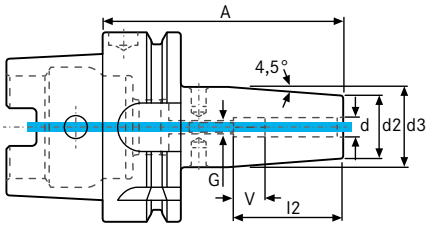
1x HSK63 shrink-fit chuck (ISO 12164)

Notes:

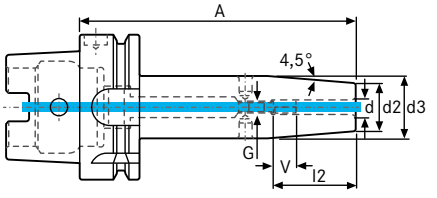
The previous standard DIN 69871 was superseded by ISO 12164.

Ident. No. 003–025

Ident. No. 103–332



Ident. No. 003–025



Ident. No. 103–332

p. 883

Tool holding device	d (mm)	A (mm)	d2 (mm)	d3 (mm)	l2 (mm)	G	V (mm)	23419... Ident. No.	
HSK 63	3	80	10	15	22	M6	10	003	●
HSK 63	3	120	10	15	22	M6	10	103	●
HSK 63	4	80	15	22	26	M6	10	004	●
HSK 63	4	120	15	22	26	M6	10	104	●
HSK 63	5	80	15	22	30	M6	10	005	○
HSK 63	5	120	15	22	30	M6	10	105	○
HSK 63	6	80	21	27	36	M5	10	006	●
HSK 63	6	120	21	27	36	M5	10	106	●
HSK 63	6	160	21	27	36	M5	10	206	●
HSK 63	6	200	21	27	36	M5	10	306	●
HSK 63	8	80	21	27	36	M6	10	008	●
HSK 63	8	120	21	27	36	M6	10	108	●
HSK 63	8	160	21	27	36	M6	10	208	●
HSK 63	8	200	21	27	36	M6	10	308	○
HSK 63	10	85	24	32	41	M8 x 1	10	010	●
HSK 63	10	120	24	32	41	M8 x 1	10	110	●
HSK 63	10	160	24	32	41	M8 x 1	10	210	●
HSK 63	10	200	24	32	41	M8 x 1	10	310	○
HSK 63	12	90	24	32	47	M10 x 1	10	012	●
HSK 63	12	120	24	32	47	M10 x 1	10	112	●
HSK 63	12	160	24	32	47	M10 x 1	10	212	●
HSK 63	12	200	24	32	47	M10 x 1	10	312	○
HSK 63	14	90	27	34	47	M10 x 1	10	014	●
HSK 63	14	120	27	34	47	M10 x 1	10	114	○
HSK 63	14	160	27	34	47	M10 x 1	10	214	○
HSK 63	14	200	27	34	47	M10 x 1	10	314	○
HSK 63	16	95	27	34	50	M12 x 1	10	016	●
HSK 63	16	120	27	34	50	M12 x 1	10	116	●
HSK 63	16	160	27	34	50	M12 x 1	10	216	●
HSK 63	16	200	27	34	50	M12 x 1	10	316	○
HSK 63	18	95	33	42	50	M12 x 1	10	018	●
HSK 63	18	120	33	42	50	M12 x 1	10	118	○
HSK 63	18	160	33	42	50	M12 x 1	10	218	○
HSK 63	18	200	33	42	50	M12 x 1	10	318	○
HSK 63	20	100	33	42	52	M16 x 1	10	020	●
HSK 63	20	120	33	42	52	M16 x 1	10	120	●
HSK 63	20	160	33	42	52	M16 x 1	10	220	○
HSK 63	20	200	33	42	52	M16 x 1	10	320	●
HSK 63	25	115	44	53	62	M16 x 1	10	025	●
HSK 63	25	120	44	42	58	M16 x 1	10	125	○
HSK 63	25	160	44	53	62	M16 x 1	10	225	○
HSK 63	25	200	44	53	62	M16 x 1	10	325	○
HSK 63	32	120	44	53	62	M16 x 1	10	132	○
HSK 63	32	160	44	53	62	M16 x 1	10	232	○
HSK 63	32	200	44	53	62	M16 x 1	10	332	○

Prod. Gr. 287

ATORN Shrink-fit chuck, 4.5 degrees (with KKB) (DIN 69893-1)

With resealable coolant bores (KKB)

HSK 63 | Form A | G 2,5 25000 rpm | ≤0,003 | DIN 69893

Application:

For clamping cutters and drills with straight shanks in h6 tolerance. Suitable for shrinking onto inductive contact and hot air devices.

Execution:

- Guarantees maximum concentricity of 0.003 mm
- Shrink grip and shrink release of carbide and HSS tools
- Hardness 52 + 2 HRC
- Maximum coolant pressure 80 bar
- Adjustment travel 10 mm, can be adjusted on both sides
- 4 additional drill holes for fine balancing
- With Balluff chip hole
- Resealable coolant bores
- Geometry significantly improves damping behaviour

Advantage:

- High transmittable torques
- High chip removal rate, perfect for HSC machining
- Protects the spindle and machine
- Ideal for high rotation speeds
- Improved surface quality

Delivery:

1x HSK63 shrink-fit chuck (ISO 12164)

Notes:

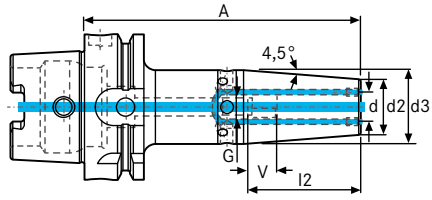
The previous standard DIN 69871 was superseded by ISO 12164.

Tool holding device	d (mm)	A (mm)	d2 (mm)	d3 (mm)	l2 (mm)	G	V (mm)	23419... Ident. No.	
HSK 63	3	80	10	15	28	M6	16	503	●
HSK 63	3	120	10	20	12	M6	10	553	○
HSK 63	4	80	15	22	28	M6	12	504	●
HSK 63	4	120	15	22	16	M6	10	554	○
HSK 63	5	80	15	22	30	M6	10	505	○
HSK 63	5	120	15	22	20	M6	10	555	○
HSK 63	6	80	21	27	36	M6	10	506	●
HSK 63	6	120	21	27	36	M5	10	556	●
HSK 63	8	80	21	27	36	M6	10	508	●
HSK 63	8	120	21	27	36	M6	10	557	●
HSK 63	10	85	24	32	41	M8 x 1	10	510	●
HSK 63	10	120	24	32	41	M8 x 1	10	560	●
HSK 63	12	90	24	32	47	M10 x 1	10	512	●
HSK 63	12	120	24	32	47	M10 x 1	10	562	●
HSK 63	14	90	27	34	47	M10 x 1	10	514	●
HSK 63	14	120	27	34	47	M10 x 1	10	564	○
HSK 63	16	95	27	34	50	M12 x 1	10	516	●
HSK 63	16	120	27	34	50	M12 x 1	10	566	○
HSK 63	18	95	33	42	50	M12 x 1	10	518	●
HSK 63	18	120	33	42	50	M12 x 1	10	568	○
HSK 63	20	100	33	42	52	M16 x 1	10	520	●
HSK 63	20	120	33	42	52	M16 x 1	10	570	○
HSK 63	25	115	44	53	58	M16 x 1	10	525	○
HSK 63	25	120	44	53	58	M16 x 1	10	575	○
HSK 63	32	120	44	53	62	M16 x 1	10	532	○

Prod. Gr. 287

Ident. No. 503–514, 518–520

Ident. No. 553–575



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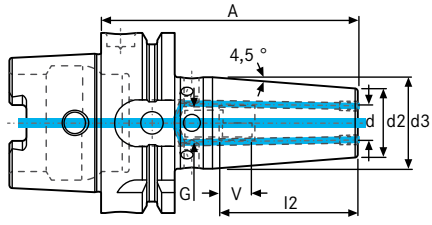

Ident. No. 503–532

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ATORN Shrink-fit chuck, slimline, 3 degrees (DIN 69893-1)

With low interference contour for mould making

HSK 63 | Form A | IK | G 2,5 25000 rpm | ≤0,003 | DIN 69893

Application:
For clamping milling tools and drill bits with h6 shaft tolerance. Suitable for heavy-duty machining and all high-power applications. Suitable for inductive, contact and hot air shrinking devices.

Execution:
- Shrink grip and shrink release of carbide and HSS tools
- Hardness 52 + 2 HRC
- Maximum coolant pressure 80 bar
- 4 additional drill holes for fine balancing
- Glass bead blasted
- **Ident. No. 103–120:** With Balluff chip hole
- **Ident. No. 141–172:** Adjustment travel 10 mm, can be adjusted on both sides

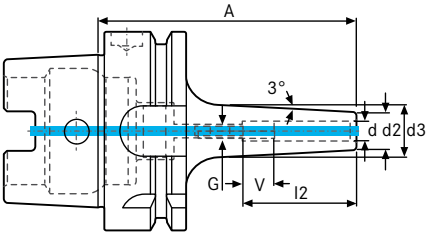
Advantage:
- Slim design, extremely low interference contour
- High transmittable torques
- High positioning and repeat accuracy
- Ideal for high rotation speeds

Delivery:
Ident. No. 103–120: 1x HSK63 shrink-fit chuck 3° (ISO 12164)
Ident. No. 141–172: 1x shrink-fit chuck 3° HSK63 (ISO 12164).

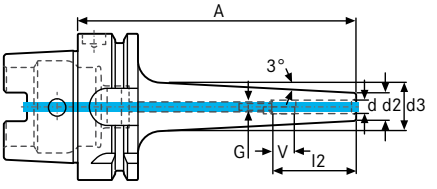
Notes:
The previous standard DIN 69871 was superseded by ISO 12164.

Ident. No. 103–120

Ident. No. 141–172



Ident. No. 103–120



Ident. No. 141–172

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Tool holding device	d (mm)	A (mm)	d2 (mm)	d3 (mm)	l2 (mm)	G	V (mm)	23427... Ident. No.	
HSK 63	3	80	9	14	28	M6	16	103	●
HSK 63	3	120	9	16	28	M6	10	141	●
HSK 63	4	80	10	15	28	M6	12	104	●
HSK 63	4	120	10	17	28	M6	10	144	●
HSK 63	5	80	11	16	30	M6	10	105	●
HSK 63	5	120	11	18	30	M6	10	147	○
HSK 63	5	160	11	21	30	M6	10	148	○
HSK 63	6	80	12	17	36	M6	10	106	●
HSK 63	6	120	12	21	36	M5	10	150	●
HSK 63	6	160	12	24	36	M5	10	151	●
HSK 63	8	80	14	19	36	M6	10	108	○
HSK 63	8	120	14	23	36	M6	10	153	●
HSK 63	8	160	14	26	36	M6	10	154	●
HSK 63	10	85	16	21	41	M8 x 1	10	110	●
HSK 63	10	120	16	25	41	M10 x 1	10	156	●
HSK 63	10	160	16	28	41	M10 x 1	10	157	●
HSK 63	12	90	18	24	47	M10 x 1	10	112	●
HSK 63	12	120	18	27	47	M10 x 1	10	159	●
HSK 63	12	160	18	30	47	M10 x 1	10	160	●
HSK 63	14	90	20	26	47	M10 x 1	10	114	●
HSK 63	14	120	20	29	47	M10 x 1	10	162	○
HSK 63	16	95	22	28	50	M12 x 1	10	116	●
HSK 63	16	120	22	31	50	M10 x 1	10	165	●
HSK 63	18	95	24	30	50	M12 x 1	10	118	●
HSK 63	18	120	24	33	50	M12 x 1	10	168	○
HSK 63	18	160	24	36	50	M12 x 1	10	169	○
HSK 63	20	100	26	33	52	M16 x 1	10	120	○
HSK 63	20	120	26	35	52	M12 x 1	10	171	●
HSK 63	20	160	26	38	52	M12 x 1	10	172	●

Prod. Gr. 287

ORION® Quick-change tapping chuck (DIN 69893-1)

shank design with DIN 69871 A steep taper

HSK 63

Application:
For thread cutting and thread shaping on NC machines and machining centres.

Execution:
- The machine spindle's direction of rotation must be changed for reverse motion.

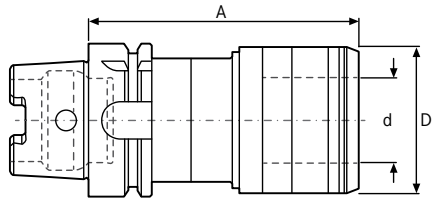
Advantage:
- Fast retooling thanks to quick-change chuck.
- Low tool wear thanks to length compensation.

Delivery:
1x quick-change tapping chuck.

Notes:
For requisite pull studs, see no. 23690. For requisite quick-change inserts, see no. 21560-21566.

Used sizes		1	2
Tool holding device		HSK 63	HSK 63
Suitable for screw thread		M3-M12	M6-M20
Pressure length compensation (mm)		7.5	10
Tension length compensation (mm)		7.5	10
D (mm)		41	60
d (mm)		19	31
A (mm)		72	110
DIN		69893-1	69893-1
Form		A	A
21545...	Ident. No.	650 ●	660 ●

Prod. Gr. 295



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ATORN Synchronous tapping chuck DIN 69893-1 HSK (DIN 69893-1)

For machine tools with synchronous control

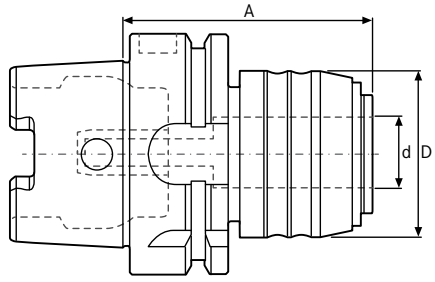
HSK 63 | Form A | IK | G 2,5 25000 rpm

Application:
For thread cutting on machine tools with synchronous spindles. With rigidly clamped screw taps, pitch errors cause high axial forces that can be compensated for by synchronous tapping chucks through minimal length compensation under pressure and tension.

Execution:
- Pitch errors are compensated for with minimal length compensation of 1.0 mm under tension and 0.2 mm under pressure
- Clamping screws prevent the clamped screw tap from spinning
- Thread-cutting quick-change chuck for synchronous spindles
- Accessories required: Quick-change insert, 1 and 2 pieces no. 21556316-525 collet chucks type ER for thread cutting no. 23320600-691

Advantage:
- Increased tool service life
- Secure clamping in quick-change inserts for ER collets

Delivery:
1x tapping chuck



HSK-A63

Tool holding device		HSK 63	HSK 63
DIN		69893-1	69893-1
Collet type		ER 16	ER 25
Used sizes		1	2
Suitable for thread		M3-M12	M6-M20
A (mm)		64	97
D (mm)		43	60
Form		A	A
Pressure length compensation (mm)		0.2	0.2
Tension length compensation (mm)		1	1
21555...	Ident. No.	361 ●	362 ●

Prod. Gr. 225

ORION® Synchronous tapping chuck HSK according to DIN 69893-1 (DIN 69893-1)

For collet chucks type ER according to DIN 6499 ISO 15488

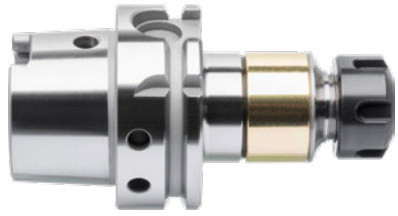
HSK 63 | Form A | G 2,5 25000 rpm

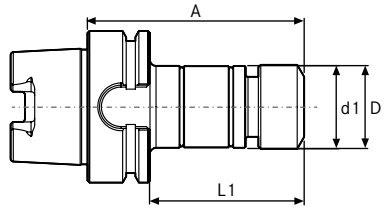
Application:
For thread cutting on machine tools with synchronous spindles. With rigidly clamped screw taps, pitch errors cause high axial forces that can be compensated for by synchronous tapping chucks through minimal length compensation under pressure and tension.

Execution:
- Length compensation under pressure and tension 0.5 mm.

Advantage:
- Compensation of pitch errors under pressure.
- Increased tool service life.

Delivery:
1x synchronous tapping chuck.





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Tool holding device	DIN	Collet type	Min./max. clamping range	Suitable for thread	A (mm)	D (mm)	Collar Ø d1 (mm)	Form	Pressure length compensation (mm)	Tension length compensation (mm)	21557... Ident. No.	
HSK 63	69893-1	ER 16	1.0-10 mm	M3-M12	89	32	34	A	0.5	0.5	021	●
HSK 63	69893-1	ER 20	3.5-10 mm	M3-M16	90	35	34	A	0.5	0.5	022	●
HSK 63	69893-1	ER 25	3.5-16 mm	M3-M20	94	42	45	A	0.5	0.5	023	●
HSK 63	69893-1	ER 32	3.5-20 mm	M4-M27	105	50	45	A	0.5	0.5	024	○

Prod. Gr. 2AM

ATORN Weldon surface chucks (ISO 7388-1)

SK 40 | SK 50 | Form AD | Form AD/AF | IK | G 2,5 25000 rpm | ISO 7388-1

Application:
For clamping tools with straight shank and clamping surface in accordance with DIN 1835 B.

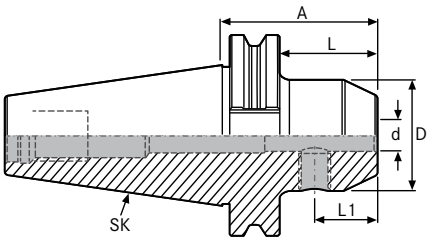
Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm
- Functional surfaces precision-ground, all other surfaces black-oxide
- With Balluff chip hole

Delivery:
1x SK40 or SK50 surface chuck (Weldon) (ISO 7388-1)

Notes:
The previous standard DIN 69871-1 was superseded by ISO 7388-1.

Technical data:
- Coolant supply: Internal axial

Ident. No. 786–885



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Tool holding device	d (mm)	A (mm)	D (mm)	L (mm)	L1 (mm)	g / G	23157... Ident. No.	
SK 40	6	50	25	31	18	-	780	●
SK 40	6	100	25	81	18	-	781	●
SK 40	6	130	25	111	18	-	782	●
SK 40	6	160	25	141	18	-	783	●
SK 40	6	200	25	181	18	-	784	○
SK 40	8	50	28	31	18	-	785	●
SK 40	8	100	28	81	18	-	786	●
SK 40	8	130	28	111	18	-	787	●
SK 40	8	160	28	141	18	-	788	●
SK 40	8	200	28	181	18	-	789	○
SK 40	10	130	35	111	20	-	792	●
SK 40	10	160	35	141	20	-	793	●
SK 40	10	200	35	181	20	-	794	○
SK 40	12	50	42	31	22.5	-	795	●
SK 40	12	100	42	81	22.5	-	796	●
SK 40	12	130	42	111	22.5	-	797	●
SK 40	12	160	42	141	22.5	-	798	●
SK 40	12	200	42	181	22.5	-	799	○
SK 40	14	50	44	31	22.5	-	800	●
SK 40	14	100	44	81	22.5	-	801	●
SK 40	14	130	44	111	22.5	-	802	●
SK 40	14	160	44	141	22.5	-	803	●
SK 40	14	200	44	181	22.5	-	804	○
SK 40	16	35	45	16	24	-	805	●
SK 40	16	63	48	44	24	-	806	●
SK 40	16	100	48	81	24	-	807	●
SK 40	16	130	48	111	24	-	808	●
SK 40	16	160	48	141	24	-	809	●
SK 40	16	200	48	181	24	-	810	○
SK 40	18	63	50	44	24	-	811	●
SK 40	18	100	50	81	24	-	812	●
SK 40	18	130	50	111	24	-	813	●
SK 40	18	160	50	141	24	-	814	○
SK 40	18	200	50	181	24	-	815	○
SK 40	20	35	45	16	25	-	816	●
SK 40	20	63	52	44	25	-	817	●
SK 40	20	100	52	81	25	-	818	●
SK 40	20	130	52	111	25	-	819	●
SK 40	20	160	52	141	25	-	820	○
SK 40	20	200	52	181	25	-	821	○
SK 40	25	35	50	16	24	-	822	●
SK 40	25	100	63	81	24	-	823	●
SK 40	25	130	63	111	24	-	824	●
SK 40	25	160	63	141	24	-	825	●
SK 40	25	200	63	181	24	-	826	○
SK 40	32	65	50	46	24	-	827	●
SK 40	32	100	72	81	24	-	828	●
SK 40	32	130	72	111	24	-	829	●
SK 40	32	160	72	141	24	-	830	○
SK 40	32	200	72	181	24	-	831	○
SK 40	40	120	80	101	30	-	832	●
SK 40	40	160	80	141	30	-	833	○
SK 50	6	63	25	44	18	-	834	●

Tool holding device	d (mm)	A (mm)	D (mm)	L (mm)	L1 (mm)	g / G	23157... Ident. No.	
SK 50	6	100	25	81	18	-	835	●
SK 50	6	130	25	111	18	-	836	○
SK 50	6	160	25	141	18	-	837	●
SK 50	6	200	25	181	18	-	838	○
SK 50	8	63	28	44	18	-	839	●
SK 50	8	100	28	81	18	-	840	●
SK 50	8	130	28	111	18	-	841	○
SK 50	8	160	28	141	18	-	842	●
SK 50	8	200	28	181	18	-	843	○
SK 50	10	63	35	44	20	-	844	●
SK 50	10	100	35	81	20	-	845	●
SK 50	10	130	35	111	20	-	846	○
SK 50	10	160	35	141	20	-	847	●
SK 50	10	200	35	181	20	-	848	○
SK 50	12	63	42	44	22.5	-	849	●
SK 50	12	100	42	81	22.5	-	850	●
SK 50	12	130	42	111	22.5	-	851	○
SK 50	12	160	42	141	22.5	-	852	●
SK 50	12	200	42	181	22.5	-	853	○
SK 50	14	63	44	44	22.5	-	854	●
SK 50	14	100	44	81	22.5	-	855	●
SK 50	14	130	44	111	22.5	-	856	○
SK 50	14	160	44	141	22.5	-	857	○
SK 50	14	200	44	181	22.5	-	858	○
SK 50	16	63	48	44	24	M14	859	●
SK 50	16	100	48	81	24	M14	860	●
SK 50	16	130	48	111	24	M14	861	○
SK 50	16	160	48	141	24	M14	862	○
SK 50	16	200	48	181	24	M14	863	○
SK 50	18	63	50	44	24	M14	864	●
SK 50	18	100	50	81	24	M14	865	●
SK 50	18	130	50	111	24	M14	866	○
SK 50	18	160	50	141	24	M14	867	●
SK 50	18	200	50	181	24	M14	868	○
SK 50	20	63	52	44	25	M16	869	●
SK 50	20	100	52	81	25	M16	870	●
SK 50	20	130	52	111	25	M16	871	○
SK 50	20	160	52	161	25	M16	872	●
SK 50	20	200	52	181	25	M16	873	○
SK 50	25	80	63	61	24	M16	874	●
SK 50	25	130	63	111	24	M20	875	○
SK 50	25	160	63	141	24	M20	876	●
SK 50	25	200	63	181	24	M20	877	○
SK 50	32	100	72	81	24	M20	878	●
SK 50	32	130	72	111	24	M20	879	○
SK 50	32	160	72	141	24	M20	880	●
SK 50	32	200	72	181	24	M20	881	○
SK 50	40	100	80	81	30	M20	882	○
SK 50	40	130	80	111	30	M20	883	○
SK 50	40	160	80	141	30	M20	884	○
SK 50	40	200	80	181	30	M20	885	○

Prod. Gr. 2AR

ATORN Surface chuck (Weldon) (ISO 7388-1)

KKB= resealable cooling duct holes

SK 40 | SK 50 | Form AD/AF | G 2,5 25000 rpm | ISO 7388-1

Application:

For clamping tools with straight shank and clamping surface in accordance with DIN 1835 B.

Execution:

- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm
- Functional surfaces precision-ground, all other surfaces black-oxide
- With Balluff chip hole

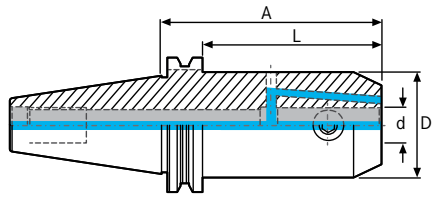
Delivery:

1x SK40 or SK50 surface chuck (Weldon) (ISO 7388-1) with coolant bores

Notes:

The previous standard DIN 69871-1 was superseded by ISO 7388-1.

Ident. No. 886



With KKB= resealable coolant bores

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Tool holding device	d (mm)	A (mm)	D (mm)	L (mm)	g / G	23157... Ident. No.	
SK 40	6	50	25	31	M6	886	●
SK 40	6	100	25	81	M6	887	●
SK 40	6	130	25	111	M6	888	●
SK 40	6	160	25	141	M6	889	●
SK 40	6	200	25	181	M6	890	○
SK 40	8	50	28	31	M8	891	●
SK 40	8	100	28	81	M8	892	●
SK 40	8	130	28	111	M8	893	●
SK 40	8	160	28	141	M8	894	●
SK 40	8	200	28	181	M8	895	○
SK 40	10	50	35	31	M10	896	●
SK 40	10	100	35	81	M10	897	●
SK 40	10	130	35	111	M10	898	●
SK 40	10	160	35	141	M10	899	●
SK 40	10	200	35	181	M10	900	○
SK 40	12	50	42	31	M12	901	●
SK 40	12	100	42	81	M12	902	●
SK 40	12	130	42	111	M12	903	●
SK 40	12	160	42	141	M12	904	●
SK 40	12	200	42	181	M12	905	○
SK 40	14	50	44	31	M12	906	●
SK 40	14	100	44	81	M12	907	●
SK 40	14	130	44	111	M12	908	●
SK 40	14	160	44	141	M12	909	○
SK 40	14	200	44	181	M12	910	○
SK 40	16	63	48	44	M14	911	●
SK 40	16	100	48	81	M14	912	●
SK 40	16	130	48	111	M14	913	●
SK 40	16	160	48	141	M14	914	●
SK 40	16	200	48	181	M14	915	○
SK 40	18	63	50	44	M14	916	●
SK 40	18	100	50	81	M14	917	●
SK 40	18	130	50	111	M14	918	●
SK 40	18	160	50	141	M14	919	○
SK 40	18	200	50	181	M14	920	○
SK 40	20	63	52	44	M16	921	●
SK 40	20	100	52	81	M16	922	●
SK 40	20	130	52	111	M16	923	●
SK 40	20	160	52	141	M16	924	○
SK 40	20	200	52	181	M16	925	○
SK 40	25	100	63	81	M18	926	●
SK 40	25	130	63	111	M18	927	●
SK 40	25	160	63	141	M18	928	○
SK 40	25	200	63	181	M18	929	○
SK 40	32	100	72	81	M20	930	●
SK 40	32	130	72	81	M20	931	●
SK 40	32	160	72	141	M20	932	○
SK 40	32	200	72	181	M20	933	○
SK 40	40	120	80	101	M20	934	●
SK 40	40	160	80	141	M20	935	○
SK 50	6	63	25	44	M6	936	○
SK 50	6	100	25	81	M6	937	○
SK 50	6	130	25	111	M6	938	●
SK 50	6	160	25	141	M6	939	○
SK 50	6	200	25	181	M6	940	○
SK 50	8	63	28	44	M8	941	○
SK 50	8	100	28	81	M8	942	○
SK 50	8	130	28	111	M8	943	●
SK 50	8	160	28	141	M8	944	○
SK 50	8	200	28	181	M8	945	○
SK 50	10	63	35	44	M10	946	○
SK 50	10	100	35	81	M10	947	○

Tool holding device	d (mm)	A (mm)	D (mm)	L (mm)	g / G	23157... Ident. No.	
SK 50	10	130	35	111	M10	**948**	●
SK 50	10	160	35	141	M10	**949**	○
SK 50	10	200	35	181	M10	**950**	○
SK 50	12	63	42	44	M12	**951**	○
SK 50	12	100	42	81	M12	**952**	○
SK 50	12	130	42	111	M12	**953**	●
SK 50	12	160	42	141	M12	**954**	○
SK 50	12	200	42	181	M12	**955**	○
SK 50	14	63	44	44	M12	**956**	○
SK 50	14	100	44	81	M12	**957**	○
SK 50	14	130	44	111	M12	**958**	●
SK 50	14	160	44	141	M12	**959**	○
SK 50	14	200	44	181	M12	**960**	○
SK 50	16	63	48	44	M14	**961**	○
SK 50	16	100	48	81	M14	**962**	○
SK 50	16	130	48	111	M14	**963**	●
SK 50	16	160	48	141	M14	**964**	○
SK 50	16	200	48	181	M14	**965**	○
SK 50	18	63	50	44	M14	**966**	○
SK 50	18	100	50	81	M14	**967**	○
SK 50	18	130	50	111	M14	**968**	●
SK 50	18	160	50	141	M14	**969**	○
SK 50	18	200	50	181	M14	**970**	○
SK 50	20	63	52	44	M16	**971**	○
SK 50	20	100	52	81	M16	**972**	○
SK 50	20	130	52	111	M16	**973**	●
SK 50	20	160	52	141	M16	**974**	○
SK 50	20	200	52	181	M16	**975**	○
SK 50	25	80	63	61	M18	**976**	○
SK 50	25	130	63	111	M18	**977**	●
SK 50	25	160	63	141	M18	**978**	○
SK 50	25	200	63	181	M18	**979**	○
SK 50	32	100	72	81	M20	**980**	○
SK 50	32	130	72	111	M20	**981**	●
SK 50	32	160	72	141	M20	**982**	○
SK 50	32	200	72	181	M20	**983**	○
SK 50	40	100	80	81	M20	**984**	○
SK 50	40	130	80	111	M20	**985**	●
SK 50	40	160	80	141	M20	**986**	○
SK 50	40	200	80	181	M20	**987**	○

Prod. Gr. 2AR

ORION® Surface chuck (Weldon) (ISO 7388-1)

SK 40 | SK 50 | Form AD/AF | G 6,3 15000 rpm | ISO 7388-1

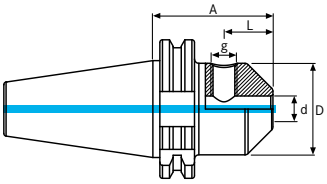
Application:
For clamping tools with straight shanks and clamping surfaces in line with DIN 1835 B.

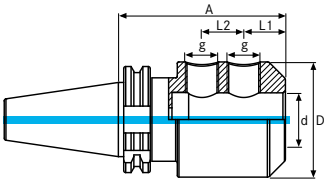
Execution:
- All tapers and tolerances are precision-ground.
- Taper tolerance AT3.
- Strength HRC 57-60.
- Core strength 1,000-1,200 N/mm².
- With Balluff chip hole.

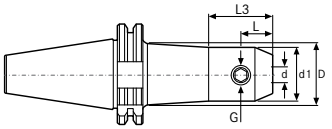
Advantage:
- Prevents the tool from slipping while maintaining high concentricity.

Delivery:
1x surface chuck (Weldon) in accordance with ISO 7388-1 (DIN 69871).

Notes:
Required pull stud no. 23690.







Note outer contour, see Table D, d1 and L3

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Tool holding device	d (mm)	A (mm)	D (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	d1 (mm)	g / G	23157... Ident. No.	
SK 40	6	50	25	18	-	-	-	-	M6	001	●
SK 40	6	100	35	18	-	-	40	25	M6	002	●
SK 40	8	50	28	18	-	-	-	-	M8	004	●
SK 40	8	100	38	18	-	-	40	28	M8	005	●
SK 40	10	50	35	20	-	-	-	-	M10	007	●
SK 40	10	100	40	20	-	-	40	35	M10	008	●
SK 40	12	50	42	22.5	-	-	-	-	M12	010	●
SK 40	14	50	44	22.5	-	-	-	-	M12	013	●
SK 40	14	100	44	22.5	-	-	-	-	M12	014	●
SK 40	16	63	48	24	-	-	-	-	M14	016	●
SK 40	16	100	48	24	-	-	-	-	M14	017	●
SK 40	18	63	50	24	-	-	-	-	M14	019	●
SK 40	20	63	52	25	-	-	-	-	M16	022	●
SK 40	20	100	52	25	-	-	-	-	M16	023	●
SK 40	25	100	65	-	24	25	-	-	M18 x 2	025	●
SK 40	32	100	72	-	24	28	-	-	M20 x 2	027	●
SK 40	40	115	80	-	30	32	-	-	M20 x 2	029	●
SK 50	6	63	25	18	-	-	-	-	M6	050	●
SK 50	6	100	35	18	-	-	40	25	M6	051	●
SK 50	8	63	28	18	-	-	-	-	M8	053	●
SK 50	8	100	38	18	-	-	80	28	M8	054	●
SK 50	10	63	35	20	-	-	-	-	M10	056	●
SK 50	10	100	42	20	-	-	40	35	M10	057	●
SK 50	12	63	42	22.5	-	-	-	-	M12	059	●
SK 50	12	100	48	22.5	-	-	40	42	M12	060	●
SK 50	14	63	44	22.5	-	-	-	-	M12	062	●
SK 50	14	100	50	22.5	-	-	40	44	M12	063	●
SK 50	16	63	48	24	-	-	-	-	M14	065	●
SK 50	16	100	54	24	-	-	40	48	M14	066	●
SK 50	20	63	52	25	-	-	-	-	M16	071	●
SK 50	20	100	59	25	-	-	40	52	M16	072	●
SK 50	25	80	65	-	24	25	-	-	M18 x 2	074	●
SK 50	25	100	65	-	24	25	-	-	M18 x 2	075	●
SK 50	32	100	72	-	24	28	-	-	M20 x 2	077	●
SK 50	40	120	80	-	30	32	-	-	M20 x 2	079	●
SK 50	50	120	100	-	35	35	-	-	M24 x 2	081	●

Prod. Gr. 2AV

ATORN Combination shell end mill arbours (DIN 6358) (ISO 7388-1)

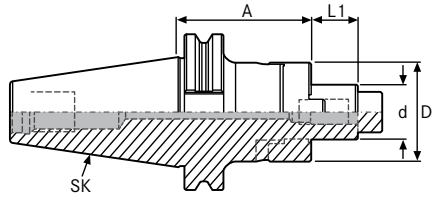
SK 40 | SK 50 | Form AD | Form A | IK | G 2,5 25000 rpm | ISO 7388-1

Application:
For holding shell end mills and single angle milling cutters with longitudinal groove in accordance with DIN 842.

Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm
- Functional surfaces precision-ground, all other surfaces black-oxide
- With Balluff chip hole
- Required pull studs no. 23690

Delivery:
1x SK40 or SK50 combination shell end mill arbour (ISO 7388-1); incl. retaining screw, key and drive ring

Notes:
The previous standard DIN 69871-1 is superseded by ISO 7388-1. If combined shell end mill arbors with ICS are desired, the cutter retaining screws must be ordered separately with IC DIN 6367.



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Tool holding device	d (mm)	L1 (mm)	A (mm)	D (mm)	Form	Coolant supply	23160... Ident. No.	
SK 40	16	27	55	32	A	External	305	●
SK 40	16	27	100	32	A	External	306	●
SK 40	16	27	130	32	A	External	307	○
SK 40	16	27	160	32	AD	Internal axial	308	●
SK 40	22	31	55	40	A	External	309	●
SK 40	22	31	100	40	A	External	310	●
SK 40	22	31	130	40	A	External	311	●
SK 40	22	31	160	40	AD	Internal axial	312	●
SK 40	27	33	55	48	A	External	313	●
SK 40	27	33	100	48	A	External	314	●
SK 40	27	33	130	48	A	External	315	●
SK 40	27	33	160	48	AD	Internal axial	316	●
SK 40	32	38	55	58	A	External	317	●
SK 40	32	38	100	58	A	External	318	●
SK 40	32	38	130	58	A	External	319	●
SK 40	32	38	160	58	AD	Internal axial	320	●
SK 40	40	41	55	70	A	External	321	●
SK 40	40	41	100	70	A	External	322	○
SK 40	40	41	130	70	A	External	323	○
SK 40	40	41	160	70	AD	Internal axial	324	●
SK 50	16	27	55	32	A	External	325	○
SK 50	16	27	100	32	A	External	326	○
SK 50	16	27	130	32	A	External	327	○
SK 50	16	27	160	32	AD	Internal axial	328	○
SK 50	16	27	200	32	AD	Internal axial	329	○
SK 50	22	31	55	40	A	External	330	●
SK 50	22	31	100	40	A	External	331	●
SK 50	22	31	130	40	A	External	332	○
SK 50	22	31	160	40	AD	Internal axial	333	●
SK 50	22	31	200	40	AD	Internal axial	334	○
SK 50	27	33	55	48	A	External	335	●
SK 50	27	33	100	48	A	External	336	●
SK 50	27	33	130	48	A	External	337	●
SK 50	27	33	160	48	AD	Internal axial	338	○
SK 50	27	33	200	48	AD	Internal axial	339	○
SK 50	32	38	55	58	A	External	340	●
SK 50	32	38	100	58	A	External	341	○
SK 50	32	38	130	58	A	External	342	●
SK 50	32	38	160	58	AD	Internal axial	343	●
SK 50	32	38	200	58	AD	Internal axial	344	○
SK 50	40	41	55	70	A	External	345	●
SK 50	40	41	100	70	A	External	346	●
SK 50	40	41	130	70	A	External	347	●
SK 50	40	41	160	70	AD	Internal axial	348	○
SK 50	40	41	200	70	AD	Internal axial	349	○

Prod. Gr. 2AR

ATORN Transverse drive shell end mill arbour DIN 6357 (ISO 7388-1)

Increased collar diameter (face mill arbour)

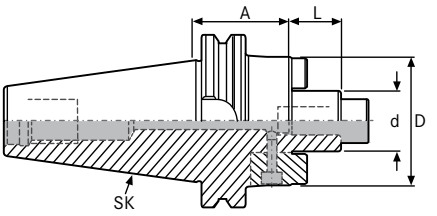
SK 40 | Form AD | IK | G 2,5 25000 rpm | ISO 7388-1

Application:
For accommodating shell end mills and angular milling cutters with longitudinal groove in accordance with DIN 842.

Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm
- Functional surfaces precision-ground, all other surfaces black-oxide
- With Balluff chip hole

Delivery:
1x SK40 or SK50 transverse drive shell end mill arbour (ISO 7388-1); with retaining screw

Notes:
The previous standard DIN 69871-1 was superseded by ISO 7388-1.



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Tool holding device	d (mm)	L (mm)	A (mm)	D (mm)	Coolant supply	23162... Ident. No.	
SK 40	16	17	35	38	Internal axial	170	●
SK 40	16	17	100	38	Internal axial	171	●
SK 40	16	17	130	38	Internal axial	172	●
SK 40	16	17	160	38	Internal axial	173	●
SK 40	22	19	35	48	Internal axial	174	●
SK 40	22	19	100	48	Internal axial	175	●
SK 40	22	19	130	48	Internal axial	176	●
SK 40	22	19	160	48	Internal axial	177	●
SK 40	27	21	40	58	Internal axial	178	●
SK 40	27	21	100	58	Internal axial	179	●
SK 40	27	21	130	58	Internal axial	180	●
SK 40	27	21	160	58	Internal axial	181	○
SK 40	32	24	50	78	Internal axial	182	●
SK 40	32	24	100	78	Internal axial	183	○
SK 40	32	24	130	78	Internal axial	184	●
SK 40	32	24	160	78	Internal axial	185	○
SK 40	40	27	50	88	Internal axial	186	○
SK 40	40	27	100	88	Internal axial	187	○
SK 40	40	27	130	88	Internal axial	188	●

Prod. Gr. 2AR

ATORN Tool chucks for screw-in milling cutters with thread ISO 12164-1 (ISO 7388-1)

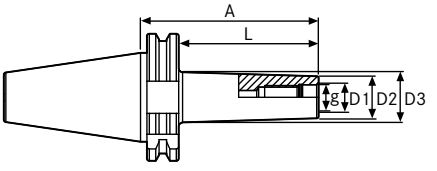
SK 40 | SK 50 | Form AD | IK | G 2,5 25000 rpm | ISO 7388-1

Application:
For accommodating threaded screw-in milling cutters.

Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm
- Functional surfaces precision-ground, all other surfaces black-oxide
- With Balluff chip hole

Delivery:
1x SK40 or SK50 screw-in holder (ISO 7388-1)

Notes:
The previous standard DIN 69871-1 has been replaced by ISO 7388-1.



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Tool holding device	D1 (mm)	D2 (mm)	D3 (mm)	A (mm)	L (mm)	23161... Ident. No.	
SK 40	6.5	10	13	44	25	663	○
SK 40	6.5	10	20	69	50	664	○
SK 40	6.5	10	23	94	75	665	○
SK 40	8.5	13	15	44	25	666	○
SK 40	8.5	13	23	69	50	667	○
SK 40	8.5	13	23	94	75	668	○
SK 40	8.5	13	23	119	100	669	○
SK 40	10.5	18	18	24	5	670	●

Tool holding device	D1 (mm)	D2 (mm)	D3 (mm)	A (mm)	L (mm)	23161... Ident. No.	
SK 40	10.5	18	20	44	25	671	●
SK 40	10.5	18	24	69	50	672	○
SK 40	10.5	18	32	94	75	673	○
SK 40	10.5	18	32	119	100	674	●
SK 40	10.5	18	36.5	169	150	675	●
SK 40	12.5	21	21	24	5	676	●
SK 40	12.5	21	24	44	25	677	●
SK 40	12.5	21	24	69	50	678	●
SK 40	12.5	21	31	94	75	679	●
SK 40	12.5	21	33	119	100	680	●
SK 40	12.5	21	40	144	125	681	○
SK 40	12.5	21	40	169	150	682	●
SK 40	17	29	29	24	5	683	●
SK 40	17	29	29	44	25	684	●
SK 40	17	29	34	69	50	685	●
SK 40	17	29	34	94	75	686	●
SK 40	17	29	36	119	100	687	●
SK 40	17	29	40	144	125	688	○
SK 40	17	29	42.5	169	150	689	●
SK 50	8.5	13	23	69	50	690	○
SK 50	8.5	13	25	119	100	691	○
SK 50	8.5	13	30	169	150	692	○
SK 50	10.5	18	23	69	50	693	○
SK 50	10.5	18	32	119	100	694	○
SK 50	10.5	18	36.5	169	150	695	○
SK 50	12.5	21	24	69	50	696	●
SK 50	12.5	21	33	119	100	697	○
SK 50	12.5	21	40	169	150	698	○
SK 50	17	29	34	69	50	699	●
SK 50	17	29	36	119	100	700	●
SK 50	17	29	42.5	169	150	701	○

Prod. Gr. 2AR

ATORN CNC precision short drill chuck (ISO 7388-1)

With spur gear mechanism

SK 40 | Form AD | Form A | IK | R/L | G 6,3 25000 rpm | ISO 7388-1

Application:

Ident. No. 540: For use on machining centres and CNC milling machines with tool change. For drilling, reaming, countersinking and also light milling and smoothing tasks.

Ident. No. 550: For use on machining centres and CNC machines with tool changer.

Execution:

- **Ident. No. 540:** Wear parts hardened and polished
- **Ident. No. 550:**
  - 100 % concentricity check using different test pin diameters at various measuring points, based on DIN ISO 10888
  - Concentricity tolerance ≤ 0.03 mm over the entire clamping range
  - With worm gear
  - Shape A with steep taper, no internal coolant supply

Advantage:

- Remains securely clamped even if the spindle stops suddenly

Delivery:

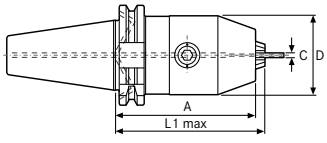
Ident. No. 540: 1x SK40 precision drill chuck (ISO 7388-1)

Ident. No. 550: 1x SK40 CNC precision drill chuck (ISO 7388-1)

Notes:

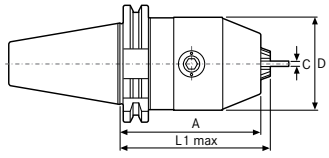
The previous standard DIN 69871-1 was replaced by ISO 7388-1.

Ident. No. 540
With IC

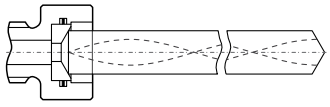


Ident. No. 540

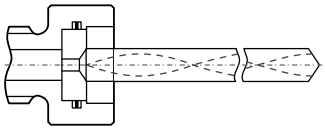
Ident. No. 550
Without internal cooling



Ident. No. 550



Ident. No. 540
(1) Sealing washer ATORN 16 (dia. 4.2 mm) integrated in the drill chuck head, for cooling channel drills dia. 6-16 mm with smooth shaft in accordance with DIN 6535, shape HA.



Ident. No. 540
(2) Sealing washer ATORN 16 (dia. 2.05 mm) included, for cooling channel drills dia. 3-6 mm with smooth shaft in accordance with DIN 6535, shape HA.

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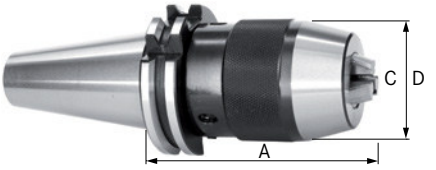
Tool holding device	Min./max. clamping width	A (mm)	Länge geöffnet L1 (mm)	D (mm)	L1 max. (mm)	Coolant supply	Concentricity tolerance (mm)	21329... Ident. No.	
SK 40	0.5-16 mm	90	103	57	103	Internal	0.020	540	●
SK 40	0.5-16 mm	90	103	57	103	No	0.020	550	●

Prod. Gr. 2BB

ORION® Short drill chuck (ISO 7388-1)

Self-clamping

SK 40 | SK 50 | Form A | R | G 6,3 12000 rpm | ISO 7388-1



Application:
For drilling and centring.

Execution:
- Precision version.
- Clamping force increases automatically and proportionally to the torque.

Advantage:
- Quick clamping via clamping sleeve, with two clamping surfaces for doubling the clamping force with a wrench.
- In the event that the spindle stops suddenly, loosening of the cutting tool is prevented.

Delivery:
1x short drill chuck in accordance with ISO 7388-1 (DIN 69871) self-clamping; incl. wrench.

Notes:
The previous standard DIN 69871-1 was replaced by ISO 7388-1.

Tool holding device	Min./max. clamping width	A (mm)	D (mm)	Coolant supply	23050... Ident. No.	
SK 40	1-13 mm	86	50	No	740	●
SK 40	2.5-16 mm	110	57	No	745	●
SK 50	3-16 mm	90	57	No	750	●

Prod. Gr. 295

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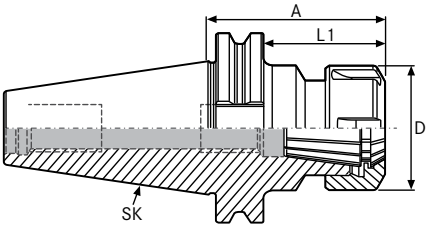
ATORN Collet chuck type ER DIN 6499 (ISO 7388-1)

Clamping nut can be ordered separately, no. 23323 151-297

SK 40 | SK 50 | Form AD | IK | G 2,5 25000 rpm | ISO 7388-1



Application:
For clamping tools with straight shank in ER collet chucks in accordance with DIN 6499.

Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm
- Functional surfaces precision-ground, all other surfaces black-oxide
- With Balluff chip hole
- All ER16 collet chucks feature a hexagon nut
- Required pull studs no. 23690 and collet chucks no. 23320

Delivery:
1x SK40 or SK50 ER collet chuck (ISO 7388-1); incl. clamping nut

Notes:
The previous standard DIN 69871-1 was superseded by ISO 7388-1.

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Tool holding device	Collet type	Spannbereich min./ max.	A (mm)	D (mm)	L1 (mm)	23296... Ident. No.	
SK 40	ER 16	0.5-10 mm	63	28	44	525	●
SK 40	ER 16	0.5-10 mm	100	28	81	526	●
SK 40	ER 16	0.5-10 mm	130	28	111	527	●
SK 40	ER 16	0.5-10 mm	160	28	141	528	●
SK 40	ER 16	0.5-10 mm	200	28	181	529	○
SK 40	ER 25	1-16 mm	60	42	41	530	●
SK 40	ER 25	1-16 mm	100	42	81	531	●
SK 40	ER 25	1-16 mm	130	42	111	532	●
SK 40	ER 25	1-16 mm	160	42	141	533	●
SK 40	ER 25	1-16 mm	200	42	181	534	○
SK 40	ER 32	2-20 mm	70	50	51	535	●
SK 40	ER 32	2-20 mm	100	50	81	536	●
SK 40	ER 32	2-20 mm	130	50	111	537	●
SK 40	ER 32	2-20 mm	160	50	141	538	●
SK 40	ER 32	2-20 mm	200	50	181	539	○
SK 40	ER 40	3-26 mm	80	63	51	540	●
SK 40	ER 40	3-26 mm	100	63	81	541	●
SK 40	ER 40	3-26 mm	130	63	111	542	●
SK 40	ER 40	3-26 mm	160	63	141	543	●
SK 40	ER 40	3-26 mm	200	63	181	544	○
SK 50	ER 16	0.5-10 mm	100	28	81	545	○
SK 50	ER 16	0.5-10 mm	130	28	111	546	○
SK 50	ER 16	0.5-10 mm	160	28	141	547	○
SK 50	ER 25	1-16 mm	60	42	41	548	●
SK 50	ER 25	1-16 mm	100	42	81	549	●
SK 50	ER 25	1-16 mm	130	42	111	550	○

Tool holding device	Collet type	Spannbereich min./ max.	A (mm)	D (mm)	L1 (mm)	23296... Ident. No.	
SK 50	ER 25	1-16 mm	160	42	141	551	●
SK 50	ER 32	2-20 mm	70	50	51	552	●
SK 50	ER 32	2-20 mm	100	50	81	553	●
SK 50	ER 32	2-20 mm	130	50	111	554	○
SK 50	ER 32	2-20 mm	160	50	141	555	●
SK 50	ER 32	2-20 mm	200	50	181	556	○
SK 50	ER 40	3-26 mm	80	63	61	557	●
SK 50	ER 40	3-26 mm	100	63	81	558	●
SK 50	ER 40	3-26 mm	130	63	111	559	○
SK 50	ER 40	3-26 mm	160	63	141	560	●
SK 50	ER 40	3-26 mm	200	63	181	561	○

Prod. Gr. 2AR

ORION® Collet chuck type ER (ISO 7388-1)

SK 40 | SK 50 | Form AD/AF | IK | G 6,3 15000 rpm | ISO 7388-1

Application:
For clamping tools with straight shanks in ER collet chucks in line with DIN 6499.

Execution:
- With Balluff chip hole
- All tapers and tolerances are precision-ground
- All ER 16 collet chucks have a hexagon nut

Delivery:
1x collet chuck type ER in accordance with ISO 7388-1 (DIN 69871); incl. clamping nut.

Notes:
For ER 16 = normal version, please use our single open-end wrench no. 52002 025
The previous standard DIN 69871-1 has been replaced by ISO 7388-1. Requisite pull studs no. 23690 and collet chucks no. 23320

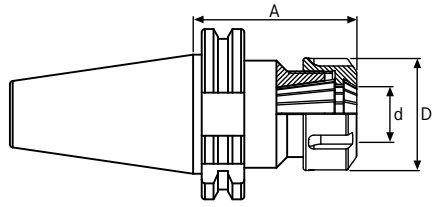
Ident. No. 001–012

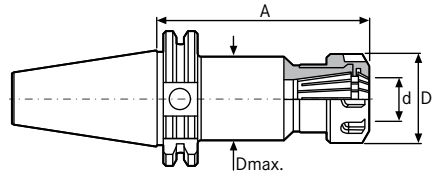
Ident. No. 050–056

Tool holding device	Collet type	Min./max. clamping range d	A (mm)	D (mm)	D max. (mm)	23296... Ident. No.	
SK 40	ER 16	0.5-10 mm	60	32	-	001	●
SK 40	ER 16	0.5-10 mm	100	32	28	002	●
SK 40	ER 16	0.5-10 mm	160	32	28	003	●
SK 40	ER 25	1-16 mm	70	42	-	004	●
SK 40	ER 25	1-16 mm	100	42	40	005	●
SK 40	ER 25	1-16 mm	160	42	40	006	●
SK 40	ER 32	2-20 mm	70	50	-	007	●
SK 40	ER 32	2-20 mm	100	50	45	008	●
SK 40	ER 32	2-20 mm	160	50	45	009	●
SK 40	ER 40	3-26 mm	70	63	-	010	●
SK 40	ER 40	3-26 mm	100	63	48	011	●
SK 40	ER 40	3-26 mm	160	63	48	012	●
SK 50	ER 25	2-16 mm	70	42	-	050	●
SK 50	ER 25	2-16 mm	100	42	40	051	●
SK 50	ER 32	2-20 mm	70	50	-	053	●
SK 50	ER 32	2-20 mm	100	50	45	054	●
SK 50	ER 32	2-20 mm	160	50	45	055	●
SK 50	ER 40	3-26 mm	80	63	-	056	●

Prod. Gr. 2AV

Compatible ER-type collet chucks no. 23322 011-426 and no. 23322 501-636 page 889





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BIG DAISHOWA Hi-Power high-performance power chuck SK-50 (ISO 7388-1)

SK 40 | Form AD | G 6,3 15000 rpm | ISO 7388-1

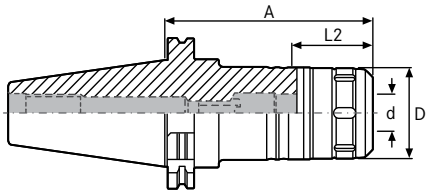
Application:
The high-performance power chuck combines high precision with high torque transmission and rigidity. Perfect for use in heavy
machining during milling, but also for drilling and fine drilling operations.

Execution:
- High clamping force thanks to special slotted design and needle bearing.
- High rigidity for heavy machining
- High levels of precision and concentricity
- Axial length adjustment of 6 mm with stop screw

Advantage:
- Various applications when used with reduction sleeves ref. no. 23336450-455.
- Perfect for heavy machining.

Delivery:
1x high-performance power chuck in accordance with ISO 7388-1 (DIN 69871).

Notes:
For clamping the BIG DAISHOWA Hi-Power high-performance power chuck,
use hook wrench art. no. 23297010.
We stock all other BIG DAISHOWA articles and versions.
Accessory 23336460 stop screw!



Tool holding device	d (mm)	A (mm)	D (mm)	L2 (mm)	23297... Ident. No.	
SK 40	20	85	50	50	201	○

Prod. Gr. 2AX

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Accessories for		23297 201
23297... BIG DAISHOWA hook spanner wrench FK45-50L Accessories for power chuck	Ident. No.	010 ○

ATORN Collet chuck type ER with miniature nut DIN 6499 (ISO 7388-1)

Slimline version

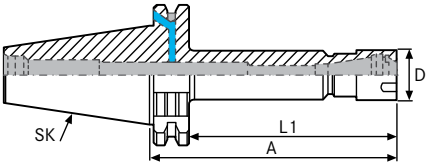
SK 40 | SK 50 | Form AD/AF | IK | G 2,5 25000 rpm | ISO 7388-1

Application:
For clamping tools with a straight shank in ER collets in accordance with DIN 6499.

Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm
- Functional surfaces precision-ground, all other surfaces black-oxide
- With Balluff chip hole

Delivery:
1x SK40 or SK50 ER miniature collet chuck (ISO 7388-1); incl. clamping nut

Notes:
The previous standard DIN 69871-1 was superseded by ISO 7388-1.



Tool holding device	Collet type	Spannbereich min./max.	A (mm)	D (mm)	L1 (mm)	23297... Ident. No.	
SK 40	ER 11	0.5-7 mm	55	16	36	109	●
SK 40	ER 11	0.5-7 mm	100	16	81	110	●
SK 40	ER 11	0.5-7 mm	130	16	111	111	●
SK 40	ER 11	0.5-7 mm	160	16	141	112	●
SK 40	ER 16	0.5-10 mm	100	22	81	113	●
SK 40	ER 16	0.5-10 mm	130	22	111	114	●
SK 40	ER 16	0.5-10 mm	160	22	141	115	●
SK 40	ER 25	1-16 mm	100	35	81	116	●
SK 40	ER 25	1-16 mm	130	35	111	117	●
SK 40	ER 25	1-16 mm	160	35	141	118	●
SK 50	ER 16	0.5-10 mm	100	22	81	119	○
SK 50	ER 16	0.5-10 mm	130	22	111	120	○
SK 50	ER 16	0.5-10 mm	160	22	141	121	○

Prod. Gr. 2AR

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ATORN Precision collet chuck (ISO 7388-1)

SK 40 | Form AD | IK | G 2,5 25000 rpm | ≤0,003 | ISO 7388-1

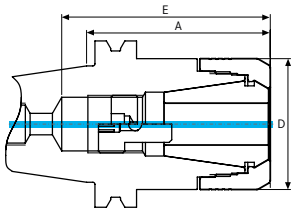
Application:
For clamping tools with straight shanks without loss of concentricity or clamping force up to shank tolerance h10, for economic machining of individual and series parts with extremely high-precision machining results. Ideal for HPC and HSC machining.

Execution:
- 30° trapezoidal thread with polished, extra-long double guide with special anti-friction coating for less friction
- Clamping forces are evenly distributed across the entire cylindrical shell surface and radial forces are optimally absorbed to produce perfect surfaces
- Precise centring when tightening the clamping nut
- Suitable torque wrench attachments 23360 960-966 torque wrench is recommended, suitable collet chucks type ER no. 23323 617-658

Advantage:
- Resistant to fluctuations in temperature and entirely suitable for drying processes and hard milling up to 200 °C
- Reinforcement of the chuck body over the diameter of the clamping nut ensures outstanding stability with an optimum interference contour
- Extremely low system concentricity of < 3 µm with the 2 µm ATORN UP collets. With Fahrion 2 µm HPD sealed collets to 80 bar for internal cooling (without sealing washer)
- Completely enclosed in the chuck cone for optimum stability and even distribution of clamping forces
- Retention force twice that of conventional collet chucks

Delivery:
1x precision collet chuck SK40 (ISO 7388-1); incl. clamping nut

Notes:
The previous standard DIN 69871-1 was replaced by ISO 7388-1.



Max. tightening torque on the clamping nut

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Tool holding device	Clamping nut type	Collet type	Min./max. clamping range	A (mm)	D (mm)	E (mm)	Max. tightening torque (Nm)	23361... Ident. No.	
SK 40	HPC 16	ER 16 (426 E)	1-10 mm	70	30	110	55	001	●
SK 40	HPC 16	ER 16 (426 E)	1-10 mm	100	30	140	55	002	●
SK 40	HPC 16	ER 16 (426 E)	1-10 mm	160	30	200	55	003	○
SK 40	HPC 16	ER 16 (426 E)	1-10 mm	200	30	240	55	004	○
SK 40	HPC 25	ER 25 (430 E)	2-16 mm	70	40	110	85	005	●
SK 40	HPC 25	ER 25 (430 E)	2-16 mm	100	40	113	85	006	●
SK 40	HPC 25	ER 25 (430 E)	2-16 mm	160	40	165	85	007	○
SK 40	HPC 25	ER 25 (430 E)	2-16 mm	200	40	-	85	008	○
SK 40	HPC 32	ER 32 (470 E)	2-20 mm	70	50	111	140	009	●
SK 40	HPC 32	ER 32 (470 E)	2-20 mm	100	50	114	140	010	●
SK 40	HPC 32	ER 32 (470 E)	2-20 mm	160	50	135	140	011	○

Prod. Gr. 263

ATORN HPH high-performance HYDRAULIC expansion chuck (ISO 7388-1)

Short, heavy-duty version

SK 40 | SK 50 | Form AD/AF | IK | G 2,5 25000 rpm | ≤0,003 | ISO 7388-1

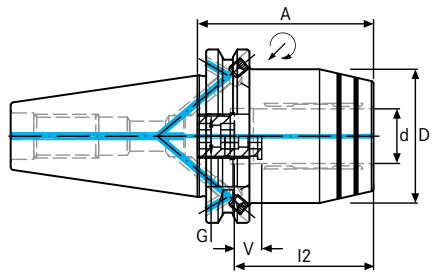
Application:
For high-precision and centric clamping of milling, drilling and reaming tools – particularly with milling and heavy-duty machining during rough machining.

Execution:
- With axial longitudinal adjustment
- Reducing sleeves for flexible application
- Very high concentricity (< 3 µm)
- Coolant pressure up to 80 bar
- Temperature-resistant up to 100 °C

Advantage:
- Robust version ideal for HPC+HSC machining
- Damping properties to increase service life of tool and machine spindle
- Vibration-damping effect reduces micro-cracks and improves the workpiece surface
- All standard shanks can be clamped (dia. tolerance h6)
- Very high torque transfer (dia. 20 = 650 Nm/dia. 32 = 890 Nm)

Delivery:
1x SK40 or SK50 hydraulic expansion chuck (ISO 7388-1)

Notes:
The previous standard DIN 69871-1 was replaced by ISO 7388-1.



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Tool holding device	d (mm)	A (mm)	d2 (mm)	d3 (mm)	D (mm)	l1 (mm)	l2 (mm)	max. V (mm)	G	23338... Ident. No.	
SK 40	12	50	32	42	42	36	46	10	M8 x 1	012	●
SK 40	20	64.5	38	49	49	41	51	10	M16 x 1	020	●
SK 50	20	64.5	38	49	49	41	51	10	M16 x 1	021	○

Prod. Gr. 2BC

ATORN HPH hydraulic expansion chuck 3°, ultra-slim (ISO 7388-1)

3D-printed

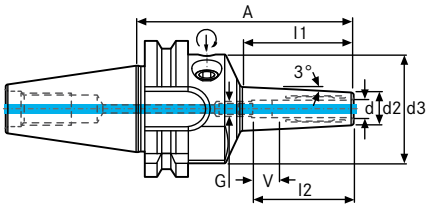
SK 40 | Form AD/AF | IK | G 2,5 25000 rpm | ≤0,003 | ISO 7388-1

Application:
Produced using an innovative process, the ultra-slim hydro expansion chuck combines the advantages of an expansion chuck and a shrink-fit chuck in a single product.

Execution:
- Extremely high clamping forces
- Extremely high temperature resistance (up to 120 °C) ensures that the chuck retains its accuracy
- Slim shrink-fit chuck-style design makes it suitable for narrow interference contours
- Excellent damping properties
- Max. concentricity < 0.003 mm
- Standard tool changes as with expansion chucks without requiring additional devices
- Reducer bushings enable various applications
- Balanced to G2.5/25,000 rpm
- With Balluff chip hole

Delivery:
1x ultra-slim SK30 or SK40 hydraulic expansion chuck (ISO 7388-1)

Notes:
The previous standard DIN 69871-1 was replaced by ISO 7388-1.



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Tool holding device	d (mm)	A (mm)	d2 (mm)	d3 (mm)	D (mm)	l1 (mm)	l2 (mm)	max. V (mm)	G	23333... Ident. No.	
SK 40	3	120	9	17.4	49.5	80	28	16	M2.5	603	●
SK 40	4	120	10	18.4	49.5	80	28	12	M2.5	604	●
SK 40	5	120	11	19.4	49.5	80	28	8	M2.5	605	●
SK 40	6	120	12	20.4	49.5	80	37	10	M5	606	●
SK 40	8	120	14	22.4	49.5	80	37	10	M6	608	●
SK 40	10	120	16	24.5	49.5	81	41	10	M8 x 1	610	●
SK 40	12	120	18	26.6	49.5	82	46	10	M10 x 1	612	●

Prod. Gr. 2BC

ATORN Shrink-fit chuck, SK40, 4.5 degrees (ISO 7388-1)

DIN 69871 coolant supply AD/B

SK 40 | Form AD/AF | IK | G 2,5 25000 rpm | ≤0,003 | ISO 7388-1

Application:
Ident. No. 003–032: For clamping milling tools and drill bits with straight shank, tolerance h6. Suitable for shrinking on inductive contact and hot air devices.
Ident. No. 103–332: For clamping cutters and drills with straight shanks in h6 tolerance. Suitable for shrinking onto inductive contact and hot air devices.

Execution:
- Guarantees maximum concentricity < 0.003 mm
- Heat-resistant and high-temperature tool steel 1,600-1,800 N/mm²
- Hardness 52 + 2 HRC
- Maximum coolant pressure 80 bar
- Adjustment travel 10 mm, can be adjusted on both sides
- Shrink grip and shrink release of carbide and HSS tools
- 4 additional drill holes for fine balancing
- With Balluff chip hole

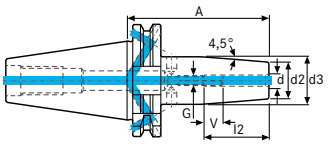
Advantage:
- High positioning and repeat accuracy
- Shrink-fit chuck ideal for high rotation speeds
- Slim design, narrow interfering contour
- Very high torque transfer
- Extremely cost-effective

Delivery:
Ident. No. 003–032: 1x SK40 shrink-fit chuck (ISO 7388-1) shape AD/B
Ident. No. 103–332: 1x SK40 shrink-fit chuck (ISO 7388-1)

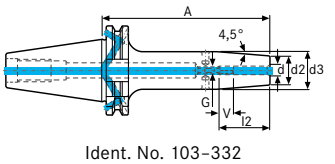
Notes:
The previous standard DIN 69871-1 was replaced by ISO 7388-1.

Ident. No. 003–032

Ident. No. 103–332



Ident. No. 003–032



Ident. No. 103–332

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Tool holding device	d (mm)	A (mm)	d2 (mm)	D (mm)	min. L2 (mm)	G	23424... Ident. No.	
SK 40	3	80	10	17	22	M6	003	●
SK 40	4	80	15	22	26	M6	004	●
SK 40	5	80	15	22	30	M6	005	○
SK 40	6	80	21	27	36	M5	006	●
SK 40	8	80	21	27	36	M6	008	●
SK 40	10	80	24	32	41	M8 x 1	010	●
SK 40	12	80	24	32	47	M10 x 1	012	●
SK 40	14	80	27	34	47	M10 x 1	014	●
SK 40	16	80	27	34	50	M12 x 1	016	●
SK 40	18	80	33	42	50	M12 x 1	018	●
SK 40	20	80	33	42	52	M16 x 1	020	●

Tool holding device	d (mm)	A (mm)	d2 (mm)	D (mm)	min. L2 (mm)	G	23424... Ident. No.	
SK 40	25	100	44	53	58	M16 x 1	025	●
SK 40	32	100	44	53	62	M16 x 1	032	○
SK 40	3	120	10	20	28	M6	103	○
SK 40	4	120	15	22	28	M6	104	○
SK 40	5	120	15	22	30	M6	105	○
SK 40	6	120	21	27	36	M5	106	●
SK 40	8	120	21	27	36	M6	108	●
SK 40	10	120	24	32	41	M8 x 1	110	●
SK 40	12	120	24	32	47	M10 x 1	112	●
SK 40	14	120	27	34	47	M10 x 1	114	○
SK 40	16	120	27	34	50	M12 x 1	116	●
SK 40	18	120	33	42	50	M12 x 1	118	○
SK 40	20	120	33	42	52	M16 x 1	120	○
SK 40	25	120	44	53	58	M16 x 1	125	○
SK 40	32	120	44	53	62	M16 x 1	132	○
SK 40	6	160	21	27	36	M5	206	●
SK 40	8	160	21	27	36	M6	208	●
SK 40	10	160	24	32	41	M8 x 1	210	●
SK 40	12	160	24	32	47	M10 x 1	212	○
SK 40	14	160	27	34	47	M10 x 1	214	○
SK 40	16	160	27	34	50	M12 x 1	216	○
SK 40	18	160	33	42	50	M12 x 1	218	○
SK 40	20	160	33	42	52	M16 x 1	220	○
SK 40	25	160	44	53	58	M16 x 1	225	○
SK 40	32	160	44	53	62	M16 x 1	232	○
SK 40	4	200	15	22	28	M6	304	○
SK 40	6	200	21	27	36	M5	306	○
SK 40	8	200	21	27	36	M6	308	○
SK 40	10	200	24	32	41	M8 x 1	310	○
SK 40	12	200	24	32	47	M10 x 1	312	○
SK 40	14	200	27	34	47	M10 x 1	314	○
SK 40	16	200	27	34	50	M12 x 1	316	○
SK 40	18	200	33	42	50	M12 x 1	318	○
SK 40	20	200	33	42	52	M16 x 1	320	○
SK 40	25	200	44	53	58	M16 x 1	325	○
SK 40	32	200	44	53	62	M16 x 1	332	○

Prod. Gr. 287

ATORN Shrink-fit chuck, 4.5 degrees (with KKB) (ISO 7388-1)

With resealable coolant bores (KKB)

SK 40 | Form AD/AF | IK | G 2,5 25000 rpm | ≤0,003 | ISO 7388-1

Application:
For clamping cutters and drills with straight shanks in h6 tolerance. Suitable for shrinking onto inductive contact and hot air devices.

Execution:
- Guarantees maximum concentricity of 0.003 mm
- Shrink grip and shrink release of carbide and HSS tools
- Hardness 52 + 2 HRC
- Maximum coolant pressure 80 bar
- Adjustment travel 10 mm, can be adjusted on both sides
- 4 additional drill holes for fine balancing
- With Balluff chip hole

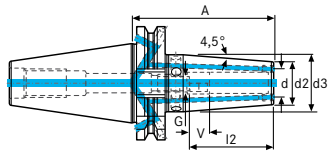
Advantage:
- High transmittable torques
- Heat-resistant and high-temperature tool steel 1,600-1,800 N/mm²
- High positioning and repeat accuracy
- Ideal for high rotation speeds

Delivery:
1x SK40 shrink-fit chuck (ISO 7388-1)

Notes:
The previous standard DIN 69871-1 was superseded by ISO 7388-1.

Ident. No. 503–532

Ident. No. 553–582



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Tool holding device	d (mm)	A (mm)	d2 (mm)	D (mm)	max. L2 (mm)	G	max. V (mm)	23424... Ident. No.	
SK 40	3	80	10	17	28	M6	10	503	○
SK 40	4	80	15	22	28	M6	10	504	○
SK 40	5	80	15	22	30	M6	10	505	○
SK 40	6	80	21	27	36	M5	10	506	●
SK 40	8	80	21	27	36	M6	10	508	●
SK 40	10	80	24	32	41	M8 x 1	10	510	●
SK 40	12	80	24	32	47	M10 x 1	10	512	●
SK 40	14	80	27	34	47	M10 x 1	10	514	●
SK 40	16	80	27	34	50	M12 x 1	10	516	○
SK 40	18	80	33	42	50	M16 x 1	10	518	○
SK 40	20	80	33	42	52	M16 x 1	10	520	○

Tool holding device	d (mm)	A (mm)	d2 (mm)	D (mm)	max. L2 (mm)	G	max. V (mm)	23424... Ident. No.	
SK 40	25	100	44	53	58	M16 x 1	10	525	○
SK 40	32	100	44	53	62	M16 x 1	10	532	○
SK 40	3	120	9	16	28	M6	10	553	●
SK 40	4	120	10	17	28	M6	10	554	○
SK 40	5	120	11	18	30	M6	10	555	○
SK 40	6	120	12	22	36	M5	10	556	●
SK 40	8	120	14	24	36	M6	10	558	●
SK 40	10	120	16	26	41	M8 x 1	10	560	●
SK 40	12	120	18	28	47	M10 x 1	10	562	●
SK 40	14	120	20	30	47	M10 x 1	10	564	○
SK 40	16	120	22	32	50	M12 x 1	10	566	○
SK 40	18	120	24	34	50	M12 x 1	10	568	○
SK 40	20	120	26	36	52	M16 x 1	10	570	●
SK 40	25	120	44	53	58	M16 x 1	10	575	○
SK 40	32	120	44	53	62	M16 x 1	10	582	○

Prod. Gr. 287

ATORN Shrink-fit chuck, slimline, 3 degrees (ISO 7388-1)

For mould making with minimum interference contour

SK 40 | Form AD/AF | IK | G 2,5 25000 rpm | ≤0,003 | ISO 7388-1

Application:
For clamping milling tools and drill bits with h6 shaft tolerance. Suitable for inductive, contact and hot air shrinking devices.

Execution:
- Shrink grip and shrink release of carbide and HSS tools
- Hardness 52 + 2 HRC

- Maximum coolant pressure 80 bar
- 4 additional drill holes for fine balancing
- With Balluff chip hole
- Glass bead blasted

Advantage:
- Slim design, extremely low interference contour
- High transmittable torques

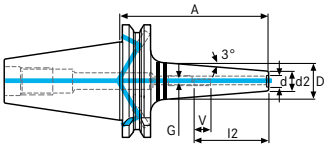
- High positioning and repeat accuracy
- Ideal for high rotation speeds

Delivery:
1x SK40 shrink-fit chuck 3° (ISO 7388-1)

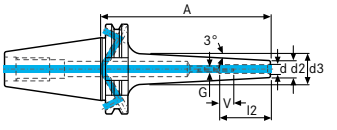
Notes:
The previous standard DIN 69871-1 was superseded by ISO 7388-1.

Ident. No. 003-005, 008-020

Ident. No. 041-073



Ident. No. 003-020



Ident. No. 041-073

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Tool holding device	d (mm)	A (mm)	d2 (mm)	D (mm)	max. L2 (mm)	G	max. V (mm)	23427... Ident. No.	
SK 40	3	80	9	14	28	M6	16	003	●
SK 40	3	120	9	16	28	M6	10	041	○
SK 40	4	80	10	15	28	M6	12	004	●
SK 40	4	120	10	17	28	M6	10	044	○
SK 40	5	80	11	16	30	M6	10	005	○
SK 40	5	120	11	18	30	M6	10	047	○
SK 40	6	80	12	17	36	M5	10	006	●
SK 40	6	120	12	22	36	M5	10	050	●
SK 40	6	160	12	24	36	M5	10	051	●
SK 40	6	200	12	24	36	M5	10	052	○
SK 40	8	80	14	19	36	M6	10	008	●
SK 40	8	120	14	24	36	M6	10	053	●
SK 40	8	160	14	26	36	M6	10	054	○
SK 40	10	80	16	21	41	M8 x 1	10	010	●
SK 40	10	120	16	26	41	M8 x 1	10	056	●
SK 40	10	200	16	28	41	M8 x 1	10	058	●
SK 40	12	80	18	23	47	M10 x 1	10	012	●
SK 40	12	120	18	28	47	M10 x 1	10	059	●
SK 40	12	160	18	30	47	M10 x 1	10	060	○
SK 40	14	80	20	26	47	M10 x 1	10	014	○
SK 40	14	120	20	30	47	M10 x 1	10	062	○
SK 40	16	80	22	28	50	M12 x 1	10	016	●
SK 40	16	120	22	32	50	M12 x 1	10	065	●
SK 40	16	160	22	34	50	M12 x 1	10	066	●
SK 40	18	80	24	30	50	M12 x 1	10	018	○
SK 40	18	120	24	34	50	M12 x 1	10	068	●
SK 40	20	80	26	32	52	M16 x 1	10	020	●
SK 40	20	120	26	36	52	M16 x 1	10	071	●
SK 40	20	160	26	28	52	M16 x 1	10	072	○
SK 40	20	200	26	38	52	M16 x 1	10	073	○

Prod. Gr. 287

ORION® Tapping quick-change chuck ISO 7388-1 SK (ISO 7388-1)

With elastic length compensation, effective under pressure and tension

SK 40 | SK 50

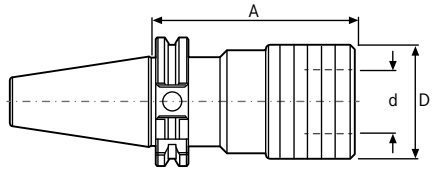
Application:
For thread cutting and thread shaping on NC machines and machining centres.

Execution:
- The machine spindle's direction of rotation must be changed for reverse motion.

Advantage:
- Fast retooling thanks to quick-change chuck.
- Low tool wear thanks to length compensation.

Delivery:
1x quick-change tapping chuck.

Notes:
The previous standard DIN 69871-1 was replaced by ISO 7388-1.



Used sizes	Tool holding device	Suitable for screw thread	Pressure length compensation (mm)	Tension length compensation (mm)	D (mm)	d (mm)	A (mm)	ISO	Form	21545... Ident. No.	
1	SK 40	M3-M12	9	9	38	19	60	7388-1	A	610	●
1	SK 50	M3-M12	9	9	38	19	62	7388-1	A	620	●
2	SK 40	M6-M20	15	15	55	31	100	7388-1	A	630	●
2	SK 50	M6-M20	15	15	55	31	83	7388-1	A	640	●

Prod. Gr. 295

ATORN Synchronous tapping chuck ISO 7388-1 SK (ISO 7388-1)

For machine tools with synchronous control

SK 40 | SK 50 | Form AD | IK | G 2,5 25000 rpm

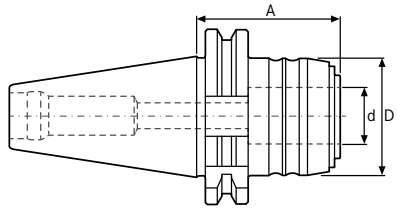
Application:
For thread cutting on machine tools with synchronous spindles. With rigidly clamped screw taps, pitch errors cause high axial forces that can be compensated for by synchronous tapping chucks through minimal length compensation under pressure and tension.

Execution:
- Pitch errors are compensated for with minimal length compensation of 1.0 mm under tension and 0.2 mm under pressure
- Clamping screws prevent the clamped screw tap from spinning
- Thread-cutting quick-change chuck for synchronous spindles
- Accessories required: Quick-change insert, 1 and 2 pieces no. 21556316-525 collet chucks type ER for thread cutting no. 23320600-691

Advantage:
- Increased tool service life
- Secure clamping in quick-change inserts for ER collets

Delivery:
1x tapping chuck

Notes:
(please order quick-change inserts separately).



Ref. no. 21555 341-352 SK40-SK50 ISO 7388-1

Tool holding device	ISO	DIN	Collet type	Used sizes	Suitable for thread	A (mm)	D (mm)	d (mm)	Form	Pressure length compensation (mm)	Tension length compensation (mm)	21555... Ident. No.	
SK 40	7388-1	69871-1	ER 16	1	M3-M12	53	43	20	AD	0.2	1	341	●
SK 40	7388-1	69871-1	ER 25	2	M6-M20	90	60	32	AD	0.2	1	342	●
SK 50	7388-1	69871-1	ER 16	1	M3-M12	53	43	20	AD	0.2	1	351	○
SK 50	7388-1	69871-1	ER 25	2	M6-M20	74	60	32	AD	0.2	1	352	○

Prod. Gr. 225

ORION® Synchronous tapping chuck steep taper according to ISO 7388-1 (ISO 7388-1)

For collet chucks type ER according to DIN 6499 ISO 15488

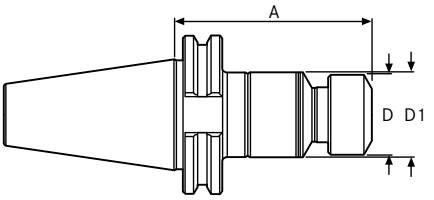
SK 40 | Form AD/AF | IK | G 2,5 25000 rpm

Application:
For thread cutting on machine tools with synchronous spindles. With rigidly clamped screw taps, pitch errors cause high axial forces that can be compensated for by synchronous tapping chucks through minimal length compensation under pressure and tension.

Execution:
- Length compensation under pressure and tension 0.5 mm.

Advantage:
- Compensation of pitch errors under pressure.
- Increased tool service life.

Delivery:
1x synchronous tapping chuck.



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Tool holding device	ISO	Collet type	Suitable for thread	A (mm)	D (mm)	Collar Ø d1 (mm)	Form	Pressure length compensation (mm)	Tension length compensation (mm)	Coolant supply	21557... Ident. No.	
SK 40	7388-1	ER 16	M3-M12	79	32	34	AD/AF	0.5	0.5	Internal axial	001	●
SK 40	7388-1	ER 25	M3-M20	84	42	45	AD/AF	0.5	0.5	Internal axial	003	●
SK 40	7388-1	ER 32	M4-M27	95	50	45	AD/AF	0.5	0.5	Internal axial	004	●

Prod. Gr. 2AM

ATORN Surface chuck (Weldon) (ISO 7388-2)

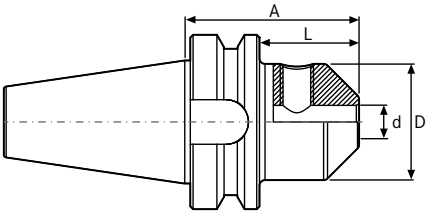
BT 40 | Form JD | IK | G 2,5 25000 rpm | ISO 7388-2

Application:
For clamping tools with straight shank and clamping surface in accordance with DIN 1835 B.

Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm
- Functional surfaces precision-ground, all other surfaces black-oxide
- With Balluff chip hole

Delivery:
1x BT40 surface chuck (Weldon) (ISO 7388-2

Notes:
The previous standard JIS B 6339 MAS BT was superseded by ISO 7388-2.



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Tool holding device	d (mm)	A (mm)	D (mm)	L (mm)	g / G	23158... Ident. No.	
BT 40	6	50	25	23	M6	051	●
BT 40	6	100	25	73	M6	052	●
BT 40	6	130	25	103	M6	053	○
BT 40	8	50	28	23	M8	056	●
BT 40	8	100	28	73	M8	057	●
BT 40	8	130	28	103	M8	058	○
BT 40	10	63	35	36	M10	061	●
BT 40	10	100	35	73	M10	062	●
BT 40	10	130	35	103	M10	063	○
BT 40	12	63	42	36	M12	066	●
BT 40	12	100	42	73	M12	067	●
BT 40	12	130	42	103	M12	068	○
BT 40	14	63	45	36	M12	071	●
BT 40	14	100	45	73	M12	072	○
BT 40	14	130	45	103	M12	073	○
BT 40	16	35	45	8	M14	076	●
BT 40	16	63	48	36	M14	077	●
BT 40	16	100	48	73	M14	078	●
BT 40	16	130	48	103	M14	079	○
BT 40	18	63	50	36	M14	082	○
BT 40	18	100	50	73	M14	083	○
BT 40	18	130	50	103	M14	084	○
BT 40	20	35	45	8	M16	087	●
BT 40	20	63	52	36	M16	088	●
BT 40	20	100	52	73	M16	089	●
BT 40	20	130	52	103	M16	090	○

Tool holding device	d (mm)	A (mm)	D (mm)	L (mm)	g / G	23158... Ident. No.	
BT 40	25	35	45	8	M18	093	●
BT 40	25	90	63	63	M18	094	●
BT 40	25	130	63	103	M18	095	○
BT 40	32	65	63	38	M20	098	●
BT 40	32	100	72	75	M20	099	●
BT 40	32	130	72	103	M20	100	○
BT 40	40	120	80	93	M20	103	●

Prod. Gr. 2AR

ATORN Surface chuck (Weldon) (ISO 7388-2)

KKB= resealable cooling duct holes

BT 40 | Form JD | G 2,5 25000 rpm | ISO 7388-2

Application:

For clamping tools with straight shank and clamping surface in accordance with DIN 1835 B.

Execution:

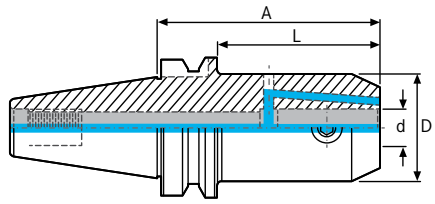
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm
- Functional surfaces precision-ground, all other surfaces black-oxide
- With Balluff chip hole

Delivery:

1x BT40 surface chuck (Weldon) (ISO 7388-2

Notes:

The previous standard JIS B 6339 MAS BT was superseded by ISO 7388-2.



With KKB= resealable coolant bores

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Tool holding device	d (mm)	A (mm)	D (mm)	L (mm)	g / G	23158... Ident. No.	
BT 40	6	50	25	23	M6	105	●
BT 40	6	100	25	75	M6	106	●
BT 40	6	130	25	103	M6	107	○
BT 40	8	50	28	23	M8	110	●
BT 40	8	100	28	75	M8	111	●
BT 40	8	130	28	103	M8	112	○
BT 40	10	63	35	40	M10	115	●
BT 40	10	100	35	75	M10	116	●
BT 40	10	130	35	103	M10	117	○
BT 40	12	63	42	36	M12	120	●
BT 40	12	100	42	75	M12	121	●
BT 40	12	130	42	103	M12	122	○
BT 40	14	63	45	36	M12	125	●
BT 40	14	100	45	75	M12	126	○
BT 40	14	130	45	103	M12	127	○
BT 40	16	63	48	36	M14	130	●
BT 40	16	100	48	75	M14	131	●
BT 40	16	130	48	103	M14	132	○
BT 40	18	63	50	36	M14	135	○
BT 40	18	100	50	75	M14	136	○
BT 40	18	130	50	103	M14	137	○
BT 40	20	63	52	36	M16	140	○
BT 40	20	100	52	75	M16	141	○
BT 40	20	130	52	103	M16	142	○
BT 40	25	90	63	63	M18	145	○
BT 40	25	130	63	103	M18	146	○
BT 40	32	100	72	73	M20	149	○
BT 40	32	130	72	103	M20	150	○
BT 40	40	120	80	93	M20	153	○

Prod. Gr. 2AR

ATORN Combination shell end mill arbours (DIN 6358) (ISO 7388-2)

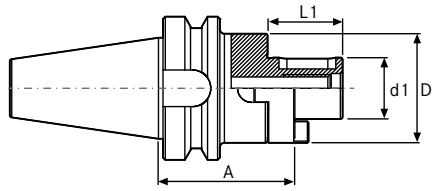
BT 40 | Form JD | Form J | IK | G 2,5 25000 rpm | ISO 7388-2

Application:
For holding shell end mills and single angle milling cutters with longitudinal groove in accordance with DIN 842.

Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm
- Functional surfaces precision-ground, all other surfaces black-oxide
- With Balluff chip hole

Delivery:
1x BT40 combination shell end mill arbour (ISO 7388-2); incl. retaining screw, key and drive ring

Notes:
The previous standard JIS B 6339 MAS BT was superseded by ISO 7388-2.



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Tool holding device	d1 (mm)	L1 (mm)	A (mm)	D (mm)	Form	Coolant supply	23160... Ident. No.	
BT 40	16	27	55	32	J	No	350	●
BT 40	16	27	100	32	J	No	351	●
BT 40	16	27	130	32	J	No	352	○
BT 40	16	27	160	32	JD	Internal axial	353	●
BT 40	16	27	200	32	JD	Internal axial	354	○
BT 40	22	31	55	40	J	No	355	●
BT 40	22	31	100	40	J	No	356	●
BT 40	22	31	130	40	J	No	357	○
BT 40	22	31	160	40	JD	Internal axial	358	●
BT 40	22	31	200	40	JD	Internal axial	359	○
BT 40	27	33	55	48	J	No	360	●
BT 40	27	33	100	48	J	No	361	●
BT 40	27	33	130	48	J	No	362	○
BT 40	27	33	160	48	JD	Internal axial	363	○
BT 40	27	33	200	48	JD	Internal axial	364	○
BT 40	32	38	60	58	J	No	365	●
BT 40	32	38	100	58	J	No	366	○
BT 40	32	38	130	58	J	No	367	○
BT 40	32	38	160	58	JD	Internal axial	368	●
BT 40	32	38	200	58	JD	Internal axial	369	○
BT 40	40	41	60	70	J	No	370	○
BT 40	40	41	100	70	J	No	371	○
BT 40	40	41	130	70	J	No	372	○
BT 40	40	41	160	70	JD	Internal axial	373	○
BT 40	40	41	200	70	JD	Internal axial	374	○

Prod. Gr. 2AR

ATORN Transverse drive shell end mill arbour DIN 6357 (ISO 7388-2)

Increased collar diameter (face mill arbour)

BT 40 | Form JD | IK | G 2,5 25000 rpm | ISO 7388-2

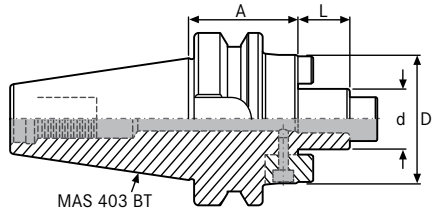
Application:
For accommodating shell end mills and angular milling cutters with longitudinal groove in accordance with DIN 842.

Execution:
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm
- Functional surfaces precision-ground, all other surfaces black-oxide
- With Balluff chip hole

Delivery:
1x BT40 transverse drive shell end mill arbour (ISO 7388-2); with retaining screw

Notes:
The previous standard JIS B 6339 MAS BT was superseded by ISO 7388-2.

Technical data:
- Tool holding device: BT 40
- Coolant supply: Internal axial



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d (mm)	L (mm)	A (mm)	D (mm)	L (mm)	23162... Ident. No.	
16	17	40	38	17	216	○
16	17	100	38	17	217	●
16	17	130	38	17	218	○
16	17	160	38	17	219	○
22	19	40	48	19	220	●

d (mm)	L (mm)	A (mm)	D (mm)	L (mm)	23162... Ident. No.	
22	19	100	48	19	221	○
22	19	130	48	19	222	○
22	19	160	48	19	223	○
27	21	40	58	21	224	●
27	21	100	58	21	225	○
27	21	130	58	21	226	○
27	21	160	58	21	227	○
32	24	50	78	24	228	○
32	24	100	78	24	229	○
32	24	130	78	24	230	○
32	24	160	78	24	231	○
40	27	50	88	27	232	○
40	27	100	88	27	233	○
40	27	130	88	27	234	○
40	27	160	88	27	235	○

Prod. Gr. 2AR

ATORN CNC precision short drill chuck (ISO 7388-2)

BT 40 | Form JD | IK | R/L | G 40 7000 rpm | G 6,3 25000 rpm | ISO 7388-2

Application:

Ident. No. 110: For use on machining centres and CNC milling machines with tool change. For drilling, reaming, countersinking and also light milling and smoothing tasks.

Ident. No. 551: For use on machining centres and CNC machines with tool change systems. For drilling, reaming, countersinking and also light milling and finishing tasks.

Execution:

- **Ident. No. 110:**
  - Integrated worm gear ensures high retaining torque
  - Remains securely clamped even if the spindle stops suddenly
  - Required pull studs no. 23690
- **Ident. No. 551:** Wear parts hardened and polished

Advantage:

- **Ident. No. 110:** Wear parts hardened and polished for a long service life
- **Ident. No. 551:** Remains securely clamped even if the spindle stops suddenly

Delivery:

Ident. No. 110: 1x BT40 NC or short drill chuck (ISO 7388-2)

Ident. No. 551: 1x BT40 precision drill chuck (ISO 7388-2)

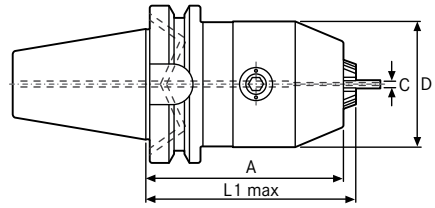
Notes:

Ident. No. 110: The previous standard JIS B 6339 MAS BT was replaced by ISO 7388-2.

Ident. No. 551: The previous standard JIS B 6339 MAS BT was superseded by ISO 7388-2.

Ident. No. 110
Worm gear mechanism

Ident. No. 551
With IC



Tool holding device	Spannweite min./max. C	A (mm)	D (mm)	L1 max. (mm)	21329... Ident. No.	
BT 40	0.5-16 mm	98	57	111	551	●
BT 40	1-16 mm	88	50	100	110	●

21329 551 = Prod. Gr. 2BB
21329 110 = Prod. Gr. 208

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ATORN Collet chuck type ER with miniature nut DIN 6499 (ISO 7388-2)

Slimline version

BT 40 | BT 50 | Form JD | IK | G 2,5 25000 rpm | ISO 7388-2

Application:

For clamping tools with a straight shank in ER collets in accordance with DIN 6499.

Execution:

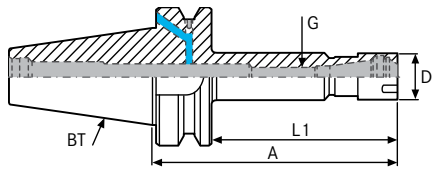
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm
- Functional surfaces precision-ground, all other surfaces black-oxide
- With Balluff chip hole

Delivery:

1x BT40 or BT50 ER miniature collet chuck (ISO 7388-2)

Notes:

The previous standard JIS B 6339 MAS BT was superseded by ISO 7388-2.



Tool holding device	Collet type	Min./max. clamping width d	A (mm)	D (mm)	L1 (mm)	G	23297... Ident. No.	
BT 40	ER 11	0.5-7 mm	63	16	36	M13 x 0.75	122	○
BT 40	ER 11	0.5-7 mm	100	16	73	M13 x 0.75	123	○
BT 40	ER 11	0.5-7 mm	130	16	103	M13 x 0.75	124	○
BT 40	ER 11	0.5-7 mm	160	16	133	M13 x 0.75	125	○
BT 40	ER 16	0.5-10 mm	100	22	73	M19 x 1	126	○
BT 40	ER 16	0.5-10 mm	130	22	103	M19 x 1	127	○

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Tool holding device	Collet type	Min./max. clamping width d	A (mm)	D (mm)	L1 (mm)	G	23297... Ident. No.	
BT 40	ER 16	0.5-10 mm	160	22	133	M19 x 1	128	○
BT 50	ER 16	0.5-10 mm	100	22	73	M19 x 1	129	○
BT 50	ER 16	0.5-10 mm	130	22	103	M19 x 1	130	○
BT 50	ER 16	0.5-10 mm	160	22	133	M19 x 1	131	○

Prod. Gr. 2AR

ATORN HPH high-performance HYDRAULIC expansion chuck (ISO 7388-2)

Short, heavy-duty version

BT 40 | Form JD/JF | IK | G 2,5 25000 rpm | ≤0,003 | ISO 7388-2

Application:

For high-precision and centric clamping of milling, drilling and reaming tools – particularly with milling and heavy-duty machining during rough machining.

Execution:

- With axial longitudinal adjustment
- Reducing sleeves for flexible application
- Very high concentricity (< 3 µm)
- Coolant pressure up to 80 bar
- Heat-resistant up to 100 °C

Advantage:

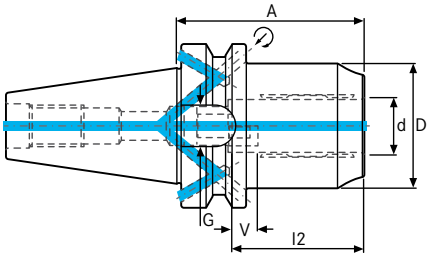
- Robust version ideal for HPC+HSC machining
- Damping properties to increase service life of tool and machine spindle
- Vibration-damping effect reduces micro-cracks and improves the workpiece surface
- All standard shanks can be clamped (dia. tolerance h6)
- Very high torque transfer (dia. 20 = 650 Nm)

Delivery:

1x short, heavy-duty BT40 hydraulic expansion chuck (ISO 7388-2)

Notes:

The previous standard JIS B 6339 MAS BT was superseded by ISO 7388-2.



Tool holding device	d (mm)	A (mm)	d2 (mm)	D (mm)	l2 (mm)	V (mm)	G	23733... Ident. No.	
BT 40	20	72.5	49	49	51	10	M16 x 1	740	●

Prod. Gr. 2BC

p. 879

ATORN Collet chuck type ER DIN 6499 (ISO 7388-2)

BT 40 | Form JD | IK | G 2,5 25000 rpm | ISO 7388-2

Application:

For clamping tools with straight shank in ER collet chucks in accordance with DIN 6499.

Execution:

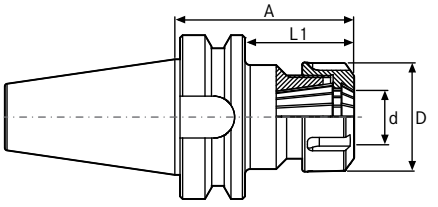
- Alloyed case-hardening steel, core tensile strength at least 950 N/mm²
- Case-hardened HRc 60 ± 2 (HV 700 ± 50), hardness depth 0.8 mm ± 0.2 mm
- Taper angle tolerance quality < AT3 in accordance with DIN 7187 and DIN 2080
- Max. concentricity < 0.005 mm
- Functional surfaces precision-ground, all other surfaces black-oxide
- With Balluff chip hole
- Required pull studs no. 23690 and collet chucks no. 23320

Delivery:

1x ER collet chuck BT40 (ISO 7388-2).

Notes:

The previous standard JIS B 6339 MAS BT was superseded by ISO 7388-2.



Tool holding device	Collet type	Min./max. clamping width d	A (mm)	D (mm)	L1 (mm)	G	23296... Ident. No.	
BT 40	ER 16	0.5-10 mm	63	28	36	M22 x 1.5	562	●
BT 40	ER 16	0.5-10 mm	100	28	73	M22 x 1.5	563	●
BT 40	ER 16	0.5-10 mm	130	28	103	M22 x 1.5	564	○
BT 40	ER 16	0.5-10 mm	160	28	133	M22 x 1.5	565	●
BT 40	ER 16	0.5-10 mm	200	28	173	M22 x 1.5	566	○
BT 40	ER 25	1-16 mm	60	42	33	M32 x 1,5	567	●
BT 40	ER 25	1-16 mm	100	42	73	M32 x 1,5	568	●
BT 40	ER 25	1-16 mm	130	42	103	M32 x 1,5	569	○
BT 40	ER 25	1-16 mm	160	42	133	M32 x 1,5	570	●
BT 40	ER 25	1-16 mm	200	42	173	M32 x 1,5	571	○
BT 40	ER 32	2-20 mm	70	50	43	M40 x 1,5	572	●
BT 40	ER 32	2-20 mm	100	50	73	M40 x 1,5	573	●
BT 40	ER 32	2-20 mm	130	50	103	M40 x 1,5	574	○
BT 40	ER 32	2-20 mm	160	50	133	M40 x 1,5	575	●
BT 40	ER 32	2-20 mm	200	50	173	M40 x 1,5	576	○
BT 40	ER 40	3-26 mm	80	63	53	M50 x 1,5	577	●
BT 40	ER 40	3-26 mm	100	63	73	M50 x 1,5	578	●
BT 40	ER 40	3-26 mm	130	63	103	M50 x 1,5	579	○
BT 40	ER 40	3-26 mm	160	63	133	M50 x 1,5	580	○
BT 40	ER 40	3-26 mm	200	63	173	M50 x 1,5	581	○

Prod. Gr. 2AR

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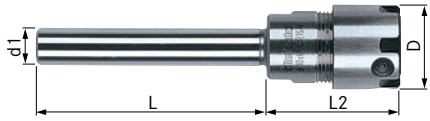
diebold Collet extension with internal cooling

With straight shank, ER-type collet chucks (mini)

IK



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Application:
For clamping tools with straight shank.

Execution:
- With straight shank, type ER Mini.
- Particularly slim version for use in milling chucks as tool extension for deep machining operations where space is restricted.
- Straight shank made of solid material.
- Hollow bored for internal cooling.

Delivery:
1x collet chuck extension.

Notes:
Mini ring profile key, no. 23308. Suitable collets, no. 23320.

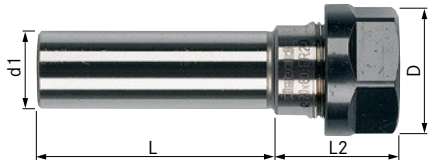
Collet type	d1 (mm)	Min./max. clamping range	D (mm)	L (mm)	L2 (mm)	23304... Ident. No.	
ER 16	10	0.5-10 mm	22	60	38	005	●
ER 16	12	0.5-10 mm	22	80	38.5	010	○
ER 20	16	1-13 mm	28	100	42.5	020	○

Prod. Gr. 2AB

diebold Collet extension with internal cooling

With straight shank

IK



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Application:
For clamping tools with a straight shank.

Execution:
- With straight shank, type ER standard.
- Particularly slim version for use in milling chucks as tool extension for deep machining operations where space is restricted.
- Wrench no. 23308 008 and collets 23320.

Delivery:
1x collet chuck extension.

Collet type	d1 (mm)	Min./max. clamping range	Width across flats	D (mm)	L (mm)	L2 (mm)	23304... Ident. No.	
ER 16	12	0.5-10 mm	25 mm	28	80	36	130	●
ER 16	16	0.5-10 mm	25 mm	28	60	36	150	○
ER 16	16	0.5-10 mm	25 mm	28	100	36	160	○
ER 16	20	0.5-10 mm	25 mm	28	50	30	162	●
ER 16	20	0.5-10 mm	25 mm	28	100	30	164	●
ER 20	20	1-13 mm	30 mm	34	60	36	190	●
ER 20	20	1-13 mm	30 mm	34	100	36	200	○
ER 25	20	1-16 mm	-	42	50	46	240	●
ER 25	20	1-16 mm	-	42	100	46	250	○
ER 25	25	1-16 mm	-	42	50	46	260	●
ER 25	25	1-16 mm	-	42	100	46	270	●

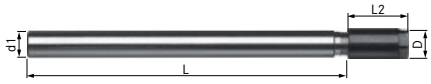
Prod. Gr. 2AB

ORION® ERICKSON short drill chuck system

With straight shank

IK

Ident. No. 295, 315–325



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Application:
For use on NC and CNC machining equipment.

Execution:
- Min. tensile strength at core 800 N/mm.
- Hardened.
- Clamping of drill bits on drill heel possible.
- With adjustable longitudinal stop.
- Collets no. 23326.

Advantage:
- With straight shank - extremely slim version.
- Very good accessibility in confined spaces.

Delivery:
1x ERICKSON short chuck system with cylindrical shank.

Collet type	d1 (mm)	Min./max. clamping width	Width across flats	D (mm)	L (mm)	L2 (mm)	Min. clamp in depth (mm)	Max. clamp in depth (mm)	23325... Ident. No.	
DKS	8	1-4 mm	9 mm	10	100	32	20	42	295	●
DK 30	12	1-6.5 mm	13 mm	14	76	36	38	99	300	●
DK 30	12	1-6.5 mm	13 mm	14	140	36	43	105	305	●

Collet type	d1 (mm)	Min./max. clamping width	Width across flats	D (mm)	L (mm)	L2 (mm)	Min. clamp in depth (mm)	Max. clamp in depth (mm)	23325... Ident. No.	
DK 20	20	1-10 mm	19 mm	21	76	44	41	107	310	●
DK 20	20	1-10 mm	19 mm	21	140	44	41	178	315	●
DK 10	25	2.5-14.5 mm	24 mm	27	76	49	55	107	320	●
DK 10	25	2.5-14.5 mm	24 mm	27	140	49	55	120	325	●

Prod. Gr. 218

Accessories for		23325 295	23325 300	23325 305	23325 310	23325 315	23325 320	23325 325
23325... Replacement clamping nuts For ERIKSON system	Ident. No.	410 ●	420 ●	420 ●	430 ●	430 ●	440 ○	440 ○

Compatible ERIKSON-type collet chucks no. 23326 001-225 page 892

ATORN HYDRAULIC expansion extension

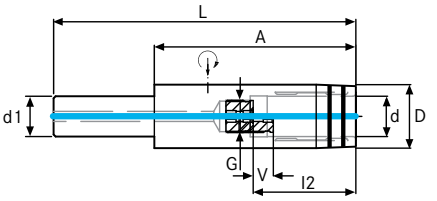
Flexible adaptation with straight shaft

IK | G 2,5 25000 rpm | ≤0,006

Application:
Highly flexible extension for HYDRO expansion and collet. For high precision centric clamping of milling, drilling and reaming tools.

Execution:
- Rapid tool replacement and axial length adjustment
- All standard shank diameters (h6) can be clamped
- Central coolant supply (ICS) up to 80 bar

Advantage:
- Outstanding damping properties
- Spacer sleeves provide a wide clamping range
- High torque transfer (dia. 12 = 80 Nm/dia. 20 = 330 Nm)
- Very good accessibility thanks to minimal interference contour
- Spacer sleeves for flexible application



d (mm)	d1 (mm)	D (mm)	L (mm)	A (mm)	l2 (mm)	max. V (mm)	23338... Ident. No.	
12	20	25	150	100	46	10	110	○
20	20	31.5	150	100	51	10	111	○
20	32	31.5	150	90	51	10	112	○
20	32	31.5	200	90	51	10	113	○

Prod. Gr. 2BC

ATORN Synchronous tapping chuck, straight shank similar to DIN 1835 B+E

For machine tools with synchronous control

IK | G 2,5 25000 rpm

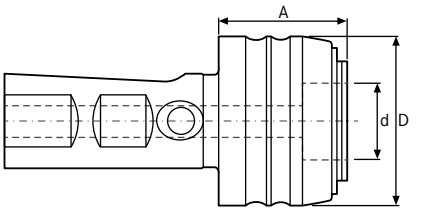
Application:
For thread cutting on machine tools with synchronous spindles. With rigidly clamped screw taps, pitch errors cause high axial forces that can be compensated for by synchronous tapping chucks through minimal length compensation under pressure and tension.

Execution:
- Pitch errors are compensated for with minimal length compensation of 1.0 mm under tension and 0.2 mm under pressure
- Clamping screws prevent the clamped screw tap from spinning

- Thread-cutting quick-change chuck for synchronous spindles
- straight shank similar to DIN 1835 B+E
- Accessories required: Quick-change insert, 1 and 2 pieces no. 21556316-525 collet chucks type ER for thread cutting no. 23320600-691

Advantage:
- Increased tool service life
- Secure clamping in quick-change inserts for ER collets

Delivery:
1x tapping chuck



Straight shank diameter: 25 mm

d1 (mm)	Tool holding device	Collet type	Used sizes	Suitable for thread	A (mm)	D (mm)	Pressure length compensation (mm)	Tension length compensation (mm)	21555... Ident. No.	
25	Cylinder shank	ER 16	1	M3-M12	34	43	0.2	1	371	●
25	Cylinder shank	ER 25	2	M6-M20	56	60	0.2	1	372	●

Prod. Gr. 225

1-piece quick-change inserts

Accessories for synchronous tapping chuck no. 21555

Application:
The quick-change inserts are intended for quick replacement after breakage, wear or if a different thread size is required. Tap collets are clamped using a collet mount.

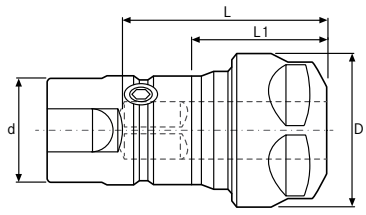
Execution:
- 1x quick-change insert
- Treated surfaces

Advantage:
- High concentricity
- Standard collets can be used

Delivery:
1x one-part quick-change insert

Notes:
(Please order collets separately).

Quick-change inserts, one piece



Used sizes		1	2
Collet type		ER 16	ER 25
Min./max. clamping range		2-10 mm	2-16 mm
Suitable for thread		M3-M12	M6-M20
L1 (mm)		37	52
L (mm)		24	28
D (mm)		28	42
d (mm)		20	32
21556...	Ident. No.	316 ●	325 ●

Prod. Gr. 225

Two-part quick-change insert

Accessories for synchronous tapping chuck no. 21555

Application:
The quick-change inserts are intended for quick replacement after breakage, wear or if a different thread size is required. Tap collets are clamped using a collet mount.

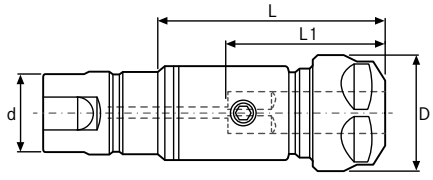
Execution:
- Two-part quick-change insert screwed together
- Treated surfaces

Advantage:
- High concentricity
- Standard collets can be used

Delivery:
1x two-part quick-change insert with screws

Notes:
(Please order collets separately).

Ref. no. 516-525 quick-change inserts, two-piece



Used sizes		1	2
Collet type		ER 16	ER 25
Min./max. clamping range		2-10 mm	2-16 mm
Suitable for thread		M3-M12	M6-M20
L1 (mm)		38	63
L (mm)		55	84
D (mm)		28	42
d (mm)		20	32
21556...	Ident. No.	516 ●	525 ○

Prod. Gr. 225

Extensions for two-piece synchronous quick-change chuck.

Accessories for 21556516-525

Application:
The extensions are used to extend the projection of the synchronous tapping chuck. They are installed as an additional intermediate piece between the chuck and quick-change insert.

Execution:
- Extensions for two-part synchronous quick-change chuck
- Accessories for 21556516-525. The appropriate two-part quick-change insert 21556516 or 21556525 will be required to use extensions 21566616-725.

Advantage:
- High concentricity

Delivery:
1x extension for two-part synchronous quick-change chuck

Notes:
(please order quick-change inserts separately).

Extension

Example application

Used sizes		1	1	2	2
Collet type		ER 16	ER 16	ER 25	ER 25
Min. clamping range (mm)		2	2	2	2
Max. clamping range (mm)		10	10	16	16
D (mm)		23	23	35	35
L (mm)		25	50	50	100
21556...	Ident. No.	616 ○	625 ○	716 ○	725 ○

Prod. Gr. 225

Collet nut type ER

Normal/miniature version

Execution:
- **Ident. No. 016–035:**
  - For collets
  - No. 23303 clamping nuts, individual and finely balanced
  - No. 23308 ring profile key for clamping and loosening
- **Ident. No. 116–125:**
  - For collet chucks.
  - No. 23303 single, finely balanced clamping nuts.
  - No. 23308 collet chuck wrench for clamping and loosening.

Delivery:
Ident. No. 016–035: 1x type ER clamping nut.
Ident. No. 116–125: 1x Mini ER clamping nut.

Notes:
Ident. No. 016–035: For ER 16 and 20 = normal version, please use our single head wrenches no. 52002 025 or 030
Ident. No. 116–125: For ER 16 and 20 = normal version, please use our single open-end wrenches no. 52002 025 or 030.

Ident. No. 016–018

Ident. No. 020–035
ER25-ER40

Ident. No. 116–125

Clamping nut type		ER 16	ER 20	ER 25	ER 32	ER 40	ER 16 MINI	ER 20 MINI	ER 25 MINI
Min./max. clamping range		1-10 mm	1-13 mm	2-16 mm	2-20 mm	3-26 mm	1-10 mm	1-13 mm	2-16 mm
23303...	Ident. No.	**016** ●	**018** ●	**020** ●	**030** ●	**035** ●	**116** ●	**120** ●	**125** ●

Prod. Gr. 206

diebold Collet nut type ER

Supported in plain bearings for up to 60 % higher torque

Execution:
- For collet chucks.
- No. 23303 single, finely balanced clamping nuts.
- No. 23308 collet chuck wrench for clamping and loosening.

Delivery:
1x ER clamping nuts.

Clamping nut type	Min./max. clamping range	**23303...** Ident. No.	
ER 25	1-16 mm	**025**	●
ER 40	3-26 mm	**040**	○

Prod. Gr. 206

ORION OZ-type clamping nuts

Ball bearing-mounted for high torques

Execution:
- For milling chucks no. 23285 and 23295.

Notes:
Suitable hook wrench ref. no. 52100060, -090, -100.

Delivery:
1x OZ clamping nuts.

Clamping nut type	Min./max. clamping range	Clamping nut Ø (mm)	**23295...** Ident. No.	
OZ	2-16 mm	43	**916**	●
OZ	2-25 mm	60	**925**	●
OZ	4-32 mm	72	**932**	○

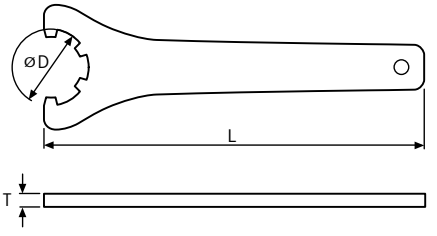
Prod. Gr. 295

amf Chuck wrench for ER-type collet nuts

Application:
For tightening and loosening clamping nuts.

Execution:
- **Ident. No. 216:**
  - Hardened and zinc-plated special steel.
  - With hole for hanging.

Delivery:
Ident. No. 008–020: 1x wrench for type ER clamping nut.
Ident. No. 216: 1x wrench for type ER clamping nuts in accordance with DIN 6499.



Suitable for clamping nut type		ER 16	ER 25	ER 32	ER 40
L (mm)		163	203	253	285
T (mm)		4	6	6	6
23308...	Ident. No.	**216** ●	**008** ●	**010** ●	**020** ●

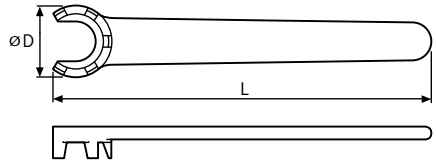
Prod. Gr. 206

Collet nut wrench Mini

Application:
For tightening and loosening clamping nuts.

Execution:
- Hardened special steel with burnished finish.

Delivery:
1x Mini collet chuck wrench for clamping nuts (ER).



Suitable for clamping nut type		ER 16 Mini	-	-
D (mm)		23	29	35
L (mm)		115	130	143
23308...	Ident. No.	116 ●	120 ●	130 ●

Prod. Gr. 206

Chuck wrench with ½" socket

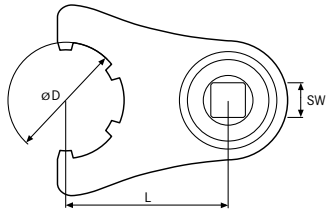
Application:
For tightening and loosening clamping nuts.

Execution:
- For NC lathes.
- For controlled tightening of clamping nuts using a torque wrench.
- Drive: 1/2" square with ball-securing groove.
- Hardened and galvanised special steel.

Advantage:
- Spindle damage can be avoided by controlled tightening when changing tools in the machine.

Delivery:
1x collet wrench with square drive torque wrench for clamping nuts (ER) in accordance with DIN 6499.

Notes:
The setting value of the torque wrench is dependent on gauge size "S". The operating instructions for your torque wrench contain the necessary information and calculation formulas. For suitable torque wrenches: see no. 52246300.



Suitable for clamping nut type		ER 16	ER 25	ER 32	ER 40
Drive		1/2 inch	1/2 inch	1/2 inch	1/2 inch
L (mm)		45	60	60	60
23308...	Ident. No.	316 ●	325 ●	332 ●	340 ●

Prod. Gr. 206

Hook wrenches
With lug

Execution:
- Special steel
- Rounded edges
- With suspension hole
- Surface annealed in burnished finish

Advantage:
- Excellent material strength with low-tension microstructure
- Better resistance to corrosion
- Comfortable to use

Suitable for nut type		Slotted nut DIN 1804 | Bearing nut DIN 981	Slotted nut DIN 1804 | Bearing nut DIN 981	Slotted nut DIN 1804 | Bearing nut DIN 981
Suitable for min./max. nut male thread size		40-42 mm	58-62 mm	68-75 mm
Length (mm)		170	240	240
Thickness (mm)		5	7	7
52100...	Ident. No.	060 ●	090 ●	100 ●

Prod. Gr. 532

FAHRION® Torque wrench attachment

Accessories for no. 23360, 23361 and 23760 and 23761

Application:
For clamping all CENTRO P and ATORN precision collets with standard nuts in accordance with DIN 6499/ISO 15488 (ER/ESX).

Execution:
- For torque wrench attachment ref. no. 961-966, see torque wrench no. 52241 200.

Advantage:
- For fast and simple clamping without risk of injury.
- Conventional clamping nuts can also be used for clamping.

Delivery:
1x torque wrench attachment for FAHRION Centro|P collet chuck.

		DRO 30		DRO 40		DRO 50		DRO 63	
Suitable for clamping nut type	Tip size	23360... Ident. No.		23360... Ident. No.		23360... Ident. No.		23360... Ident. No.	
HPC 16	14 x 18 mm	961	●	-	-	-	-	-	-
HPC 25	14 x 18 mm	-	-	962	●	-	-	-	-
HPC 32/ER 32	14 x 18 mm	-	-	-	-	966	●	-	-
HPC 40/ER 40	14 x 18 mm	-	-	-	-	-	-	973	○

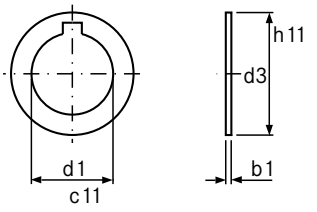
Prod. Gr. 235

ORION® Milling arbour rings (DIN 2084-1)

For milling arbours

Execution:
- For mill arbours.
- Shape A, cut.
- Hardened steel strip.

Delivery:
1x shape A mill arbour ring.



d1 (mm)	d3 (mm)	b1 (mm)	Form	23135... Ident. No.	
16	25	0.03	A	010	●
16	25	0.04	A	045	●
16	25	0.05	A	080	●
16	25	0.1	A	115	●
16	25	0.2	A	150	●
16	25	0.3	A	185	●
16	25	0.5	A	220	●
16	25	0.6	A	255	●
16	25	1	A	290	●
22	33	0.03	A	015	●
22	33	0.04	A	050	●
22	33	0.05	A	085	●
22	33	0.1	A	120	●
22	33	0.2	A	155	●
22	33	0.3	A	190	●
22	33	0.5	A	225	●
22	33	0.6	A	260	●
22	33	1	A	295	●
27	39	0.03	A	020	●
27	39	0.04	A	055	●
27	39	0.05	A	090	●
27	39	0.1	A	125	●
27	39	0.2	A	160	●
27	39	0.3	A	195	●
27	39	0.5	A	230	●
27	39	0.6	A	265	●
27	39	1	A	300	●

d1 (mm)	d3 (mm)	b1 (mm)	Form	23135... Ident. No.	
32	54	0.03	A	025	●
32	45	0.04	A	060	●
32	45	0.05	A	095	●
32	45	0.1	A	130	●
32	45	0.2	A	165	●
32	45	0.3	A	200	●
32	45	0.5	A	235	●
32	45	0.6	A	270	●
32	45	1	A	305	●
40	67	0.03	A	030	●
40	54	0.04	A	065	●
40	54	0.05	A	100	●
40	54	0.1	A	135	●
40	54	0.2	A	170	●
40	54	0.3	A	205	●
40	54	0.5	A	240	●
40	54	0.6	A	275	●
40	54	1	A	310	●
50	67	0.04	A	070	●
50	67	0.05	A	105	●
50	67	0.1	A	140	●
50	67	0.2	A	175	●
50	67	0.3	A	210	●
50	67	0.5	A	245	●
50	67	0.6	A	280	●
50	67	1	A	315	●

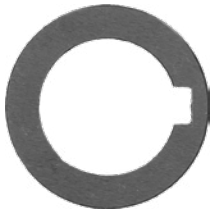
Prod. Gr. 206

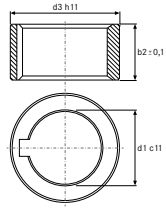
ORION® Milling arbour rings (DIN 2084-1)

For milling arbours

Execution:
- Hardened, Vickers hardness at least 590 HV 30 (54 HRC).
- Shape B.
- Case-hardening steel.
- Twisted.

Delivery:
1x mill arbour ring, shape B.





d1 (mm)	d3 (mm)	b1 (mm)	Form	23140... Ident. No.	
13	22	2	B	005	●
13	22	3	B	045	○
13	22	4	B	085	●
13	22	5	B	125	●
13	22	6	B	165	●
13	22	10	B	205	●
16	27	2	B	010	●
16	27	3	B	050	●
16	27	4	B	090	●
16	27	5	B	130	●
16	27	6	B	170	●
16	27	10	B	210	●
16	27	20	B	250	●
22	34	2	B	015	●
22	34	3	B	055	●
22	34	4	B	095	●
22	34	5	B	135	●
22	34	6	B	175	●
22	34	10	B	215	●
22	34	20	B	255	●
22	34	30	B	295	●
27	41	2	B	020	●
27	41	3	B	060	●
27	41	4	B	100	●
27	41	5	B	140	●
27	41	6	B	180	●
27	41	10	B	220	●

d1 (mm)	d3 (mm)	b1 (mm)	Form	23140... Ident. No.	
27	41	20	B	260	●
27	41	30	B	300	●
32	47	2	B	025	●
32	47	3	B	065	●
32	47	4	B	105	●
32	47	5	B	145	●
32	47	6	B	185	●
32	47	10	B	225	●
32	47	20	B	265	●
32	47	30	B	305	●
40	55	2	B	030	●
40	55	3	B	070	●
40	55	4	B	110	●
40	55	5	B	150	●
40	55	6	B	190	●
40	55	10	B	230	●
40	55	20	B	270	●
40	55	30	B	310	●
50	69	2	B	035	○
50	69	3	B	075	●
50	69	4	B	115	○
50	69	5	B	155	●
50	69	6	B	195	●
50	69	10	B	235	●
50	69	20	B	275	●
50	69	30	B	315	●

Prod. Gr. 206

AMF Wrench

For shell end mill arbours

Application:
For tightening and loosening cutter retaining screws.

Execution:
- Heat-treated and welded to at least 1,200 N/mm.
- For tightening cutter retaining screws in accordance with DIN 6367.
- Hardened special steel with burnished finish.

Delivery:
1x wrench for cutter retaining screws.

Notes:
The size specification corresponds to the diameter of the shell end mill arbors.

Suitable for milling cutter mandrel Ø (mm)		13	16	22	27	32	40	50
L (mm)		160	180	200	225	250	280	315
H (mm)		16	20	25	32	36	40	45
B1 (mm)		6.1	8.1	10.1	12.1	16.1	20.2	24.2
23190...	Ident. No.	013 ●	016 ●	022 ●	027 ●	032 ●	040 ●	050 ●

Prod. Gr. 206

ORION® Standard driving rings (DIN 6366)

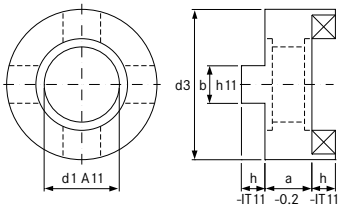
For combined shell end mill arbours

Execution:
- Hardened, at least 56 HRC.
- Parallelism of surfaces a = 0.004 mm, polished.
- Case-hardening steel with tensile strength at core of at least 800 N/mm² after case hardening.

Delivery:
1x driving ring.

d1 (mm)		16	22	27	32	40
d3 (mm)		32	40	48	58	70
a (mm)		10	12	12	14	14
h (mm)		5	5.6	6.3	7	8
b (mm)		8	10	12	14	16
23200...	Ident. No.	020 ●	030 ●	040 ●	050 ●	060 ○

Prod. Gr. 206



ORION® Drive blocks (DIN 2079)

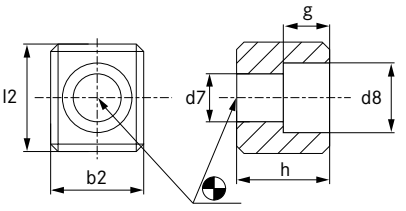
Execution:
- Hardened, at least 56 HRC.
- Polished surfaces.
- Case-hardening steel with tensile strength at core of at least 800 N/mm² after case hardening.

Delivery:
1x carrier block.

Notes:
Other versions and sizes on request.

b2 (mm)		15.9	15.9	25.4
l2 (mm)		16.5	19.5	26.5
h (mm)		16	16	25
Suitable screw ISO 4762		M6 x 16 mm	M6 x 16 mm	M12
23210...	Ident. No.	010 ○	020 ●	030 ●

Prod. Gr. 206



ATORN Pull stud for steep taper DIN 69872 shape A (DIN 69872)

steep taper to DIN 69871 with bore for IK

IK

Application:
For tools with steep taper in accordance with ISO 7388-1 (former standard was DIN 69871) and ISO 7388-2 (old standard was JIS B 6339 MAS-BT).

Execution:
- All pull studs made from material 16Mn Cr5
- Case-hardened HRc 58 ± 2
- Thread and bore hole soft, black oxide and polished
- Pull studs with O-ring = sealed

Delivery:
1x SK pull stud ISO 7388-1

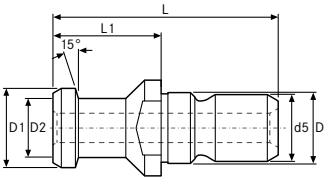
Notes:
Further versions available on request (specification of machine types required).

No. 23690
DIN 69872, with IK

No. 23692
DIN 69872, without IK

Suitable for tool holding device			SK 30	SK 40	SK 50	SK 30	SK 40	SK 50
Form			A	A	A	B	B	B
D1 (mm)			13	19	28	13	19	28
D2 (mm)			9	14	21	9	14	21
D (mm)			13	17	25	13	17	25
d5			M12	M16	M24	M12	M16	M24
L (mm)			44	54	74	44	54	74
Coolant supply			Yes	Yes	Yes	No	No	No
α/ A (Degree)			15	15	15	15	15	15
L1 (mm)			24	26	34	24	26	34
	DIN							
23690...	69872	Ident. No.	130 ●	140 ●	150 ●	-	-	-
23692...	69872	Ident. No.	-	-	-	130 ●	140 ●	150 ●

Prod. Gr. 263



ATORN Pull stud for steep taper ISO 7388-2 B (ISO 7388-2 B)

for steep taper to DIN 69871

IK

Application:
For tools with steep taper in accordance with ISO 7388-1 (former standard was DIN 69871) and ISO 7388-2 (old standard was JIS B 6339 MAS-BT).

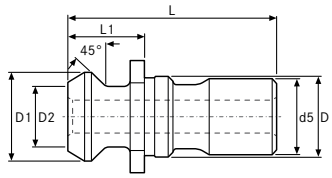
Execution:
- All pull studs made from material 16Mn Cr5
- Case-hardened HRc 58 ± 2
- Thread and bore hole soft, black oxide and polished
- Pull studs with O-ring = sealed

Delivery:
1x SK pull stud ISO 7388-2

Notes:
Further versions available on request (specification of machine types required).

No. 23690 240
With IC

No. 23690 250–23692 250
Without internal cooling



Suitable for tool holding device			SK 40	SK 50	SK 40	SK 50
Form			B	B	B	B
D1 (mm)			18.95	29.1	18.95	29.1
D2 (mm)			12.95	19.6	12.95	19.6
D (mm)			17	25	17	25
d5			M16	M24	M16	M24
L (mm)			44.5	65.5	44.5	65.5
Coolant supply			Yes	Yes	No	No
L1 (mm)			16.25	25.55	16.25	25.55
	ISO					
23690...	7388-2 B	Ident. No.	240 ●	250 ●	-	-
23692...	7388-2 B	Ident. No.	-	-	240 ●	250 ●

Prod. Gr. 263

ATORN Pull stud for steep taper ISO 7388-2 B/MAS BT JIS B 6339, 45° (ISO 7388-2 B)

for steep taper to JIS B 6339 MAS BT

IK

Application:
For tools with steep taper in accordance with ISO 7388-2 (former standard was JIS B 6339 MAS-BT).

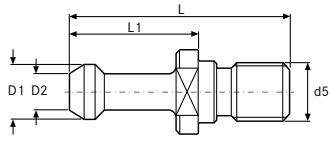
Execution:
- Material 16MnCr5
- Case-hardened HRc 58 ± 2
- Pull studs without O-ring are SK30
- **No. 23692:** Without hole

Delivery:
1x MAS BT 45° SK pull stud

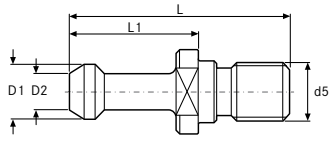
Notes:
Further versions available on request (specification of machine types required).

No. 23690
With IC

No. 23692
Without internal cooling



No. 23690



No. 23692

Suitable for tool holding device			SK 30	SK 40	SK 50	SK 30	SK 40	SK 50
D1 (mm)			11	15	23	11	15	23
D2 (mm)			7	10	17	7	10	17
d5			M12	M16	M24	M12	M16	M24
L (mm)			43	60	85	43	60	85
Coolant supply			Yes	Yes	Yes	No	No	No
α/ A (Degree)			45	45	45	45	45	45
L1 (mm)			23	35	45	23	35	45
	ISO							
23690...	7388-2 B	Ident. No.	435 ●	445 ●	455 ●	-	-	-
23692...	7388-2 B	Ident. No.	-	-	-	435 ●	445 ●	455 ●

Prod. Gr. 263

ATORN Buttress thread bolt SK40 S20x2 for cover

Application:
For securing collets.

Execution:
- Case-hardened

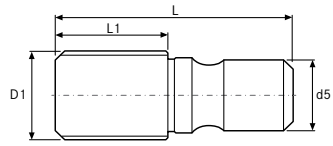
Delivery:
1x SK pull stud with S20 x 2/M16 buttress thread

Notes:
Further versions available on request (specification of machine types required).

Suitable for tool holding device		SK 40
d5		M16
L (mm)		53
Coolant supply		No
L1 (mm)		25
23690...	Ident. No.	011 ●

Prod. Gr. 263

Buttress thread



ATORN Pull stud DIN 69872 Big Mori Seiki

IK

Application:
For screwing into tool holders. They differ depending on the machine and spindle type and are used to fix the holders in the machine spindle.

Execution:
- All pull studs made from material 16Mn Cr5
- Case-hardened HRc 58 ± 2
- Thread and bore hole soft, black oxide and polished
- Pull studs with O-ring = sealed

Delivery:
1x Mori-Seiki SK40 pull stud

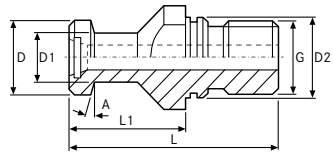
Notes:
Further versions available on request (specification of machine types required).

Suitable for tool holding device		SK 40	SK 40
Design		With O-ring	With O-ring
D1 (mm)		14	14
D2 (mm)		17	17
D (mm)		19	19
G		M16	M16
L (mm)		54	54
Coolant supply		Yes	Yes
α/ A (Degree)		15	15
L1 (mm)		26	29
23693...	Ident. No.	001 ●	002 ●

Prod. Gr. 263

Ident. No. 001

Ident. No. 002



ATORN Pull stud CAT metric (Mazak)

IK

Application:
For screwing into tool holders. They differ depending on the machine and spindle type and are used to fix the holders in the machine spindle.

Execution:
- All pull studs made from material 16Mn Cr5
- Case-hardened HRc 58 ± 2
- Thread and bore hole soft, black oxide and polished
- Pull studs with O-ring = sealed

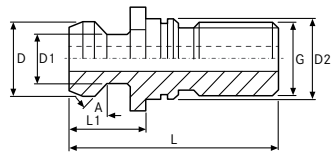
Delivery:
1x Mazak SK40 pull stud

Notes:
Further versions available on request (specification of machine types required).

Suitable for tool holding device		SK 40
Design		With O-ring
D1 (mm)		12.45
D2 (mm)		17
D (mm)		18.8
G		M16
L (mm)		41.26
Coolant supply		Yes
α/ A (Degree)		45
L1 (mm)		16.25
23693...	Ident. No.	010 ●

Prod. Gr. 263

For Mazak4001 CAT metric SK40 with recess, hole dia. 6 mm hole for internal cooling, with O-ring



ATORN Pull stud Haas Micron

IK

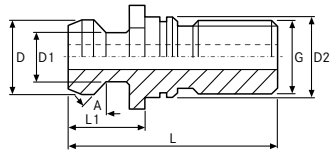
Application:
For screwing into tool holders. They differ depending on the machine and spindle type and are used to fix the holders in the machine spindle.

Execution:
- All pull studs made from material 16Mn Cr5
- Case-hardened HRc 58 ± 2
- Thread and bore hole soft, black oxide and polished
- Pull studs with O-ring = sealed

Delivery:
1x Haas-Mikron pull stud

Notes:
Further versions available on request (specification of machine types required).

for Haas-Mikron 4001, hole dia. 4 mm for internal cooling, with O-ring



Suitable for tool holding device		SK 40	SK 40
Design		With O-ring	With O-ring
D1 (mm)		10	10
D2 (mm)		17	17
D (mm)		15	15
G		M16	M16
L (mm)		57	57
Coolant supply		Yes	No
α/ A (Degree)		45	45
L1 (mm)		32	32
23693...	Ident. No.	020 ●	021 ●

Prod. Gr. 263

ATORN Pull stud OTT ring groove for tool shank DIN 69871 AD

IK

Application:
For screwing into tool holders. They differ depending on the machine and spindle type and are used to fix the holders in the machine spindle.

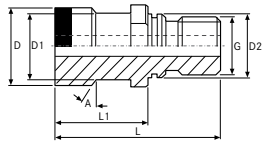
Delivery:
1x OTT SK pull stud with radial groove

Notes:
Further versions available on request (specification of machine types required).

Ident. No. 030
For OTT ring groove with hole dia. 7 mm for internal cooling and O-ring

Ident. No. 031
OTT ring groove without hole, with O-ring for tool shank DIN 69871 AD

Ident. No. 032



Suitable for tool holding device		SK 40	SK 40	SK 50
Design		With O-ring	With O-ring	Without O-ring
D1 (mm)		21.10	21.10	32
D2 (mm)		17	17	25
D (mm)		25	25	39.60
G		M16	M16	M24
L (mm)		53	53	65.10
Coolant supply		Yes	No	Yes
α/ A (Degree)		15	15	15
L1 (mm)		25.10	25.10	25.10
23693...	Ident. No.	030 ●	031 ●	032 ●

Prod. Gr. 263

ATORN Pull stud OTT groove with thread in the head

For tool shank DIN 69871 AD

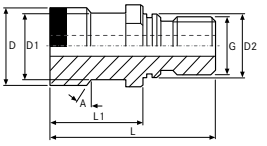
IK

Application:
For screwing into tool holders. They differ depending on the machine and spindle type and are used to fix the holders in the machine spindle.

Delivery:
1x OTT SK pull stud with radial groove

Notes:
Further versions available on request (specification of machine types required).

Ident. No. 040
OTT ring groove with M16 internal thread and hole dia. 7 mm in the head for internal cooling
with O-ring for tool shank DIN 69871 AD



Ident. No. 041
OTT ring groove with M24 internal thread and hole dia. 11.5 mm in the head, without O-ring for tool shank DIN 69871 AD

Suitable for tool holding device		SK 40	SK 50
Design		With O-ring	Without O-ring
D1 (mm)		21.10	32
D2 (mm)		17	25
D (mm)		25	39.60
G		M16	M24
L (mm)		53	65.10
Coolant supply		Yes	Yes
α/ A (Degree)		15	90
L1 (mm)		25.10	25.10
23693...	Ident. No.	040 ●	041 ●

Prod. Gr. 263

ATORN Pull stud MAS BT 60° JIS 6339

With and without hole

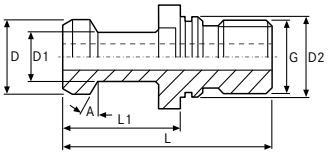
IK

Application:
For screwing into tool holders. They differ depending on the machine and spindle type and are used to fix the holders in the machine spindle.

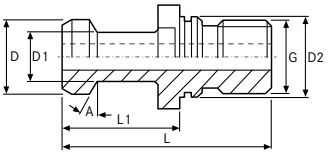
Execution:
- All pull studs made from material 16Mn Cr5
- Case-hardened HRc 58 ± 2
- Thread and bore hole soft, black oxide and polished
- Pull studs with O-ring = sealed
- Ref. no. 050 with hole for IC
- Ref. no. 60-62 without IC

Delivery:
1x BT pull stud 60°

Notes:
Further versions available on request (specification of machine types required).



Ident. No. 050–052



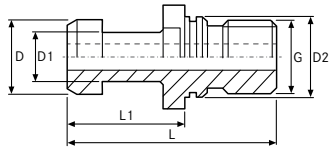
Ident. No. 060–062

Suitable for tool holding device		SK 30	SK 40	SK 50	SK 30	SK 40	SK 50
Design		With O-ring	With O-ring	With O-ring	With O-ring	With O-ring	With O-ring
D1 (mm)		7	10	17	7	10	17
D2 (mm)		12.5	17	25	12.5	17	25
D (mm)		11	15	23	11	15	23
G		M12	M16	M24	M12	M16	M24
L (mm)		43	60	85	43	60	85
Coolant supply		Yes	Yes	Yes	No	No	No
α/ A (Degree)		60	60	60	60	60	60
L1 (mm)		23	35	45	23	35	45
23693...	Ident. No.	050 ●	051 ●	052 ●	060 ●	061 ●	062 ●

Prod. Gr. 263

ATORN Pull stud MAS BT 90° JIS 6339

IK



Application:
For screwing into tool holders. They differ depending on the machine and spindle type and are used to fix the holders in the machine spindle.

Execution:
- All pull studs made from material 16Mn Cr5
- Case-hardened HRc 58 ± 2
- Thread and bore hole soft, black oxide and polished
- Pull studs with O-ring = sealed

Delivery:
1x BT40 pull stud 90°

Notes:
Further versions available on request (specification of machine types required).

Suitable for tool holding device		SK 40	SK 50	SK 50
Design		With O-ring	With O-ring	With O-ring
D1 (mm)		10	17	17
D2 (mm)		17	25	25
D (mm)		15	23	23
G		M16	M24	M24
L (mm)		60	85	85
Coolant supply		Yes	Yes	No
L1 (mm)		35	45	45
23693...	Ident. No.	070 ●	071 ●	072 ●

Prod. Gr. 263

ATORN Coolant transfer pipe for HST

Application:
For coolant transfer from CNC machine to HSK tool holders.

Execution:
- Hardened, smoothly ground and polished with 2 O-rings
- Special O-ring up to 120 bar

Delivery:
1x coolant transfer pipe

Ident. No. 132

Ident. No. 140

Ident. No. 163–180

Ident. No. 150

Ident. No. 100

Ident. No. 125

Tool holding device		HSK 32	HSK 40	HSK 50	HSK 63	HSK 100	HSK 80	HSK 125
23715...	Ident. No.	132 ●	140 ●	150 ●	163 ●	100 ●	180 ●	125 ●

Prod. Gr. 263

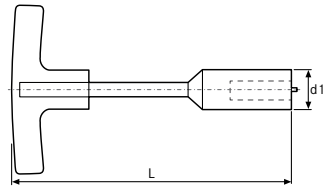
ATORN Wrench for coolant transfer pipe HSK

HSK 100 | HSK 32 | HSK 40 | HSK 50 | HSK 63 | HSK 80

Application:
For securing coolant transfer pipes.

Delivery:
1x installation key for coolant transfer pipe

Ident. No. 232

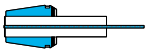
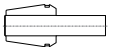
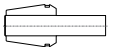


Tool holding device		HSK 32	HSK 40	HSK 50
23715...	Ident. No.	232 ●	240 ●	250 ●

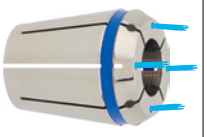
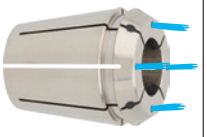
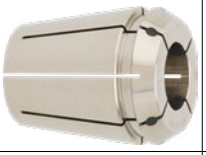
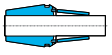
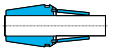
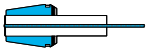
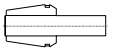
Tool holding device		HSK 63	HSK 80	HSK 100
23715...	Ident. No.	263 ●	280 ●	300 ●

Prod. Gr. 263

Selection overview - collet chucks type ER

	FAHRION®	ATORN	ORION®	ORION®
Designation	GERC-HPD	HP = high precision	Standard	Standard, rubber-sealed
Collet chuck type sizes (* in the online shop)	**GERC-HPD 16 /25 /32**	**ER16 /ER25 /ER32 / ER40**	**ER11 /ER16 /ER20 / ER25 /ER32 /ER40**	**ER11 /ER16 /ER20 / ER25 /ER32 /ER40**
Type				
Repeat accuracy	2 µm	5 µm	>5 µm	>5 µm
Concentricity (e.g. 12 mm)	2 µm	5 µm	>5 µm	>5 µm
Cooled by cutting edge (applies only to IC)	60 bar			80 bar
Art. No.	23323 617-658	23388 001-136	23320 011-426	23320 703-826
Page	888	885	889	890

Selection overview - collet chucks type ER with square drive

	FAHRION®	FAHRION®	FAHRION®	ORION®
				
Designation	GERC-HPDD sealed with spray nozzles	GERC-GBDD sealed with spray nozzles	GERC-GBD	Standard
Collet chuck type sizes	**GERC-HPDD 16 /25 /32**	**GERC-GBDD 16 /25 /32**	**GERC-GBD 16 /25 /32**	**ER16 /ER20 /ER25 / ER32 /ER40**
Type				
Repeat accuracy	2 µm	5 µm	5 µm	>5 µm
Concentricity (e.g. 12 mm)	2 µm	5 µm	5 µm	>5 µm
Cooled by cutting edge (applies only to IC)	60 bar	60 bar	60 bar	
Art. No.	23323 660-677	23323 770-795	23323 721-769	23320 600-691
Page	891	891	892	891

ATORN Collet chucks type ER according to DIN 6499 B

HP = high-precision, concentricity < 5 µm

Application:
For use on precision collet chucks.

Advantage:
- Higher concentricity extends tool service life

Delivery:

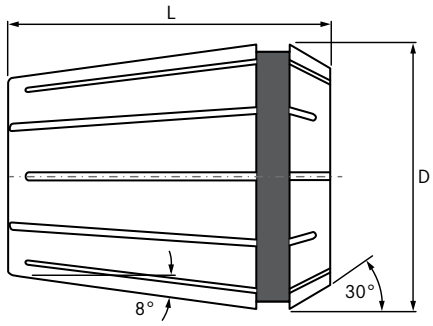
Ident. No. 001–019: 1x HP (high-precision) ER16 collet; concentricity 5 µm

Ident. No. 021–051: 1x HP (high-precision) ER25 collet; concentricity 5 µm

Ident. No. 053–088: 1x HP (high-precision) ER32 collet; concentricity 5 µm

Ident. No. 090–136: 1x HP (high-precision) ER40 collet; concentricity 5 µm

HP = high precision, concentricity < 5 µm



Ident. No. 001–051, 090–136

Collet type	ER 16		ER 25		ER 32		ER 40	
Min./max. clamping range	1-10 mm		1-16 mm		2-20 mm		3-26 mm	
D (mm)	17		26		33		41	
L (mm)	27.5		34		40		46	
Clamping bypass (mm)	-0.5		-0.5		-0.5		-0.5	
Clamping Ø d (mm)	23388... Ident. No.		23388... Ident. No.		23388... Ident. No.		23388... Ident. No.	
1	001	●	021	●	-	-	-	-
1.5	002	●	022	●	-	-	-	-
2	003	●	023	●	053	●	-	-
2.5	004	●	024	●	054	○	-	-
3	005	●	025	●	055	●	090	○
3.5	006	●	026	●	056	●	091	○
4	007	●	027	●	057	●	092	●
4.5	008	●	028	●	058	●	093	○
5	009	●	029	●	059	●	094	●
5.5	010	○	030	●	060	○	095	●
6	011	●	031	●	061	●	096	●
6.5	012	○	032	●	062	●	097	●
7	013	●	033	●	063	●	098	●
7.5	014	○	034	○	064	○	099	○
8	015	●	035	●	065	●	100	●
8.5	016	○	036	○	066	●	101	●
9	017	●	037	●	067	●	102	○
9.5	018	○	038	○	068	○	103	○
10	019	●	039	●	069	●	104	●
10.5	-	-	040	○	070	○	105	●
11	-	-	041	●	071	●	106	○
11.5	-	-	042	○	072	○	107	○
12	-	-	043	●	073	●	108	●
12.5	-	-	044	○	074	○	109	●
13	-	-	045	●	075	●	110	○
13.5	-	-	046	○	076	○	111	○
14	-	-	047	●	077	●	112	●
14.5	-	-	048	●	078	○	113	●
15	-	-	049	●	079	●	114	○
15.5	-	-	050	○	080	○	115	○
16	-	-	051	●	081	●	116	●
17	-	-	-	-	082	●	118	○
17.5	-	-	-	-	083	○	119	○
18	-	-	-	-	084	●	120	○
18.5	-	-	-	-	085	○	121	○
19	-	-	-	-	086	●	122	●
19.5	-	-	-	-	087	○	123	○
20	-	-	-	-	088	●	124	●
16.5	-	-	-	-	-	-	117	●
20.5	-	-	-	-	-	-	125	○
21	-	-	-	-	-	-	126	○
21.5	-	-	-	-	-	-	127	○
22	-	-	-	-	-	-	128	●
22.5	-	-	-	-	-	-	129	○
23	-	-	-	-	-	-	130	○
23.5	-	-	-	-	-	-	131	○
24	-	-	-	-	-	-	132	○
24.5	-	-	-	-	-	-	133	○
25	-	-	-	-	-	-	134	●
25.5	-	-	-	-	-	-	135	○
26	-	-	-	-	-	-	136	○

Prod. Gr. 2AN

ATORN Collet chuck sets type ER according to DIN 6499 B

HP = high-precision, concentricity < 5 µm

Application:
For use on precision collet chucks.

Advantage:
- Higher concentricity extends tool service life

Delivery:
1x HP (high-precision) 5 µm collet set in wooden case. (ER16 = dia. 3-10 mm 6 pcs; ER25 = dia. 4-16 mm 7 pcs; ER32 = dia. 4-20 mm 8 pcs; ER40 = dia. 4-26 mm 12 pcs)

Collet type	ER 16		ER 25		ER 32		ER 40	
Min./max. clamping range	1-10 mm		2-16 mm		3-20 mm		4-26 mm	
D (mm)	17		26		33		41	
L (mm)	27.5		34		40		46	
Number of pieces in assortment/ set	23388... Ident. No.		23388... Ident. No.		23388... Ident. No.		23388... Ident. No.	
10	290	●	-	-	-	-	-	-
15	-	-	291	●	-	-	-	-
18	-	-	-	-	292	●	-	-
23	-	-	-	-	-	-	293	●

Prod. Gr. 2AN

ATORN Collet chucks, type ER sealed, according to DIN 6499 A/ISO 15488

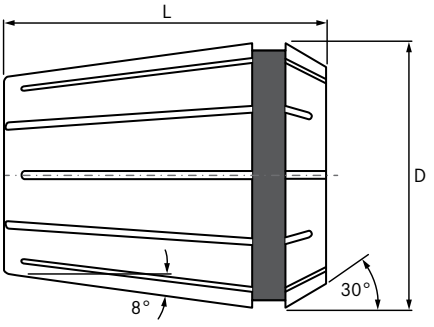
<Can be used up to 60 bar, concentricity 5 µm

Application:
For use on precision collet chucks.

Execution:
- Seal for internal coolant feed (up to 60 bar)

Advantage:
- Higher concentricity extends tool service life

Delivery:
1x HP (high-precision) sealed ER11 collet, concentricity 5 µm



Collet type	ER 16		ER 25		ER 32	
D (mm)	17		26		33	
L (mm)	27.5		34		40	
Abgedichtet bis max. (bar)	60		60		60	
Clamping Ø d (mm)	23388... Ident. No.		23388... Ident. No.		23388... Ident. No.	
3	310	●	350	●	380	●
3.5	311	○	351	○	381	○
4	312	●	352	●	382	●
4.5	313	○	353	○	383	○
5	314	●	354	●	384	○
5.5	315	○	355	○	385	○
6	316	●	356	●	386	●
6.5	317	○	357	○	387	○
7	318	●	358	●	388	●
7.5	319	○	359	○	389	○
8	320	●	360	●	390	●
8.5	321	○	361	○	391	○
9	322	●	362	●	392	●
9.5	323	○	363	○	393	○
10	324	●	364	●	394	●
10.5	-	-	365	○	395	○
11	-	-	366	○	396	●
11.5	-	-	367	○	397	○
12	-	-	368	●	398	●
12.5	-	-	369	○	399	○
13	-	-	370	●	400	○
13.5	-	-	371	○	401	○
14	-	-	372	●	402	●
14.5	-	-	373	○	403	○
15	-	-	374	○	404	○
15.5	-	-	375	○	405	○
16	-	-	376	●	406	●
16.5	-	-	-	-	407	○
17	-	-	-	-	408	●
17.5	-	-	-	-	409	○
18	-	-	-	-	410	●
18.5	-	-	-	-	411	○
19	-	-	-	-	412	●
19.5	-	-	-	-	413	○
20	-	-	-	-	414	●

Prod. Gr. 2AN

ATORN Collet chucks, type ER sealed, according to DIN 6499 A/ISO 15488

<Can be used up to 120 bar, concentricity 5 µm

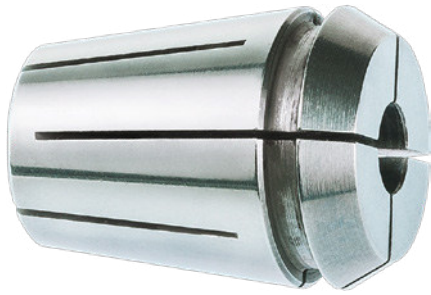
Application:
For use on precision collet chucks.

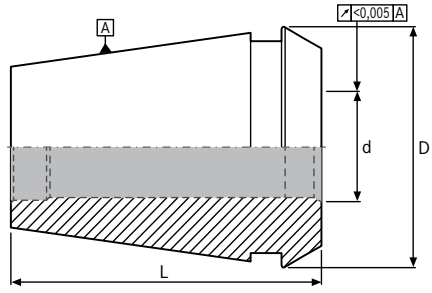
Execution:
- Metallic-sealed up to 120 bar for internal coolant supply

Advantage:
- Higher concentricity extends tool service life

Delivery:
1x HP (high-precision) collet, metallic seal; concentricity 5 µm

Notes:
It is not possible to combine the ATORN precision collet chuck and the Fahrion CENTRO|P precision collet chuck with the metal-sealed ATORN collets. All standard ER type collet chucks fit on the metal-sealed collets.





Collet type	ER 16		ER 25		ER 32	
D (mm)	17		26		33	
L (mm)	27.5		34		40	
Abgedichtet bis max. (bar)	120		120		120	
Clamping Ø d (mm)	23388... Ident. No.		23388... Ident. No.		23388... Ident. No.	
2	645	●	-	-	-	-
2.5	646	○	-	-	-	-
3	647	●	695	○	730	●
3.5	648	○	696	○	731	○
4	649	●	697	○	732	●
4.5	650	○	698	○	733	○
5	651	●	699	○	734	●
5.5	652	○	700	○	735	○
6	653	●	701	○	736	●
6.5	654	○	702	○	737	○
7	655	○	703	○	738	○
7.5	656	○	704	○	739	○
8	657	●	705	○	740	●
8.5	658	○	706	○	741	○
9	659	○	707	○	742	●
9.5	660	○	708	○	743	○
10	661	●	709	○	744	●
10.5	662	○	710	○	745	○
11	663	●	711	○	746	○
11.5	664	○	712	○	747	○
12	665	●	713	○	748	●
12.5	-	-	714	○	749	○
13	-	-	715	○	750	○
13.5	-	-	716	○	751	○
14	-	-	717	○	752	○
14.5	-	-	718	○	753	○
15	-	-	719	○	754	○
15.5	-	-	720	○	755	○
16	-	-	721	○	756	○
16.5	-	-	722	○	757	○
17	-	-	723	○	758	●
17.5	-	-	724	○	759	○
18	-	-	725	○	760	●
18.5	-	-	-	-	761	○
19	-	-	-	-	762	●
19.5	-	-	-	-	763	○
20	-	-	-	-	764	●

Prod. Gr. 2AN

FAHRION® Precision collet chuck sets type GERC HP DIN 6499/ISO 15488-B (ISO 15488)

< 2 µm concentricity

Application:
For HSC machining with high-precision machining results.

Execution:
- With small concentricity and repeat tolerance 2 µm (for system tolerance 3 µm and with 3 x dia. maximum = 50 mm), clamp bridge h10.
- For ATORN precision collet chucks and Fahrion CentroP precision collet chucks.
- With FAHRION|Protect corrosion protection for longer service life.
- Surface super-finished for enhanced retention force.

Advantage:
- Greater concentricity extends tool service life.
- Collets do not need to be replaced as often or can be used longer for specific applications.

Delivery:
1x type ER precision collet chuck set.

Collet type		426E GERC16-HP	429E GERC25-HP	469E GERC32-HP
Min./max. clamping range		3-10 mm	4-16 mm	4-20 mm
D (mm)		17	26	33
L (mm)		27.5	34	40
Coolant supply		External	External	External
Clamping bypass (mm)		-0.5	-0.5	-0.5
Number of pieces in assortment/set		6	7	8
23323...	Ident. No.	546 ○	578 ○	616 ○

Prod. Gr. 235

< 2 µm concentricity

FAHRION® Precision collet chuck type GERC HPD DIN 6499/ISO 15488-B (ISO 15488)

Seal for internal coolant supply as well as < 2 µm concentricity

IK

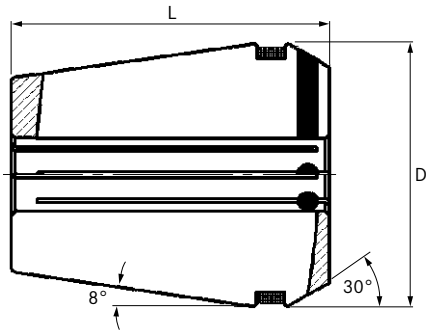
Application:
For HSC machining with high-precision machining results.

Execution:
- HPD with seal for internal coolant supply (can be used up to 60 bar).
- With small concentricity and repeat tolerance 2 µm (for system tolerance 3 µm and for 3 x dia. maximum = 50 mm).
- Surface super-finished for enhanced retention force.
- Only the nominal dimension can be clamped (straight shank with h8).
- With FAHRION|Protect corrosion protection for longer service life.

Advantage:
- Greater concentricity extends tool service life.
- Collets do not need to be replaced as often or can be used longer for specific applications.

Delivery:
1x type ER precision collet chuck.

HPD sealed collet chuck, 2 µm concentricity for IC



Collet type	425E GERC16-HPD		429E GERC25-HPD		469E GERC32-HPD	
Min./max. clamping range	1-10 mm		1-16 mm		2-20 mm	
D (mm)	17		26		33	
L (mm)	27.5		34		40	
Coolant supply	Internal axial		Internal axial		Internal axial	
Clamping bypass (mm)	-0.5		-0.5		-0.5	
d (mm)	23323... Ident. No.		23323... Ident. No.		23323... Ident. No.	
3	617	○	-	-	-	-
4	618	●	627	○	642	○
5	619	○	628	○	643	○
6	620	●	629	○	644	●
7	621	○	630	○	645	○
8	622	○	631	○	646	●
9	623	○	632	○	647	○
10	624	●	633	○	648	●
11	-	-	634	○	649	○
12	-	-	635	○	650	○
13	-	-	636	○	651	○
14	-	-	637	○	652	○
15	-	-	638	○	653	○
16	-	-	639	○	654	○
17	-	-	-	-	655	○
18	-	-	-	-	656	○
19	-	-	-	-	657	○
20	-	-	-	-	658	○

Prod. Gr. 235

FAHRION® Precision collet chuck sets type GERC HPD DIN 6499/ISO 15488-B (ISO 15488)

Seal for internal coolant supply as well as < 2 µm concentricity

IK

Application:
For HSC machining with high precision machining results

Execution:
- HPD with seal for internal coolant supply (can be used up to 60 bar).
- With small concentricity and repeat tolerance 2 µm (for system tolerance 3 µm and with 3 x dia. maximum = 50 mm), clamp bridge h10.
- Surface super-finished for enhanced retention force.
- Only the nominal dimension can be clamped (straight shank with h8).
- With FAHRION|Protect corrosion protection for longer service life.

Advantage:
- Greater concentricity extends tool service life.
- Collets do not need to be replaced as often or can be used longer for specific applications.

Delivery:
1x type ER precision collet chuck set.

< 2 µm concentricity

Collet type		425E GERC16-HPD	429E GERC25-HPD	469E GERC32-HPD
Min./max. clamping range		3-10 mm	4-16 mm	4-20 mm
D (mm)		17	26	33
L (mm)		27.5	34	40
Coolant supply		Internal axial	Internal axial	Internal axial
Clamping bypass (mm)		-0.5	-0.5	-0.5
Number of pieces in assortment/set		6	7	8
23323...	Ident. No.	625 ○	640 ○	659 ○

Prod. Gr. 235

ORION® Collet chucks type ER DIN 6499/ISO 15488-B (ISO 15488)

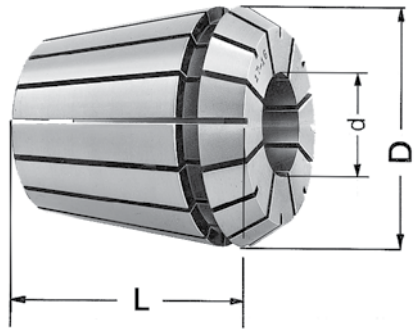
for milling chucks no. 23300, 23304, 23305

Application:
For clamping tools with straight shanks.

Delivery:
1x type ER collet.

Collet type	ER 11 (4008 E)		ER 16 (426 E)	
Min./max. clamping range	1-7 mm		1-10 mm	
D (mm)	11.5		17	
L (mm)	18		27.5	
Coolant supply	No		No	
d (mm)	23320... Ident. No.		23320... Ident. No.	
1	011	●	101	●
2	012	●	102	●
3	013	●	103	●
4	014	●	104	●
5	015	●	105	●
6	016	●	106	●
7	017	●	107	●
8	-	-	108	●
9	-	-	109	●
10	-	-	110	●

Prod. Gr. 295



ORION® Collet chucks type ER DIN 6499/ISO 15488-B (ISO 15488)

for milling chucks no. 23300, 23304, 23305

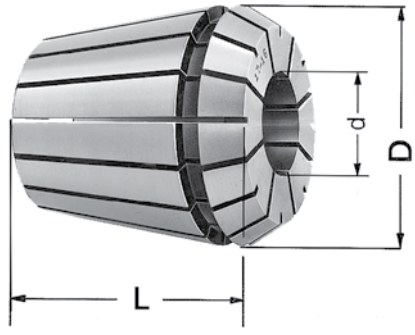
Application:
For clamping tools with straight shanks.

Delivery:
1x type ER collet.

Ident. No. 202–266

Collet type	ER 20 (428 E)		ER 25 (430 E)		ER 32 (470 E)		ER 40 (472 E)	
Min./max. clamping range	1-13 mm		1-16 mm		3-20 mm		3-26 mm	
D (mm)	21		26		33		41	
L (mm)	31.5		34		40		46	
Coolant supply	No		No		No		No	
d (mm)	23320... Ident. No.		23320... Ident. No.		23320... Ident. No.		23320... Ident. No.	
2	202	●	252	●	-	-	-	-
3	203	●	253	●	303	●	-	-
4	204	●	254	●	304	●	404	●
5	205	●	255	●	305	●	405	●
6	206	●	256	●	306	●	406	●
7	207	●	257	●	307	●	407	●
8	208	●	258	●	308	●	408	●
9	209	●	259	●	309	●	409	●
10	210	●	260	●	310	●	410	●
11	211	●	261	●	311	●	411	●
12	212	●	262	●	312	●	412	●
13	213	●	263	●	313	●	413	●
14	-	-	264	●	314	●	414	●
15	-	-	265	●	315	●	415	●
16	-	-	266	●	316	●	416	●
17	-	-	-	-	317	●	417	●
18	-	-	-	-	318	●	418	●
19	-	-	-	-	319	●	419	●
20	-	-	-	-	320	●	420	●
21	-	-	-	-	-	-	421	●
22	-	-	-	-	-	-	422	●
23	-	-	-	-	-	-	423	○
24	-	-	-	-	-	-	424	●
25	-	-	-	-	-	-	425	●
26	-	-	-	-	-	-	426	●

Prod. Gr. 295



ORION® Collet chuck type ER/ESX, sealed acc. DIN 6499/ISO 15488-B

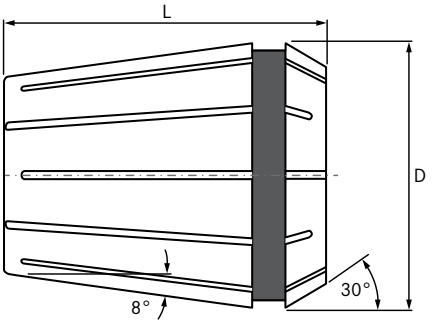
For internal cooling (can be used at up to 80 bar)

Delivery:
1x collet.

Collet type	ER 11 (4012 E)		ER 16 (425 E)		ER 20 (427 E)	
Min./max. clamping range	3-7 mm		3-10 mm		3-13 mm	
D (mm)	11.5		17		21	
L (mm)	18		27.5		31.5	
Coolant supply	Yes		Yes		Yes	
d (mm)	23320... Ident. No.		23320... Ident. No.		23320... Ident. No.	
3	703	●	713	●	733	●
4	704	●	714	●	734	●
5	705	●	715	●	735	●
6	706	●	716	●	736	●
7	707	○	717	●	737	○
8	-	-	718	●	738	●
9	-	-	719	○	739	○
10	-	-	720	●	740	●

Prod. Gr. 2AE

Sealed for internal cooling
(can be used at up to 80 bar)



ORION® Collet chuck set type ER DIN 6499/ISO 15488-B (ISO 15488)

for milling chucks no. 23300, 23305

Application:
For clamping tools with straight shanks.

Delivery:
1x ER collets set in aluminium case.

Collet type		ER 16 (426 E)	ER 20 (428 E)	ER 25 (430 E)	ER 32 (470 E)	ER 40 (472 E)
Min./max. clamping range		1-10 mm	2-13 mm	2-16 mm	3-20 mm	4-26 mm
D (mm)		17	21	26	33	41
L (mm)		27.5	31.5	34	40	46
Coolant supply		No	No	No	No	No
Number of pieces in assortment/set		10	12	15	18	23
23320...	Ident. No.	116 ●	220 ●	275 ●	332 ●	430 ●

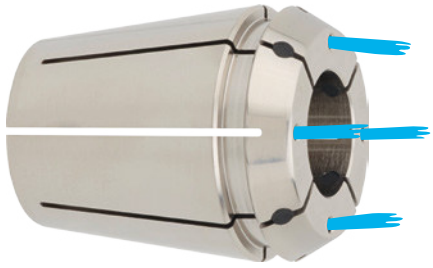
Prod. Gr. 295

Ref. no. 23320332

FAHRION® GERC-GBDD tap collets, DIN ISO 15488-A, with square socket

Seal for IC (internal cooling) and spray nozzle

IK

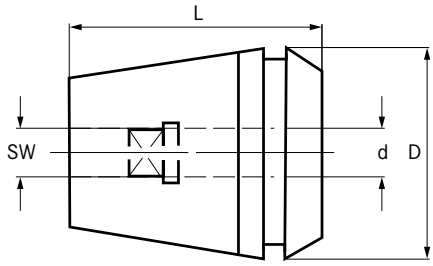


Application:
For thread cutting with Centro P precision collet chucks or with synchronous tapping chuck.

Execution:
- With square drive for positive engagement of the screw tap.

- For internal cooling (can be used up to 120 bar).
- Concentricity < 10 µm.
- Concentricity less than 10 µm.

Delivery:
1x type ER screw tap collet chuck set.



	Collet type	4031E GERC16-GBDD		4282E GERC25-GBDD		4537E GERC32-GBDD	
	D (mm)	16.7		25.7		32.7	
	L (mm)	27.5		34		40	
	Coolant supply	Inner cooling and spray nozzles		Inner cooling and spray nozzles		Inner cooling and spray nozzles	
d (mm)	Width across flats (mm)	23323... Ident. No.		23323... Ident. No.		23323... Ident. No.	
3.5	2.7	770	○	-	-	-	-
4.5	3.55	771	○	775	○	784	○
6.0	5.0	772	○	776	○	785	○
7.0	5.6	773	○	777	○	786	○
8.0	6.3	774	○	778	○	787	○
9.0	7.1	-	-	779	○	788	○
10.0	8.0	-	-	780	○	789	○
11.0	9.0	-	-	781	○	790	○
12.0	9.0	-	-	782	○	791	○
14.0	11.2	-	-	783	○	792	○
16.0	12.5	-	-	-	-	793	○
18.0	14.5	-	-	-	-	794	○
20.0	16.0	-	-	-	-	795	○

Prod. Gr. 235

ORION® Tap collet type ER DIN 6499 A with square socket

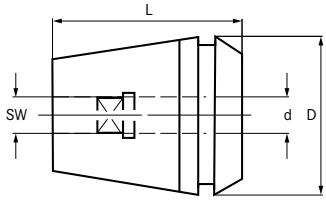
Application:
For clamping screw tapping tools.

Execution:
- Suitable for all standard ER collet chucks.
- For machines with synchronous feed.

Advantage:
- Square drive to prevent screw taps from slipping.

Delivery:
1x type ER screw tap collet chuck set.

Notes:
Type ER collets DIN 6499B for straight shanks, see no. 23320.



	Collet type	ER 16		ER 20		ER 25		ER 32		ER 40	
	D (mm)	16.8		20.80		25.80		32.80		40.8	
	d2 (mm)	16		20		25		32		40	
	L (mm)	27.5		31.50		34		40		46	
d (mm)	Width across flats (mm)	23320... Ident. No.		23320... Ident. No.		23320... Ident. No.		23320... Ident. No.		23320... Ident. No.	
3.5	2.7	600	●	620	●	640	●	660	●	-	-
4.0	3.0	601	●	621	○	641	○	661	●	-	-
4.5	3.4	602	●	622	●	642	●	662	●	-	-
5.0	5.0	603	●	623	○	643	●	663	●	-	-
5.5	4.3	604	●	624	●	644	●	664	●	-	-
6.0	4.9	605	●	625	●	645	●	665	●	680	●
7.0	5.5	606	●	626	○	646	●	666	●	681	○
8.0	6.2	607	●	627	●	647	●	667	●	682	○
9.0	7.0	608	●	628	●	648	●	668	●	683	●
10.0	8.0	609	●	629	●	649	●	669	●	684	●
11.0	9.0	-	-	630	●	650	●	670	●	685	○
12.0	9.0	-	-	631	●	651	●	671	●	686	●
14.0	11.0	-	-	-	-	652	●	672	●	687	○
16.0	12.0	-	-	-	-	653	●	673	●	688	●
18.0	14.5	-	-	-	-	-	-	674	●	689	●
20.0	16.0	-	-	-	-	-	-	675	○	690	○
22.0	18.0	-	-	-	-	-	-	-	-	691	●

Prod. Gr. 2AE

FAHRION® GERC-GBD tap collets, similar to DIN 6499/ISO 15488-A, with square socket

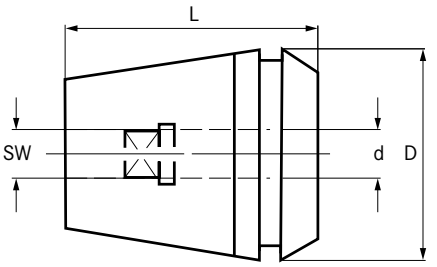
For internal cooling (can be used at up to 120 bar)

IK

Application:
For thread cutting with CENTRO P or with synchronous tapping chuck.

Execution:
- With square drive for positive engagement of the screw tap.
- Concentricity < 10 µm.

Delivery:
1x type ER screw tap collet chuck set.



Collet type		4031E GERC16-GBD		4282E GERC25-GBD		4537E GERC32-GBD	
D (mm)		16.7		25.7		32.7	
L (mm)		27.5		34		40	
Coolant supply		Yes		Yes		Yes	
d (mm)	Width across flats (mm)	23323... Ident. No.		23323... Ident. No.		23323... Ident. No.	
2.8	2.1	721	○	-	-	-	-
3.5	2.7	722	○	733	○	-	-
4	3.2	723	○	734	○	751	○
4.5	3.55	724	○	735	○	752	○
5	4	725	○	736	○	753	○
5.5	4.5	726	○	737	○	754	○
6	5	727	○	738	○	755	○
6.3	5	728	○	739	○	756	○
7	5.6	729	○	740	○	757	○
7.1	5.6	730	○	741	○	758	○
8	6.3	731	○	742	○	759	○
9	7.1	732	○	743	○	760	○
10	8	-	-	744	○	761	○
11	9	-	-	745	○	762	○
11.2	9	-	-	746	○	763	○
12	9	-	-	747	○	764	○
12.5	10	-	-	748	○	765	○
14	11.2	-	-	749	○	766	○
16	12.5	-	-	750	○	767	○
18	14.5	-	-	-	-	768	○
20	16	-	-	-	-	769	○

Prod. Gr. 235

ORION® Collet chucks for ERICKSON system

For ERICKSON system

Application:
For clamping tools with straight shank.

Execution:
- For short chuck system ERICKSON sealing taper/ sealing taper shank no. 23325.
- Multi-range collets for clamping the nominal diameter.
- Concentricity 20 µm.
- Clamp bridge -0.5 mm.

Delivery:
1x type ERICKSON collet.

Ident. No. 003
DK 30 416E

Ident. No. 020–032
DKS 416E

Ident. No. 101–119
DK 20 417E

Type	416E		416E		417E		418E	
Collet type	DK 30		DKS		DK 20		DK 10	
Min./max. clamping range	1-6.5 mm		1-4 mm		1-10 mm		2.5-14.5 mm	
d (mm)	23326... Ident. No.		23326... Ident. No.		23326... Ident. No.		23326... Ident. No.	
1	001	●	020	●	101	●	-	-
1.25	-	-	021	●	-	-	-	-
1.5	002	●	022	●	102	●	-	-
1.75	-	-	023	●	-	-	-	-
2	003	●	024	●	103	●	-	-
2.25	-	-	025	○	-	-	-	-
2.5	004	●	026	○	104	●	201	○
3	005	●	028	●	105	○	202	○
3.25	-	-	029	○	-	-	-	-
3.5	006	●	030	●	106	○	203	●
4	007	●	032	●	107	●	204	●
4.5	008	●	-	-	108	●	205	○
5	009	●	-	-	109	○	206	●
5.5	010	●	-	-	110	○	207	○
6	011	●	-	-	111	●	208	●
6.5	012	●	-	-	112	●	209	●
7	-	-	-	-	113	●	210	●
7.5	-	-	-	-	114	●	211	○

Type	416E		416E		417E		418E	
Collet type	DK 30		DKS		DK 20		DK 10	
Min./max. clamping range	1-6.5 mm		1-4 mm		1-10 mm		2.5-14.5 mm	
d (mm)	23326... Ident. No.		23326... Ident. No.		23326... Ident. No.		23326... Ident. No.	
8	-	-	-	-	115	●	212	●
8.5	-	-	-	-	116	●	213	○
9	-	-	-	-	117	○	214	●
9.5	-	-	-	-	118	○	215	○
10	-	-	-	-	119	●	216	●
10.5	-	-	-	-	-	-	217	○
11	-	-	-	-	-	-	218	●
11.5	-	-	-	-	-	-	219	○
12	-	-	-	-	-	-	220	●
12.5	-	-	-	-	-	-	221	○
13	-	-	-	-	-	-	222	●
13.5	-	-	-	-	-	-	223	○
14	-	-	-	-	-	-	224	●
14.5	-	-	-	-	-	-	225	●

Prod. Gr. 218

Ident. No. 206
DK 10 418E

ATORN Reducing sleeve with KKB

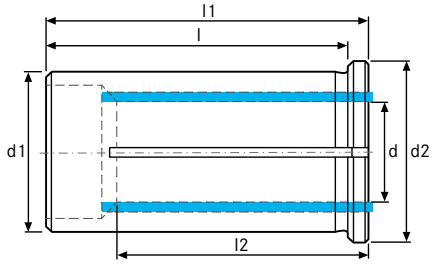
With coolant bore along the location hole

Application:
For reducing the clamping diameter. For drilling, reaming, milling and sharpening tools.

Execution:
- Slotted and polished
- Concentricity tolerance ≤ 3 µm
- Concentricity tolerance ≤ 3µm

Delivery:
1x reducing sleeve with coolant bores

Notes:
Caution: Never clamp without a tool - the reducing sleeve will be damaged.



Collar Ø d2 (mm)			16		25		36	
Insert depth l (mm)			40		50		60	
Length L1 (mm)			44		54		64	
Coolant supply			KKB		KKB		KKB	
Clamping Ø d (mm)	Chuck clamping Ø d1 (mm)	Insertion depth l2 (mm)	23336... Ident. No.		23336... Ident. No.		23336... Ident. No.	
3	12	29	601	●	-	-	-	-
4	12	29	602	●	-	-	-	-
5	12	29	603	○	-	-	-	-
6	12	36	604	●	-	-	-	-
8	12	37	605	●	-	-	-	-
3	20	28	-	-	611	●	-	-
4	20	28	-	-	612	○	-	-
5	20	28	-	-	613	○	-	-
6	20	36	-	-	614	●	-	-
8	20	37	-	-	615	●	-	-
10	20	40	-	-	616	●	-	-
12	20	45	-	-	617	●	-	-
14	20	45	-	-	618	○	-	-
16	20	48	-	-	619	●	-	-
6	32	36	-	-	-	-	620	○
8	32	36	-	-	-	-	621	○
10	32	40	-	-	-	-	622	○
12	32	45	-	-	-	-	623	●
14	32	46	-	-	-	-	624	○
16	32	48	-	-	-	-	625	●
18	32	49	-	-	-	-	626	●
20	32	50	-	-	-	-	627	●
25	32	56	-	-	-	-	628	○

Prod. Gr. 286

Reducing sleeves
Sealed for internal cooling

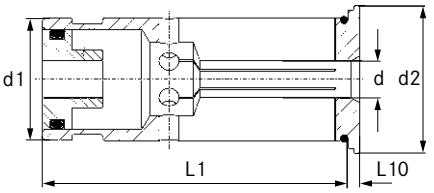
IK

Application:
For reducing the clamping diameter.

Execution:
- With adjustable longitudinal stop.
- Sealed for internal coolant supply, for reducing the clamping diameter.
- Concentricity tolerance with collets is 0.003 mm.
- Suitable for all expansion chucks no. 23333, 23335 and 23350.

Advantage:
- For clamping various shank diameters with one single chuck.

Delivery:
1x reducing sleeve.



	Collar Ø d2 (mm)	16.5		24	
	L10 (mm)	2		2	
	Length L1 (mm)	45		50.5	
	Concentricity tolerance (mm)	0.003		0.003	
	Coolant supply	Yes		Yes	
Clamping Ø d (mm)	Chuck clamping Ø d1 (mm)	23336... Ident. No.		23336... Ident. No.	
3	12	403	●	-	-
4	12	404	●	-	-
5	12	405	●	-	-
6	12	406	●	-	-
8	12	408	●	-	-
3	20	-	-	503	●
4	20	-	-	504	●
5	20	-	-	505	●
6	20	-	-	506	●
8	20	-	-	508	●
10	20	-	-	510	●
12	20	-	-	512	●
14	20	-	-	514	●
16	20	-	-	516	●

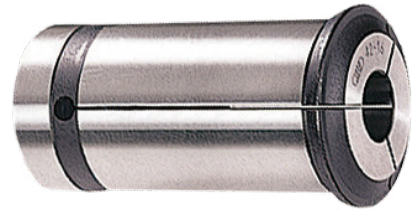
Prod. Gr. 229

Reducing sleeve for power chuck
Concentricity ≤0.005 mm not sealed

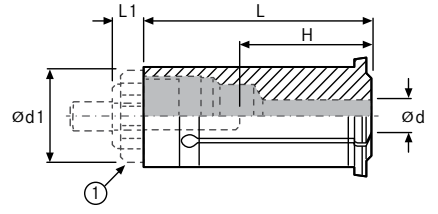
Application:
For reducing the clamping diameter.

Delivery:
1x reducing sleeve.

Notes:
On the HSK-63, the length adjustment screw does not work because of the coolant pipe, and lack of space. It will only work with the SK-40 version. Options: Stop screw only available as an option - not supplied with the BIG bushing. Accessory art. no. 23336460 stop screw.



Ident. No. 450



			Length L1 (mm)	60	
Clamping Ø d (mm)	Chuck clamping Ø d1 (mm)	Einspanntiefe min. H (mm)	Einspanntiefe max. H (mm)	23336... Ident. No.	
6	20	30	48	450	○
8	20	32	48	451	○
10	20	37	48	452	○
12	20	37	48	453	○
14	20	40	48	454	○
16	20	46	-	455	○

Prod. Gr. 2AX

Tapered spindle cleaner
for MK spindles

Application:
For cleaning tool holders on machine spindles, tapered sleeves or tapered gauges.

Version:
- MK taper shank.
- Wooden basic body.
- Fabric cleaning pads.

Advantage:
- Removes contamination, ensuring accurate positioning on the mounting taper.
- Ensures enhanced concentricity.

Scope of delivery:
1x tapered spindle cleaner for MK holders.

Type	Suitable for tool holding device	Length (mm)	Ø (mm)	23500... Ident. No.	
MK 1	MT 1	160	18	010	●
MK 2	MT 2	173	18	020	●
MK 3	MT 3	190	25	030	●

Type	Suitable for tool holding device	Length (mm)	Ø (mm)	23500... Ident. No.	
MK 4	MT 4	215	33	040	●
MK 5	MT 5	245	46	050	●
MK 6	MT 6	305	65	060	●

Prod. Gr. 206

ORION® Tapered spindle cleaner
for SK spindles

Application:
For cleaning tool holders on machine spindles, tapered sleeves or tapered gauges.

Version:
- SK taper shank.
- Wooden basic body.
- Fabric cleaning pads.

Advantage:
- Removes contamination, ensuring accurate positioning on the mounting taper.
- Ensures enhanced concentricity.

Scope of delivery:
1x tapered spindle cleaner for SK spindles.

Type	Suitable for tool holding device	Length (mm)	Ø (mm)	23500... Ident. No.	
SK 30	SK 30	156	33	100	●
SK 40	SK 40	180	46	110	●
SK 50	SK 50	220	73	120	●
SK 60	SK 60	275	111	130	●

Prod. Gr. 206

ORION® Tapered spindle cleaner
for ER holders

Application:
For cleaning tool holders. For cleaning the inner taper of ER holders.

Version:
- Taper for ER tool holders.
- Wooden basic body.
- Fabric cleaning pads.

Advantage:
- Removes contamination, ensuring accurate positioning of the collet on the mounting taper.
- Ensures enhanced concentricity.

Scope of delivery:
1x tapered spindle cleaner for ER holders.

Type	Suitable for tool holding device	Length (mm)	Ø (mm)	23510... Ident. No.	
ER16	ER 16	127	18	001	●
ER20	ER 20	132	22	002	●
ER25	ER 25	134	27	003	●
ER32	ER 32	139	34	004	●
ER40	ER 40	143	42	005	●

Prod. Gr. 206

ORION® Tapered spindle cleaner
for OZ holders

Application:
For cleaning tool holders. For the inner taper of OZ holders.

Version:
- Taper for OZ tool holders.
- Wooden basic body.
- Fabric cleaning pads.

Advantage:
- Removes contamination, ensuring accurate positioning of the collet on the mounting taper.
- Ensures enhanced concentricity.

Scope of delivery:
1x tapered spindle cleaner for OZ holders.

Type	Suitable for tool holding device	Length (mm)	Ø (mm)	23510... Ident. No.	
OZ16	OZ 16	143	24	011	●
OZ25	OZ 25	154	34	012	●
OZ32	OZ 32	164	42	013	●

Prod. Gr. 206

ORION® Tapered spindle cleaner
for HSK spindles

Application:
For cleaning the inner taper of machine spindles.

Version:
- Hollow shank taper (HSK) for taper and contact surface.
- Wooden basic body.
- Fabric cleaning pads.

Advantage:
- Removes contamination, ensuring accurate positioning of the tool holder in the spindle.
- Ensures enhanced concentricity.

Scope of delivery:
1x tapered spindle cleaner for HSK spindles.

Type	Suitable for tool holding device	Length (mm)	Ø (mm)	23520... Ident. No.	
HSK32	HSK 32	130	32	001	●
HSK40	HSK 40	133	40	002	●
HSK50	HSK 50	138	50	003	●
HSK63	HSK 63	142	63	004	●
HSK80	HSK 80	172	80	005	●
HSK100	HSK 100	179	100	006	●

Prod. Gr. 206

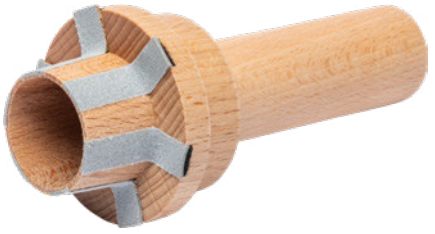
ORION® Tapered spindle cleaner
for HSK spindles

Application:
For cleaning the inner taper of machine spindles.

Version:
- Hollow shank taper (HSK) for taper and contact surface.
- Wooden basic body.
- Fabric cleaning pads.

Advantage:
- Removes contamination, ensuring accurate positioning of the tool holder in the spindle.
- Ensures enhanced concentricity.

Scope of delivery:
1x tapered spindle cleaner for HSK spindles.



Type	Suitable for tool holding device	Length (mm)	Ø (mm)	23520... Ident. No.	
HSK 63	HSK 63	146	63	011	●

Prod. Gr. 206

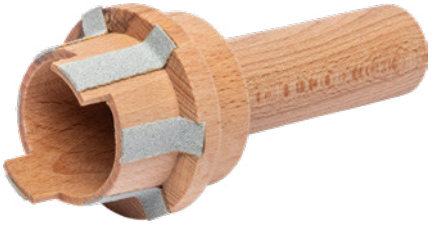
ORION® Tapered spindle cleaner
for HSK spindles, shape A

Application:
For cleaning the inner taper of machine spindles.

Version:
- Hollow shank taper (HSK) for taper and contact surface.
- Wooden basic body.
- Fabric cleaning pads.

Advantage:
- Removes contamination, ensuring accurate positioning of the tool holder in the spindle.
- Ensures enhanced concentricity.

Scope of delivery:
1x tapered spindle cleaner for HSK spindles.



Type	Suitable for tool holding device	Length (mm)	Ø (mm)	23520... Ident. No.	
HSK 32	ER 32	134	32	021	●
HSK 40	HSK 40	139	40	022	●
HSK 50	HSK 50	145	50	023	●
HSK 63	HSK 63	152	63	024	●
HSK 80	HSK 80	184	80	025	●
HSK 100	HSK 100	194	111	026	●

Prod. Gr. 206

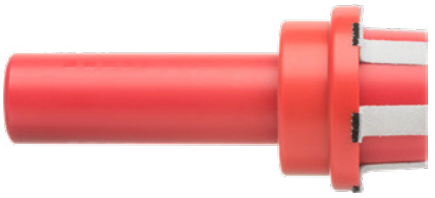
ORION® Tapered spindle cleaner
for HSK spindles, shape E

Application:
For cleaning the inner taper of machine spindles.

Version:
- Hollow shank taper (HSK) for taper and contact surface.
- Plastic basic body.
- Fabric cleaning pads.

Advantage:
- Removes contamination, ensuring accurate positioning of the tool holder in the spindle.
- Ensures enhanced concentricity.

Scope of delivery:
1x tapered spindle cleaner for HSK spindles.



HSK 32 - HSK 100

Type	Suitable for tool holding device	Length (mm)	Ø (mm)	23780... Ident. No.	
HSK 32	HSK 32	130	32	020	●
HSK 40	HSK 40	133	40	030	●
HSK 50	HSK 50	138	50	040	●

Type	Suitable for tool holding device	Length (mm)	Ø (mm)	23780... Ident. No.	
HSK 63	HSK 63	142	63	050	●
HSK 80	HSK 80	172	80	060	●
HSK100	HSK 100	179	100	070	●

Prod. Gr. 206

ATORN Chip booster (cleaning propeller)

Rapid cleaning of pallets and workpieces

Application:

The chip booster can be mounted in the tool holder and can be used to remove chips and coolant from components, devices and pallets very quickly.

Execution:

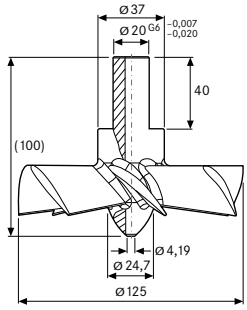
- Cooling through the centre
- Max. 12,000 rpm, balanced according to G2.5 12,000 rpm
- Manufactured from high-strength, anodised aluminium
- Automatic supply from the tool magazine
- Mount in any conventional tool holder with dia. 20 mm
- 7 turbine blades

Advantage:

- Safe and fast method for removing chips and coolant
- Robust and durable
- Quieter working environment
- Automated cleaning of the machine tool working area
- Reduction in non-productive time = cost savings

Delivery:

1x chip booster; cleaning propeller



Ø (mm)		125
Shank mount Ø (mm)		20
Shaft length (mm)		40
Length (mm)		100
Bore Ø (mm)		4.19
23550...	Ident. No.	030 ●

Prod. Gr. 280

AMF Gripper without counterbalance unit, pneumatic

For workpiece handling in the machine tool.

Application:

The gripper performs fully automatic workpiece replacement during the machining process on a machine tool. The change is performed from the machine tool of the milling machine and facilitates workpiece handling between the parts storage and clamping device.

It is actuated by compressed air that is routed through the machine spindle. The gripper closes pneumatically and is opened using spring force.

Execution:

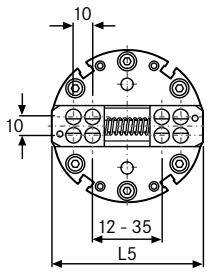
- Max. permissible rotation speed: 20 [rpm].
- Suitable for Weldon mounting and hydraulic expansion chucks.
- Designed for ambient temperatures between 0°C and 60°C.
- Transport of workpieces up to max. 8 kg.
- Available in two versions for workpiece sizes up to max. 50 mm or max. 70 mm.

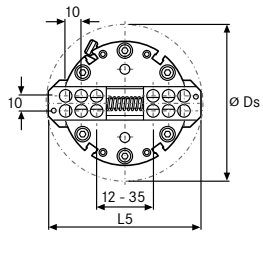
Advantage:

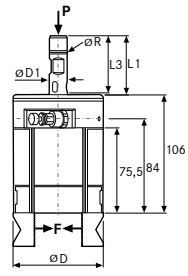
- The gripping force can easily be adjusted via a pressure regulating valve and thus adapted to the respective requirements of the workpiece.
- Easily exchangeable gripper inserts for handling different workpiece geometries.
- Easy implementation of unmanned shifts and therefore higher machine utilisation and greater flexibility.
- Considerably reduced setup times for small to medium-sized batches.

Delivery:

1x pneumatic gripper with counterbalance unit.







P	Stroke length (mm)	F	D (mm)	D1 (mm)	ØDs (mm)	L1 (mm)	L3 (mm)	L5 (mm)	Weight (kg)	27000... Ident. No.	
2-8 bar	23	200-700 N	80	16	95	53	50	80	1.72	001	○
2-8 bar	23	200-700 N	80	16	97.5	53	50	100	1.72	002	○

Prod. Gr. 2AW

Gripper with counterbalance unit, pneumatic

For workpiece handling in the machine tool.

Application:

The gripper performs fully automatic workpiece replacement during the machining process on a machine tool. The change is performed from the machine tool of the milling machine and facilitates workpiece handling between the parts storage and clamping device.

It is actuated by compressed air that is routed through the machine spindle. The gripper closes pneumatically and is opened using spring force. The integrated, spring-loaded CX counterbalance function protects the tool, machine spindle and workpiece and compensates for different tolerances and unevenness.

Execution:

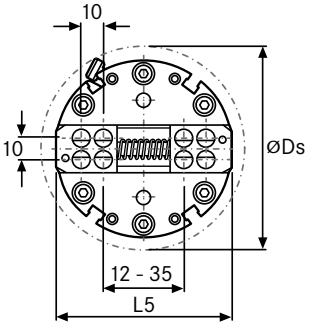
- Max. permissible rotation speed: 20 [rpm].
- Suitable for Weldon mounting and hydraulic expansion chucks.
- Designed for ambient temperatures between 0°C and 60°C.
- Transport of workpieces up to max. 8 kg.
- The scope of delivery includes three replacement seals
- Available in two versions for workpiece sizes up to max. 50 mm or max. 70 mm.

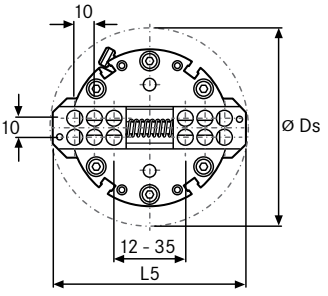
Advantage:

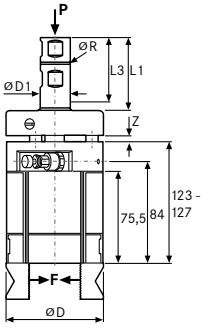
- The counterbalance function (Z: 5 mm, C: +/- 3°) optimally protects all components and balances out tolerances and unevenness.
- The gripping force can easily be adjusted via a pressure regulating valve and thus adapted to the respective requirements of the workpiece.
- Easily exchangeable gripper inserts for handling different workpiece geometries.
- Easy implementation of unmanned shifts, ensuring greater machine utilisation and
- increased flexibility.
- Considerably reduced setup times for small to medium-sized batches.

Delivery:

1x pneumatic gripper with counterbalance unit.







P	Stroke length (mm)	F	C (°)	D (mm)	D1 (mm)	ØDs (mm)	L1 (mm)	L3 (mm)	L5 (mm)	Z (mm)	Weight (kg)	27000... Ident. No.	
2-8 bar	23	200-700 N	+/- 3°	80	25	95	60.5	55	80	5	2.160	005	○
2-8 bar	23	200-700 N	+/- 3°	80	25	97.5	60.5	55	100	5	2.257	006	○

Prod. Gr. 2AW

Gripper with counterbalance unit, hydraulic

For workpiece handling in the machine tool.

Application:

The gripper performs fully automatic workpiece replacement during the machining process on a machine tool. The change is performed from the machine tool of the milling machine and facilitates workpiece handling between the parts storage and clamping device.

It is actuated by coolant, which is routed through the machine spindle. The gripper closes hydraulically and opened using spring force.

The integrated spring-loaded CX counterbalance function protects the tool, machine spindle and workpiece and compensates for different tolerances and unevenness.

Execution:

- Max. permissible rotation speed: 20 [rpm].
- Suitable for Weldon mounting and hydraulic expansion chucks.
- Designed for ambient temperatures between 0°C and 60°C.
- Transport of workpieces up to max. 8 kg.
- Available in two versions for workpiece sizes up to max. 50 mm or max. 70 mm.

Advantage:

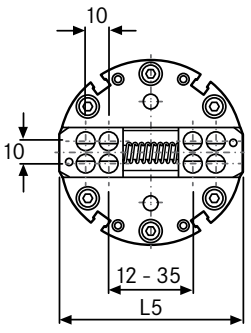
- The counterbalance function (Z: 5 mm, C: +/- 3°) optimally protects all components and compensates for different tolerances and unevenness.
- The gripping force can easily be adjusted using inductors and adapted to the respective requirements of the workpiece in this way.
- Easily exchangeable gripper inserts for handling different workpiece geometries.
- Easy implementation of unmanned shifts, ensuring greater machine utilisation and
- increased flexibility.
- Considerably reduced setup times for small to medium-sized batches.

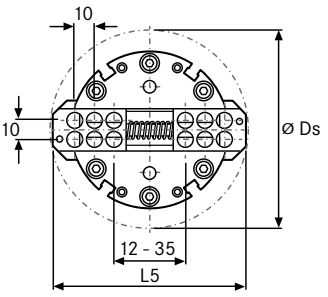
Delivery:

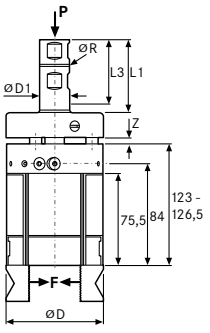
1x hydraulic gripper with counterbalance unit.

Notes:

Depending on the machine used and the operating pressure of the coolant,
three pre-configured grippers are available. During use, please observe the minimum and
maximum operating pressures.







P	Stroke length (mm)	F	C (°)	D (mm)	D1 (mm)	ØDs (mm)	L1 (mm)	L3 (mm)	L5 (mm)	Z (mm)	Weight (kg)	27000... Ident. No.	
25-30 bar	23	250-1000 N	+/- 3°	80	25	80	60.5	55	80	5	2.2	020	○
35-40 bar	23	250-1000 N	+/- 3°	80	25	80	60.5	55	80	5	2.2	021	○

P	Stroke length (mm)	F	C (°)	D (mm)	D1 (mm)	ØDs (mm)	L1 (mm)	L3 (mm)	L5 (mm)	Z (mm)	Weight (kg)	27000... Ident. No.	
45-50 bar	23	250-1000 N	+/- 3°	80	25	80	60.5	55	80	5	2.2	022	○
25-30 bar	23	250-1000 N	+/- 3°	80	25	80	60.5	55	100	5	2.288	023	○
35-40 bar	23	250-1000 N	+/- 3°	80	25	80	60.5	55	100	5	2.288	024	○
45-50 bar	23	250-1000 N	+/- 3°	80	25	80	60.5	55	100	5	2.288	025	○

Prod. Gr. 2AW

Gripper without counterbalance unit, hydraulic

For workpiece handling in the machine tool.

Application:

The gripper performs fully automatic workpiece replacement during the machining process on a machine tool. The change is performed from the machine tool of the milling machine and facilitates workpiece handling between the parts storage and clamping device.

It is actuated by coolant, which is routed through the machine spindle. The gripper closes hydraulically and opened using spring force.

Execution:

- Max. permissible rotation speed: 20 [rpm].
- Suitable for Weldon mounting and hydraulic expansion chucks.
- Designed for ambient temperatures between 0°C and 60°C.
- Transport of workpieces up to max. 8 kg.
- Available in two versions for workpiece sizes up to max. 50 mm or max. 70 mm.

Advantage:

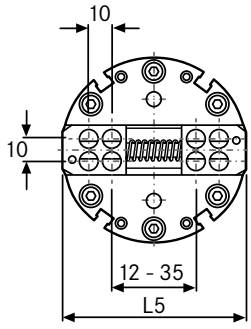
- The gripping force can easily be adjusted using inductors and adapted to the respective requirements of the workpiece in this way.
- Easily exchangeable gripper inserts for handling different workpiece geometries.
- Easy implementation of unmanned shifts and therefore higher machine utilisation and greater flexibility.
- Considerably reduced setup times for small to medium-sized batches.

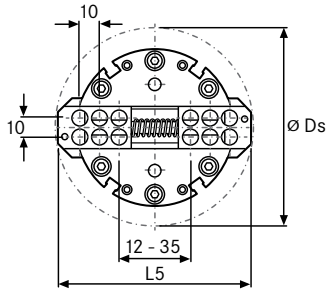
Delivery:

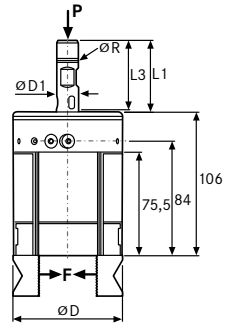
1x hydraulic gripper with counterbalance unit.

Notes:

Depending on the machine used and the operating pressure of the coolant, three pre-configured grippers are available. During use, please observe the minimum and maximum operating pressures.







P	Stroke length (mm)	F	D (mm)	D1 (mm)	ØDs (mm)	L1 (mm)	L3 (mm)	L5 (mm)	Weight (kg)	27000... Ident. No.	
25-30 bar	23	250-1000 N	80	16	80	53	50	80	1.762	010	○
35-40 bar	23	250-1000 N	80	16	80	53	50	80	1.762	011	○
45-50 bar	23	250-1000 N	80	16	80	53	50	80	1.762	012	○
25-30 bar	23	250-1000 N	80	16	97.5	53	50	100	1.820	013	○
35-40 bar	23	250-1000 N	80	16	97.5	53	50	100	1.820	014	○
45-50 bar	23	250-1000 N	80	16	97.5	53	50	100	1.820	015	○

Prod. Gr. 2AW

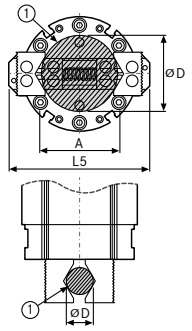
Gripper inserts for gripper - prism

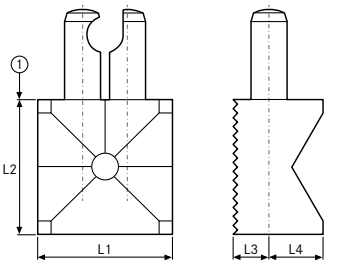
Application:
For quick and secure parts handling in the machine tool with the AMF gripper. They are mounted on the gripper carrier and are mechanically secured.

Execution:
- Hardened steel with a wear-resistant surface.
- First side with horizontal and vertical prism, second side ribbed.
- Gripper with 80 mm gripper extension (L5): A=0-40 mm and dia. D=12.5-39 mm gripper with 100 mm gripper extension (L5): A=0-59 mm and dia. D = 12.5-56 mm.

Delivery:
1x gripper insert for gripper - prism.

Notes:
The gripper inserts are suitable for all AMF grippers. They can be
adapted to the respective workpiece size by moving them on the gripper carrier.





L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	A*	ØD*	Weight (kg)	27000... Ident. No.	
30	30	8	12	0-59 mm	12.5-56 mm	0.2	030	○

Prod. Gr. 2AW

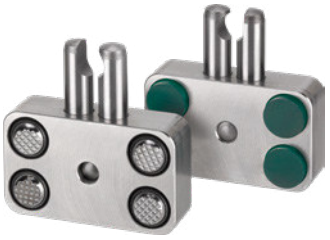
Gripper inserts for gripper - universal

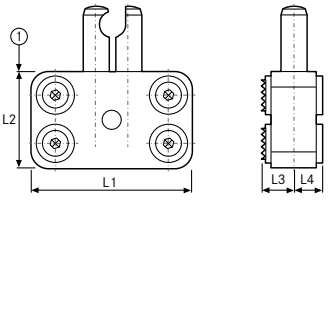
Application:
For quick and secure parts handling in the machine tool with the AMF gripper. They are mounted on the gripper carrier and are mechanically secured.

Execution:
- Hardened steel with a wear-resistant surface.
- First side with four contact surfaces and ribbed surface, second side with four contact surfaces made of soft plastic.
- Gripper with 80 mm gripper extension (L5): A=0-40 mm and dia. D=12.5-39 mm gripper with 100 mm gripper extension (L5): A=0-59 mm and dia. D = 12.5-56 mm.

Delivery:
1x gripper insert for gripper - universal.

Notes:
The gripper inserts are suitable for all AMF grippers. They can be
adapted to the respective workpiece size by moving them on the gripper carrier.





L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	A*	Weight (kg)	27000... Ident. No.	
50	30	10	9	0-54 mm	0.22	035	○

Prod. Gr. 2AW

Gripper inserts for grippers - blanks

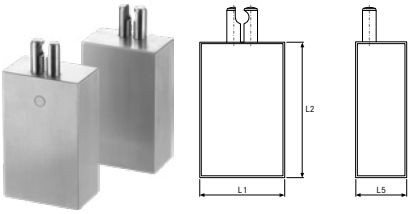
For customer-specific post-machining

Application:
The interface to the gripper is already integrated in the blanks.
The geometry of the blanks can be adapted to the workpiece.

Execution:
- Art. no. 27000045 material C45.
- Art. no. 27000046 material AW-6060 (ALU).

Delivery:
1x gripper insert for grippers - blanks for customer-specific post-machining.

Notes:
The blanks for gripper inserts are suitable for all AMF grippers. Customer-specific gripper inserts are deliverable on request.



L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	Weight (kg)	27000... Ident. No.	
50	80	8	12	30	0.95	045	○
50	80	8	12	30	0.35	046	○

Prod. Gr. 2AW

ORION® Quick-change inserts

Without safety coupling

Application:

No. 21565: For quickly changing screw taps without having to use a wrench.

No. 21566: For quickly changing screw taps without having to use a wrench. Quick-change inserts with safety friction clutch are used to prevent tool breakage caused by overload.

Execution:

- **No. 21565:** Precision quick-change insert.
- **No. 21566:**
  - Precise quick-change insert with adjustable and almost wear-free ball safety coupling for protection against damage when tool becomes blunt or comes into contact with bottom of the hole.
  - Inserts with safety friction clutch come with preset torque values for machining steel up to 800 N/mm².
  - For blind holes.

Advantage:

- Increased tool service life.

Delivery:

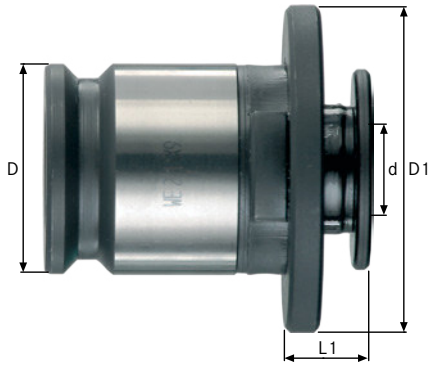
No. 21565: 1x quick-change insert without safety clutch.

No. 21566: 1x quick-change insert with safety clutch.

Notes:

No. 21565: Please enquire about any shank diameters, thread sizes, or brands not listed. The DIN no. or shank dimensions (diameter and square) must be indicated on the order form in addition to the thread size.

No. 21566: Shaft diameters or thread sizes and brands not listed available upon request. The DIN no. or shank dimensions (diameter and square) must be indicated on the order form in addition to the thread size.



No. 21565
Without safety coupling

No. 21566
With safety coupling

		1		2		1		2	
With safety coupling		No		No		Yes		Yes	
D1 (mm)		30		46		32		50	
l3 (mm)		7		11		25		34	
D (mm)		19		31		19		31	
d (mm)	Square shank on screw tap	21565... Ident. No.		21565... Ident. No.		21566... Ident. No.		21566... Ident. No.	
7	5.5	130	●	205	●	130	●	205	●
9	7	150	●	220	●	150	●	220	●
11	9	170	●	240	●	170	●	240	●
3.5	2.7	105	●	-	-	105	●	-	-
4.5	3.4	110	●	-	-	110	●	-	-
6	4.9	120	●	203	●	120	●	203	●
8	6.2	140	●	210	●	140	●	210	●
10	8	160	●	230	●	160	●	230	●
12	9	-	-	250	●	-	-	250	●
14	11	-	-	260	●	-	-	260	●
16	12	-	-	270	●	-	-	270	●
18	14.5	-	-	280	●	-	-	280	●

Prod. Gr. 295

ORION® Quick-change insert set

Application:

For quickly changing screw taps without having to use a wrench.

Execution:

- Precision quick-change insert.

Advantage:

- Increased tool service life.

Delivery:

1x set of quick-change inserts without safety clutch, 8 pieces.

No. 21565

No. 21566

With safety coupling	No		No		Yes		Yes	
Suitable for thread	M3-M12		M6-M20		M3-M12		M6-M20	
Number of pieces in assortment/set	8		9		8		9	
	21565... Ident. No.		21565... Ident. No.		21566... Ident. No.		21566... Ident. No.	
	500	●	501	●	500	●	501	●

Prod. Gr. 295

Tapping chuck, type DSPL

With morse taper according to DIN 228

Application:
For cutting internal threads on reversible drills, lathes and milling machines. Can be used horizontally and vertically.

Execution:
- With Morse taper shank and flat tangs in accordance with DIN 228 B.
- With patented double chuck (clamps shank and square drive).
- Elastic length compensation under compression and tension
- Axial-parallel pendulum device and flexible length compensation for cutting exact gradients and flush threads.
- With clockwise and anti-clockwise rotation.

Advantage:
- Adjustable safety friction clutch prevents tool breakage.

Delivery:
1x DSPL tapping chuck.

Notes:
Left-hand thread available on request.

Size		DSPL 12	DSPL 12	DSPL 20	DSPL 20	DSPL 30
Suitable for thread		M3-M12	M3-M12	M8-M20	M8-M20	M14-M30
Min. clamping range Ø (mm)		2.5	2.5	6	6	11
Max. clamping range Ø (mm)		10	10	16	16	23
Axial length compensation (mm)		20	20	20	20	30
Morse taper size		MK 2	MK 3	MK 3	MK 4	MK 4
Projecting length (mm)		135	135	170	170	230
Compensation parallel to axis (mm)		1	1	1.5	1.5	2
21520...	Ident. No.	010 ○	020 ○	050 ○	060 ○	070 ○

Prod. Gr. 2AH

Accessories for		21520 010	21520 020	21520 050	21520 060	21520 070
21528... Square socket wrench For type-DSPL tapping chucks	Ident. No.	010 ●	010 ●	020 ●	020 ●	040 ●

Thread cutting machine

Vertical and horizontal thread cutting

Application:
For the creation of threads and for other machining operations. Easy to use with a variety of possible adjustments

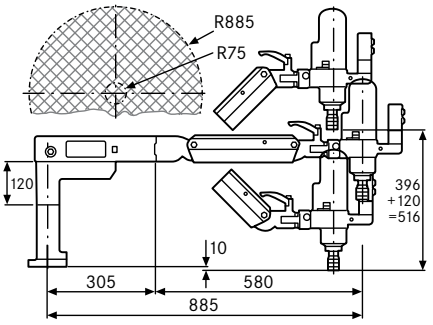
Execution:
- Electrically powered motor with 220 V
- For vertical and horizontal thread cutting
- Manual speed control by means of a potentiometer
- Operation with standard quick-change inserts
- Thread cutting performance: Steel M2-M14
- Thread cutting performance: Aluminium M2-M16
- Automatic tool lubrication and pneumatic version available on request
- Workspace height 565 mm
- Workspace radius 75 mm to 885 mm
- workspace radius 75mm to 885mm
- Recommended accessory ref. no. 21616002, fastening clip for fixation on the table. Quick change inserts, size 1/D=dia.19 mm, ref. no. 21566130 21566160 with safety coupling

Advantage:
- Value for money

Delivery:
1x thread cutting machine with basic tool insert, articulated arm for vertical thread cutting and swivel adapter for horizontal thread cutting

Notes:
(please order quick-change inserts separately).

Ident. No. 001



Ident. No. 002
Required accessories: fastening clip for fixing to the table.

p. 901

Type		Thread cutting machine	Fastening clip for table fixing.
Min./max. rotation speed		300-600 rpm	-
Nominal voltage (V)		220	-
Max. torque (Nm)		34	-
21616...	Ident. No.	001 ○	002 ○

Prod. Gr. 225

ORION® Morse taper reducing sleeves (DIN 2185)

Application:
For mounting tools with Morse taper shanks.

Execution:
- Internal and external taper in accordance with DIN 2185.
- Fully hardened.
- Internal and external taper ground with accurate pitch.

Advantage:
- No clamping imprints.
- Maximum concentricity.

Delivery:
1x MK 1/0 reducing sleeve.

Ident. No. 010–021, 032–065

Mount, on machine side		MK 1	MK 2	MK 3	MK 3	MK 4	MK 4	MK 4	MK 5	MK 5	MK 5	MK 6
Mount, on tool side		MK 0	MK 1	MK 1	MK 2	MK 1	MK 2	MK 3	MK 2	MK 3	MK 4	MK 5
Length (mm)		80	92	99	112	124	124	140	156	156	171	218
21102...	Ident. No.	010 ●	021 ●	031 ●	032 ●	041 ●	042 ●	043 ●	052 ●	053 ●	054 ●	065 ●

Prod. Gr. 207

ORION® Morse taper extension sleeves (DIN 228-1)

Long version

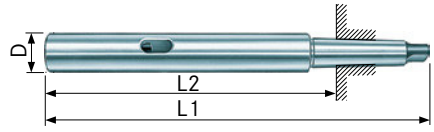
Application:
For extending drill bits and reamers.

Execution:
- Internal and external taper in accordance with DIN 2185.
- Ground external taper.

Advantage:
- Maximum concentricity.

Delivery:
1x MK extension sleeve.

Ident. No. 120–260, 330–460



Mount, on machine side	Mount, on tool side	Projection length L 2 (mm)	Cylinder Ø D (mm)	Length L 1 (mm)	21107... Ident. No.	
MK 1	MK 1	138	20	200	120	●
MK 1	MK 1	188	20	250	125	●
MK 1	MK 1	238	20	300	130	●
MK 1	MK 1	288	20	350	135	○
MK 1	MK 1	338	20	400	140	●
MK 2	MK 2	125	25	200	220	●
MK 2	MK 2	175	25	250	225	●
MK 2	MK 2	225	25	300	230	●
MK 2	MK 2	275	25	350	235	●
MK 2	MK 2	325	25	400	240	●
MK 2	MK 2	375	25	450	245	○
MK 2	MK 2	425	25	500	250	●
MK 2	MK 2	525	25	600	260	○
MK 3	MK 3	156	32	250	325	●
MK 3	MK 3	206	32	300	330	●
MK 3	MK 3	256	32	350	335	○
MK 3	MK 3	306	32	400	340	●
MK 3	MK 3	356	32	450	345	●
MK 3	MK 3	406	32	500	350	●
MK 3	MK 3	506	32	600	360	●
MK 4	MK 4	182.5	40	300	430	●
MK 4	MK 4	232.5	40	350	435	●
MK 4	MK 4	282.5	40	400	440	○
MK 4	MK 4	332.5	40	450	445	○
MK 4	MK 4	382.5	40	500	450	●
MK 4	MK 4	482.5	40	600	460	●

Prod. Gr. 207

ORION® Morse taper extension sleeves (DIN 228)

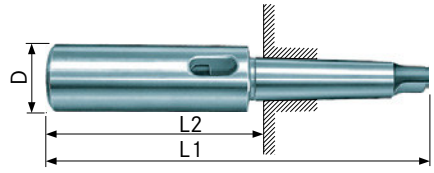
Application:
For mounting tools with Morse taper shank.

Execution:
- Ground and hardened internal and external taper, similar to DIN 2187.

Delivery:
1x MK extension sleeve.

Notes:
Similar to DIN 2187.

Ident. No. 011–031, 033–055



Mount, on machine side	Mount, on tool side	Projection length L 2 (mm)	Cylinder Ø D (mm)	Length L 1 (mm)	21115... Ident. No.	
MK 1	MK 1	83	20	145	011	●
MK 1	MK 2	98	30	160	012	●
MK 2	MK 1	85	20	160	021	●
MK 2	MK 2	100	30	175	022	●
MK 2	MK 3	121	36	196	023	●
MK 3	MK 1	81	20	175	031	●
MK 3	MK 2	100	30	194	032	●
MK 3	MK 3	121	36	215	033	●
MK 3	MK 4	146	48	240	034	●
MK 4	MK 3	122.5	36	240	043	●
MK 4	MK 4	147.5	48	265	044	●
MK 4	MK 5	182.5	63	300	045	●
MK 5	MK 4	150.5	48	300	054	●
MK 5	MK 5	182.5	63	300	055	●

Prod. Gr. 207

ORION® Tapered clamping sleeves (DIN 6329)

Application:
For mounting twist drills and countersinks with straight shanks (h8) in line with DIN 6329.

Execution:
- Ground hole and external taper.
- Fully hardened.
- Not suitable for milling

Delivery:
1x MK 1/3 mm tapered clamping sleeve.

Notes:
Not suitable for milling.

Adapter, on machine side D	Shank Ø d (mm)	21150... Ident. No.	
MK 1	3	103	●
MK 1	3.5	106	○
MK 1	4	109	○
MK 1	4.5	112	○
MK 1	5	115	●
MK 1	5.5	118	●
MK 1	6	121	●
MK 1	6.5	124	○
MK 1	7	127	○
MK 1	8	133	●
MK 2	6	203	●
MK 2	7	209	○

Adapter, on machine side D	Shank Ø d (mm)	21150... Ident. No.	
MK 2	8	215	●
MK 2	8.5	218	○
MK 2	9	221	○
MK 2	9.5	224	○
MK 2	10	227	●
MK 2	10.5	230	●
MK 2	11	233	○
MK 2	12	239	●
MK 3	12	327	○
MK 3	14	339	○
MK 3	16	351	●

Prod. Gr. 207

ORION® Conical clamping sleeves (DIN 6328)

Application:
For mounting screw taps and reamers with straight shanks and square drives.

Execution:
- For tools with straight shank and square head in accordance with DIN 6328.
- Ground hole and external taper.
- Fully hardened.
- Not suitable for milling

Delivery:
1x MK 1/4.5 mm tapered clamping sleeve.

Notes:
Not suitable for milling.

Adapter, on machine side D	Shank Ø d (mm)	Square width (mm)	21155... Ident. No.	
MK 1	4.5	3.4	103	●
MK 1	6	4.9	109	●
MK 1	7	5.5	112	○
MK 1	8	6.2	115	●
MK 2	6	4.9	203	●
MK 2	7	5.5	206	●
MK 2	8	6.2	209	●
MK 2	9	7	212	●
MK 2	10	8	215	●
MK 2	12	9	218	●
MK 3	14	11	303	●
MK 3	16	12	306	●

Prod. Gr. 207

RÖHM Drill chuck with tapered mount

For clockwise and anti-clockwise rotation, with toothed ring and key

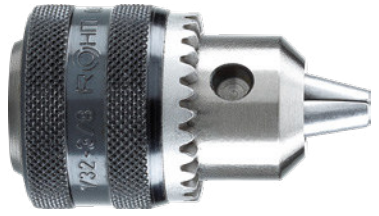
R/L

Application:
No. 21290: For holding tools with straight shank.
No. 21291: For holding tools with straight shank in pillar and bench drills.

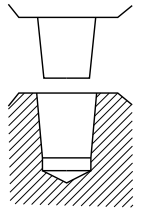
Execution:
- **No. 21290:**
  - Hardened body head with keyholes and jaws.
  - Keyed drill chuck, DIN ISO 10887.
- **No. 21291:**
  - Body head with keyholes and jaws, hardened
  - Industrial version
  - Toothed ring drill chuck with key, DIN ISO 10887

Advantage:
- **No. 21290:**
  - High clamping force thanks to toothed ring.
  - Very strong and resistant to wear.
- **No. 21291:**
  - For day-to-day industrial applications
  - High clamping force thanks to toothed ring

Delivery:
No. 21290: 1x 0.5-6.5 mm/B 12 drill chuck.



No. 21290 030, 21290 200–21291 020, 21291 040



Drill chuck cone in line with DIN ISO 239-B

Min./max. clamping width	Suitable for taper	Outer Ø (mm)	21290... Ident. No.		21291... Ident. No.	
0.5-6.5 mm	B 12	29.5	030	●	-	-
1-16 mm	B 18	56.5	170	●	-	-
5-20 mm	B 22	65	200	●	-	-
0.5-6.5 mm	B 10	29.5	-	-	010	●

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Min./max. clamping width	Suitable for taper	Outer Ø (mm)	21290... Ident. No.		21291... Ident. No.	
0.5-8 mm	B 10	29.5	-	-	020	●
0.8-10 mm	B 12	34.5	-	-	030	●
1.5-13 mm	B 12	42.8	-	-	040	●

Prod. Gr. 201

Accessories for		21290 030	21290 170	21290 200
21294... Spare key For keyed drill chuck	Ident. No.	010 ●	030 ●	040 ●

Accessories for		21291 010	21291 020	21291 030
21294... Spare key For keyed drill chuck	Ident. No.	010 ●	010 ●	020 ●

Accessories for		21291 040
21294... Spare key For keyed drill chuck	Ident. No.	020 ●

Prima drill chuck

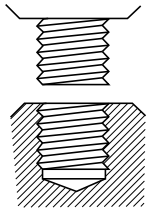
With female thread

R R/L

Application:
For holding tools with straight shank.

Execution:
- Industrial version for hand-guided machines
- Jaws hardened
- Body head with keyholes
- Toothed ring drill chuck with key, DIN ISO 10887
- High concentricity of up to 0.2 mm
- Ref. no. 21292041 clockwise rotation
- Ref. no. 21292251 clockwise/anti-clockwise rotation

Advantage:
- For day-to-day industrial applications
- High clamping force thanks to toothed ring



Thread adapter

Min./max. clamping width		0.5-8 mm	0.8-10 mm
Connection thread		3/8 inch - 24 UNF 3B	1/2 inch - 20 UNF 3B
Outer Ø (mm)		29.5	34.5
Length closed (mm)		-	61
21292...	Ident. No.	041 ●	251 ○

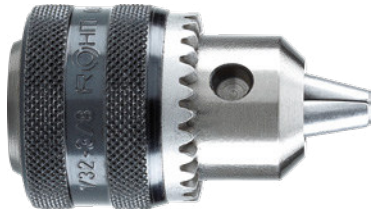
Prod. Gr. 201

Accessories for		21292 041
21294... Spare key For keyed drill chuck	Ident. No.	010 ●

Drill chuck with threaded mount

For clockwise rotation, with toothed ring and key

R



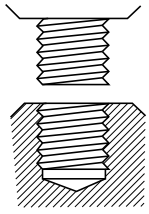
Application:
For holding tools with straight shank.

Execution:
- Body head with keyholes.
- Hardened jaws.
- With female thread.
- Keyed drill chuck, DIN ISO 10887.

Advantage:
- Excellent value for money.
- High clamping force thanks to toothed ring.

Delivery:
1x drill chuck.

Ident. No. 110–112



Thread adapter

Min./max. clamping width		0.8-10 mm	0.8-10 mm	1.5-13 mm
Connection thread		3/8 inch - 24 UNF 3B	1/2 inch - 20 UNF 3B	1/2 inch - 20 UNF 3B
Outer Ø (mm)		33.3	33.3	42.4
21293...	Ident. No.	110 ●	112 ●	130 ●

Prod. Gr. 207

Accessories for		21293 110	21293 112	21293 130
21294... Spare key For keyed drill chuck	Ident. No.	020 ●	020 ●	020 ●

ORION® Drill chuck with tapered mount

For clockwise and anti-clockwise rotation, with toothed ring and key

R/L

Application:
For holding tools with straight shank.

Execution:
- Body head with keyholes.
- Hardened jaws.
- Keyed drill chuck, DIN ISO 10887.

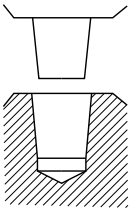
Advantage:
- Excellent value for money.
- High clamping force thanks to toothed ring.

Delivery:
1x keyed drill chuck, including operating key.

Ident. No. 010–030, 042

Min./max. clamping width		0.8-10 mm	1-10 mm	1.5-13 mm	3-16 mm	3-16 mm
Suitable for taper		B 12	B 16	B 16	B 16	B 18
Outer Ø (mm)		33.5	42.4	42.4	50	50
21293...	Ident. No.	010 ●	020 ○	030 ●	040 ●	042 ●

Prod. Gr. 207



Drill chuck cone in line with DIN ISO 239-B

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Accessories for		21293 010	21293 020	21293 030
21294... Spare key For keyed drill chuck	Ident. No.	020 ●	020 ●	020 ●

Accessories for		21293 040	21293 042
21294... Spare key For keyed drill chuck	Ident. No.	030 ●	030 ●

RÖHM Extra RV drill chucks with retaining ring

With radial locking, keyless, for clockwise and anti-clockwise rotation

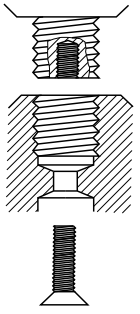
R/L

Application:
For holding cordless screwdrivers, cordless drills and mains drills; suitable for percussion drilling with multiple edges for assembling and dismantling.

Execution:
- Plastic clamping sleeve.
- With keyless radial locking mechanism.
- Ref. no. 21308015 metal clamping sleeve.

Advantage:
- No additional locking required when screwing and drilling, in particular when impact drilling.
- Highly ergonomic and user-friendly, with start-up protection.
- The plastic parts are marked according to material to facilitate recycling.

Delivery:
1x 1.0-10 mm/3/8 in x 24 drill chuck.



Threaded mount

Min./max. clamping width		1-10 mm	1-10 mm	1.5-13 mm	1.5-13 mm
Connection thread		3/8 inch - 24 UNF 3B	1/2 inch - 20 UNF 3B	3/8 inch - 24 UNF 3B	1/2 inch - 20 UNF 3B
Outer Ø (mm)		42.7	42.7	42.7	42.7
Suitable for max. machine capacity (W)		550	550	1000	1000
21308...	Ident. No.	001 ●	002 ●	013 ●	015 ●

Prod. Gr. 201

RÖHM Supra S drill chuck

Keyless clamping

R

Application:
For clamping and releasing drill bits quickly without a key.

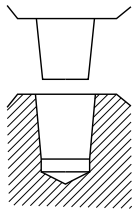
Execution:
- Automatic retightening during drilling proportionate to the cutting force.
- **No. 21300:** Heavy-duty industrial version with internal taper chuck in accordance with DIN 238.
- **No. 21301:**
  - Industrial version for hand-guided machines.
  - With internal taper chuck in accordance with DIN 238.
- **No. 21301–21302:** All parts are interchangeable.
- **No. 21302:**
  - Lightweight version for hand-guided machines.
  - Mount with UNF-3 B internal thread.

Advantage:
- No tools required for operation, allowing for fast retooling.
- For day-to-day industrial use.
- **No. 21301–21302:** Very strong and resistant to wear.

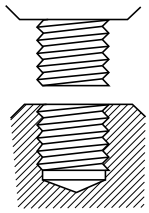
Delivery:
No. 21300: 1x 0.0-4 mm/B 10 drill chuck.
No. 21301: 1x 1.0-13 mm/B 12 drill chuck.
No. 21302: 1x 0.0-8 mm/3/8 in x 24 drill chuck.

No. 21300 010–21301 085, 21301 100–21301 110

No. 21302 040–21302 090, 21302 110



No. 21300–21301
Drill chuck cone in line with DIN ISO 239-B



No. 21302
Thread adapter

p. 910

Min./max. clamping width	Suitable for taper	Connection thread	Outer Ø (mm)	21300... Ident. No.		21301... Ident. No.		21302... Ident. No.	
0-4 mm	B 10	-	26	010	●	-	-	-	-
0-6.5 mm	B 10	-	32	020	●	-	-	-	-
0-6.5 mm	B 12	-	32	030	●	-	-	-	-
0-8 mm	B 10	-	35.8	040	●	-	-	-	-
0-8 mm	B 12	-	35	050	●	-	-	-	-
0-10 mm	B 12	-	40.2	070	●	-	-	-	-
0-10 mm	B 16	-	40.2	080	●	-	-	-	-
1-13 mm	B 16	-	46	090	●	-	-	-	-
3-16 mm	B 16	-	51	100	●	-	-	-	-
3-16 mm	B 18	-	51	110	●	-	-	-	-
1-13 mm	B 12	-	40.2	-	-	085	●	-	-
1-13 mm	B 16	-	40.2	-	-	090	●	-	-
3-16 mm	B 16	-	46	-	-	100	●	-	-
3-16 mm	B 18	-	46	-	-	110	●	-	-
0-8 mm	-	3/8 inch - 24 UNF 3B	32	-	-	-	-	040	●
0.5-10 mm	-	3/8 inch - 24 UNF 3B	35.8	-	-	-	-	070	●
0.5-10 mm	-	1/2 inch - 20 UNF 3B	35.8	-	-	-	-	080	●
1-13 mm	-	3/8 inch - 24 UNF 3B	40.2	-	-	-	-	085	●
1-13 mm	-	1/2 inch - 20 UNF 3B	40.2	-	-	-	-	090	●
3-16 mm	-	1/2 inch - 20 UNF 3B	46	-	-	-	-	100	●
3-16 mm	-	5/8 inch - 16 UNF	46	-	-	-	-	110	○

Prod. Gr. 201

Supra SK drill chuck with threaded mount

Impact drill resistant

R/L

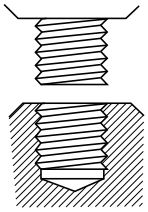
Application:
Keyless quick clamping chuck for all makes of hammer drill.

Execution:
- Industrial version for hand-guided machines.
- Automatic retightening during drilling proportionate to the cutting force.
- Chuck sealed to protect against drilling dust and contamination.
- Sturdy design thanks to metal functional components.
- Easy and quick insertion of the drill bit by hand.

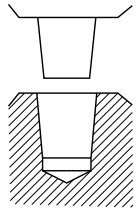
Advantage:
- Sealed to protect against dirt.
- Secure clamping thanks to clamping force securing mechanism.

Delivery:
Ident. No. 010–030: 1x 0.5-10 mm/B 12 drill chuck.
Ident. No. 110–130: 1x 0.5-10 mm/3/8 in x 24 drill chuck.

Notes:
Ident. No. 010–030: With tapered mount ref. no. 21303010-030.
Ident. No. 110–130: With threaded mount ref. no. 21303110-130.



Thread adapter



Drill chuck cone in line with DIN ISO 239-B

p. 910

Min./max. clamping width		0.5-10 mm	1-13 mm	1-13 mm	0.5-10 mm	1-13 mm
Suitable for taper		B 12	B 12	B 16	-	-
Connection thread		-	-	-	3/8 inch - 24 UNF 3B	1/2 inch - 20 UNF 3B
Outer Ø (mm)		40	42.8	42.8	40	42.8
21303...	Ident. No.	010 ●	020 ●	030 ●	110 ●	130 ●

Prod. Gr. 201

Spiro drill chuck
Precision version

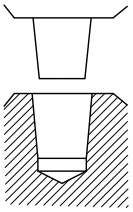
R

Application:
For clamping and releasing drill bits quickly without a key.

Execution:
- Permanent and automatic retightening.
- Hardened wear parts.
- Particularly suitable for high rotation speeds on drills and boring mills.
- With internal taper chuck in accordance with DIN 238.

Advantage:
- High concentricity < 0.05 mm.

Ident. No. 020–060, 080–090



Drill chuck cone in line with DIN ISO 239-B

p. 910

Min./max. clamping width		0-6.5 mm	0-6.5 mm	0-10 mm	0-10 mm	1-13 mm	3-16 mm	3-16 mm
Suitable for taper		B 10	B 12	B 12	B 16	B 16	B 16	B 18
Outer Ø (mm)		35	35	43	43	50	55	55
Length closed (mm)		68.6	68.6	90.1	90.1	102.5	106.8	106.8
21305...	Ident. No.	020 ○	030 ●	050 ●	060 ●	070 ●	080 ●	090 ●

Prod. Gr. 201

ALBRECHT Drill chuck
Präzisions Spannfutter
Self-clamping for clockwise rotation

R

Application:
For clamping and releasing drill bits quickly without a key.

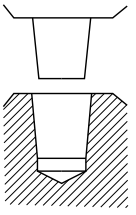
Execution:
- For extended periods of use with maximum concentricity.
- All wear parts are case-hardened, ground and replaceable.
- **Ident. No. 131, 164:**
  - With internal cone in accordance with DIN 238.
  - With clamping force safety device to prevent accidental opening of the drill chuck in the event of the working spindle stopping abruptly.

Advantage:
- 100 % concentricity check using different test pin diameters at various measuring points, based on DIN ISO 10888.

Delivery:
Ident. No. 015–130, 160–163: 1x drill chuck.
Ident. No. 131, 164: 1x precision drill chuck.

Ident. No. 164

Ident. No. 015



Drill chuck cone in line with DIN ISO 239-B

p. 910

Min./max. clamping width		0.2-1.5 mm	0.2-3 mm	0.5-6.5 mm	0.5-6.5 mm	0.5-10 mm	0.5-10 mm	1-13 mm	1-13 mm	3-16 mm	3-16 mm	3-16 mm
Suitable for taper		B 6	B 10	B 10	B 12	B 12	B 16	B 16	B 16	B 18	B 16	B 18
Running direction		Clockwise rotation	Clockwise rotation	Clockwise rotation	Clockwise rotation	Clockwise rotation	Clockwise rotation	Clockwise rotation	Clockwise rotation	Clockwise rotation	Clockwise rotation	Clockwise rotation
With clamping force retainer		No	No	No	No	No	No	No	Yes	No	No	Yes
Length closed (mm)		37	48	68	68	92	92	103	103	109	109	109
Length, open (mm)		35	44	62	62	80	80	91	91	96	96	96
21311...	Ident. No.	015 ●	030 ●	063 ●	065 ●	103 ●	100 ●	130 ●	131 ●	160 ●	163 ●	164 ●

Prod. Gr. 209

Accessories for		21311 063	21311 065	21311 100	21311 103	21311 130	21311 131	21311 160
21312... Spare jaws for precision drill chuck For precision drill chucks	Ident. No.	065 ●	065 ●	100 ○	100 ○	130 ●	130 ●	160 ●

Accessories for		21311 163	21311 164
21312... Spare jaws for precision drill chuck For precision drill chucks	Ident. No.	160 ●	160 ●

ALBRECHT SBF-plus drill chuck

Self-clamping

R

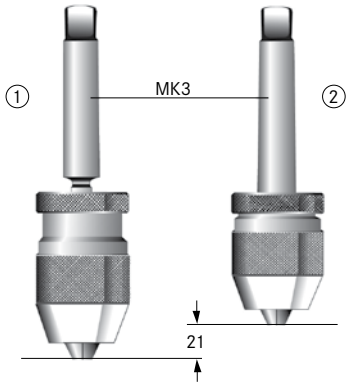
Ident. No. 020, 040–240

Application:
For clamping and releasing drill bits quickly without a key.

Execution:
- SBF-plus drill chuck, shortened version.
- Precision version.
- Ref. no. 21314160 features a straight shank dia. 16 x 60 mm.
- Ref. no. 21314160 with diamond-coated clamping jaws for hardened tool shanks.

Advantage:
- Drill chuck and drive arbour form one unit, which means that optimal stability and a minimum concentricity tolerance can be achieved.
- Particularly advantageous on machines with a small working area thanks to it being 21 mm shorter than the two-part version.

Delivery:
1x SBF-plus drill chuck.



Dimensions comparison
① SBF and morse taper arbor (two-piece)
② SBF-plus (one-piece)

Min./max. clamping width		1-13 mm	1-13 mm	1-13 mm	1-13 mm
Morse taper size		MK 2	MK 3	MK 4	-
Adapter Ø (mm)		-	-	-	16
A (mm)		85	85	87	79
Running direction		Clockwise rotation	Clockwise rotation	Clockwise rotation	Clockwise rotation
With clamping force retainer		No	No	No	No
Length closed (mm)		97	97	99	91
21314...	Ident. No.	020 ●	030 ●	040 ●	160 ●

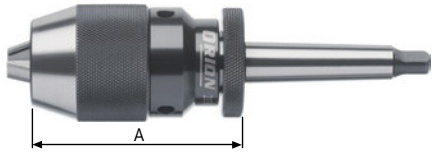
Min./max. clamping width		3-16 mm	3-16 mm	3-16 mm
Morse taper size		MK 2	MK 3	MK 4
Adapter Ø (mm)		-	-	-
A (mm)		89	89	90
Running direction		Clockwise rotation	Clockwise rotation	Clockwise rotation
With clamping force retainer		No	No	No
Length closed (mm)		103	103	104
21314...	Ident. No.	220 ●	230 ●	240 ●

Prod. Gr. 209

ORION® Drill chuck

Self-clamping

R



Application:
For clamping and releasing drill bits quickly without a key.

Execution:
- Drill chuck and mounting taper form one unit.

Advantage:
- Excellent value for money.

Delivery:
1x drill chuck.

Min./max. clamping width		1-13 mm	1-13 mm	1-13 mm	3-16 mm	3-16 mm	3-16 mm
Morse taper size		MK 2	MK 3	MK 4	MK 2	MK 3	MK 4
A (mm)		95.5	95.5	98	100.5	100.5	102
Outer Ø (mm)		50.5	-	-	-	-	-
21316...	Ident. No.	020 ●	030 ●	040 ●	220 ●	230 ●	240 ●

Prod. Gr. 295

ATORN CNC precision chuck, DIN 228-B

With internal cooling, lateral coolant connection

IK R/L

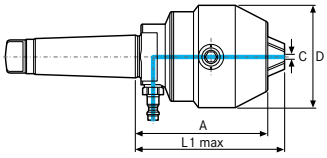
Application:
For use on conventional lathes and CNC machines for drilling, reaming, countersinking.

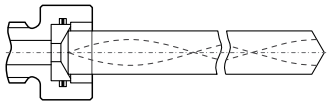
Execution:
- Integrated spur gear ensures high retaining torque
- Glass bead blasted
- Drill chuck with sealing washer (dia. 5 mm) integrated in the drill chuck head, for cooling channel drill dia. 8-16 mm with smooth shank in accordance with DIN 6535, moulded sealing washer (dia. 2 mm) included in the scope of delivery, for cooling channel equipped drill bit dia. 2.5-8 mm with smooth shank in accordance with DIN 6535, shape HA
- With internal cooling by means of lateral coolant connection

Advantage:
- Wear parts hardened and polished for a long service life
- Remains securely clamped even if the spindle stops suddenly

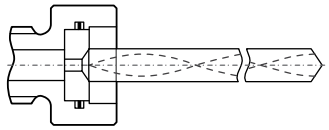
Delivery:
1x CNC precision drill chuck; incl. accessories

Notes:
This precision drill chuck is designed for use on lathes in fixed tailstocks (non-rotating drill chuck).





(1) Sealing washer ATORN 16 (dia. 4.2 mm) integrated in the drill chuck head, for cooling channel drills dia. 6-16 mm with smooth shaft in accordance with DIN 6535, shape HA.



(2) Sealing washer ATORN 16 (dia. 2.05 mm) included, for cooling channel drills dia. 3-6 mm with smooth shaft in accordance with DIN 6535, shape HA.

MK	d1	D (mm)	A (mm)	L1 max. (mm)	21329... Ident. No.	
MK 3	0.5-16 mm	57	104	110	500	●
MK 4	0.5-16 mm	57	109	115	501	○
MK 5	0.5-16 mm	57	111	117	502	●

Prod. Gr. 2BB

ORION® Morse taper arbours (DIN 238)

With morse taper for drill chucks

Application:
For holding drill chucks.

Execution:
- Hardened and ground.
- Drill chuck holders with steep taper.

Delivery:
1x morse taper arbour, without ejector drift.

Ident. No. 101–162, 164–224

Drill chuck taper	Morse taper size	Min. taper external Ø (mm)	Max. taper external Ø (mm)	21269... Ident. No.	
B 10	MK 1	9.4	10.095	101	●
B 10	MK 2	9.4	10.095	102	●
B 12	MK 1	11.1	12.06	121	●
B 12	MK 2	11.1	12.06	122	●
B 12	MK 3	11.1	12.06	123	●
B 16	MK 1	14.5	15.733	161	●
B 16	MK 2	14.5	15.733	162	●
B 16	MK 3	14.5	15.733	163	●
B 16	MK 4	14.5	15.733	164	●

Drill chuck taper	Morse taper size	Min. taper external Ø (mm)	Max. taper external Ø (mm)	21269... Ident. No.	
B 18	MK 1	16.2	17.78	181	●
B 18	MK 2	16.2	17.78	182	●
B 18	MK 3	16.2	17.78	183	●
B 18	MK 4	16.2	17.78	184	●
B 18	MK 5	16.2	17.78	185	●
B 22	MK 2	19.8	21.793	222	●
B 22	MK 3	19.8	21.793	223	●
B 22	MK 4	19.8	21.793	224	●

Prod. Gr. 207

ORION® Ejector drift for tapered tools with flat tangs (DIN 317)

Application:
For driving out taper shanks in accordance with DIN 228 with flat tangs.

Execution:
- Made of special steel.
- Hardened.
- Tempered with black oxide finish.

Delivery:
1x ejector drift for MK 0.

Suitable for morse taper tools		MK 0	MK 1 | MK 2	MK 3	MK 4	MK 5 | MK 6
Length (mm)		90	140	190	225	265
21160...	Ident. No.	005 ●	010 ●	030 ●	040 ●	050 ●

Prod. Gr. 207

AMF Ejector drifts with flat tangs

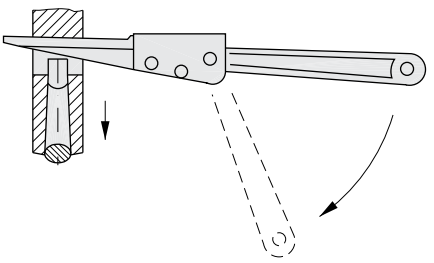
Semi-automated

Application:
For driving out taper shanks in accordance with DIN 228 with flat tangs.

Execution:
- Made of hardened special steel.
- Tempered with black oxide finish.
- With finger guard.

Advantage:
- For one-handed operation without striking tool (protects the spindle).

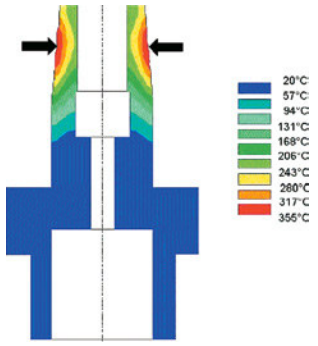
Delivery:
1x ejector drift for MK 1-3.



Suitable for morse taper tools		MK 1 | MK 2 | MK 3	MK 4 | MK 5 | MK 6
Length (mm)		330	380
21165...	Ident. No.	010 ●	020 ●

Prod. Gr. 260

Thermal tool clamping



Shrink technology is used to refer to the following characteristics:

- New optional pyrometer technology monitors the temperature to prevent burning up
- tools can be changed in a matter of seconds by induction or electrical heating with high energy density
- DIEBOLD shrink-fit chucks are made from heat-resistant special steel; as the result of the special hardening and tempering process, they have a particularly long service life and high dimensional stability
- The shrink process is reversible and can be repeated as often as necessary. Even after more than 5000 shrink operations, DIEBOLD shrink-fit chucks retain concentricity, clamping force and elasticity
- HSS and solid carbide shafts can be shrunk in DIEBOLD chucks
- Shrinking process of max. 10 seconds when using inductive shrinking systems
- Only the tool nose is warmed up. As a result of this local heat application, slowly heating the chuck body, the cooling time is < 30 s

MS 3.0 micro shrink unit

Application:

The MS 3.0 shrinks sensitive, thin-walled shrink-fit chucks up to dia. 16 mm softly and gently, i.e. with exactly the right energy input to prevent the chuck from overheating.

Very small cutters are often used that have a cutting diameter of only 0.04 mm to 0.01 mm. These cutters are very sensitive and must not come into contact with solid objects such as cooling bells, as this would destroy them.

They usually have shank diameters of 3 mm, 4 mm or a maximum of 6 mm. This showcases another strength of Diebold products. Shrink-fit chucks with a 3 mm hole are not easy to manufacture in a way that ensures that they can be shrunk reliably.

Diebold is known for the exceptionally high quality of its products, with the best-selling items from its extensive overall range being shrink-fit chucks with a diameter of 3 mm.

Execution:

- The MS 3.0 has been specifically developed for slim, thin-walled and extremely short shrink-fit chucks.
- However, standard chucks up to dia. 16 mm and TER11-TER20 collets can also be shrunk using the MS 3.0.
- The regulated generator output gently heats the chucks.
- Even when processing chucks with a very small mass, the system shuts down reliably and safely before overheating.
- For carbide shanks only. Dia. 3-16 mm for chucks with standard geometry. Dia. 3-16 mm for chucks with slim geometry.
- max. shrink length: approx. 328 mm.

Advantage:

- Touch display: Easy-to-use menu navigation with a modern touchscreen design.

Delivery:

1x DIEBOLD MS 3.0 micro shrink unit with parameter configuration, dia. 3-20 mm. Includes 4x ferrite discs for shrinking of dia. 3-16 mm and protective gloves.

Notes:

For effective and gentle cooling of the tools, we recommend using the FKS 04 S water cooler.

Nominal voltage (V)	Max. current consumption (A)	Power rating (kW)	Length (mm)	Depth (mm)	Height (mm)	Weight (kg)	23400... Ident. No.	
230	16	3	520	350	350	30.000	123	○+

Prod. Gr. 226

Please order the tool holder with longitudinal stop separately. Accessories required: universal clamps.

Accessories for		23400 123
23400... Wireless keyboard Accessories for MS 3.0 and US 1100	Ident. No.	238 ○
23400... Smart Touch handheld scanner for US 1100	Ident. No.	277 ○
23400... TER collet chuck Accessories for US 1100 horizontal	Ident. No.	279 ○ 280 ○ 281 ○
23400... Removal pin Accessories for universal clamp	Ident. No.	282 ○
23400... Magnetic stop Accessories for universal clamp	Ident. No.	283 ○
23405... Ferrite discs Accessories for MS 3.0	Ident. No.	120 ○ 121 ○ 122 ○ 123 ○

diebold Air cooler for shrink unit

Application:
The air cooler is placed next to the shrinking unit. After heating the shrink-fit chuck, the tool is placed in the centring disc of the air cooler.
The valve is then opened. Thanks to the intelligent airflow, shrink-fit chucks are cooled quickly and effectively.

Execution:
- After 1-3 minutes, depending on the chuck contour, the outer contour is cooled down.

Delivery:
1x DIEBOLD AirChiller air cooler for MS 502 and US 1100 shrinking units

Notes:
Tool chucks/adapters must be ordered separately.

Cooling type	Width (mm)	Depth (mm)	Height (mm)	Pneumatic connection	23403... Ident. No.	
Air-cooled	240	250	564	1/2 inch	022	○

Prod. Gr. 226

Accessories for		23403 022
23400... Spiral hose with quick-action coupling	Ident. No.	273 ○
23400... Spiral hose with gun with quick-action coupling	Ident. No.	274 ○
23403... Tool holder/ adapter Accessories for US 1100 TubeChiller®/US 1100 vertical	Ident. No.	120 ○ 121 ○

diebold Removal device

Application:
Broken milling shanks can be removed with this removal device, even if the tool breakage is in the drilling area. It is also possible to remove tool shanks with fit sizes outside the tolerance.

Execution:
- For broken tools.

Delivery:
1x DIEBOLD removal tool for HSK tools.

23401...	Ident. No.	121 ○

Prod. Gr. 226

diebold Universal shrink unit US 1100 horizontal

with parameter configuration, safe and effective overheating protection

Application:
The US 1100 horizontal shrinking unit can be used to shrink shrink-fit chucks of dia. 3-32 mm (carbide) and dia. 6-32 mm (HSS). The optional pyrometer coil also enables the temperature of the shrink-fit chuck to be controlled automatically and directly during the heating process. This prevents the shrink-fit chuck from burning up. The safe and fast shrinking process does not require any prior identification of the shrink-fit chuck. Automated shrinkage using parameters or manual shrinkage at the touch of just one button is integrated in the standard unit with basic coil.

Execution:
- The shrink-fit chucks are clamped securely in tool holders that can be changed flexibly to suit the application (HSK25 to HSK100 and SK/BT30 to SK/BT50) and the coil is moved over the tool holder.
- A universal tool clamp is also available for centrally clamping all tool taper types.
- Worn or broken cutting tools can be ejected using an integrated removal device.
- Precise length adjustment possible via an additional retrofit device.
- Shrink length: approx. 500 mm.

Advantage:
- USB connection.
- Optionally equipped with touch display or one-touch surface.

Delivery:
1x DIEBOLD US 1100 horizontal basic coil with 5x ferrite discs, 1x pair of protective gloves + Display Basic.

Notes:
We recommend the FKS 04 S water cooler for cooling the tools.

Nominal voltage (V)	Max. current consumption (A)	Power rating (kW)	Length (mm)	Depth (mm)	Height (mm)	Weight (kg)	23400... Ident. No.	
400	16	11	700	470	387	45.000	233	○+

Prod. Gr. 226

Please order the tool holder with longitudinal stop separately. Accessories required: universal clamps.

Accessories for		23400 233
23400... OneTouch display For US1100	Ident. No.	236 ○
23400... Foot-operated switch Accessories for US 1100	Ident. No.	237 ○
23400... Wireless keyboard Accessories for MS 3.0 and US 1100	Ident. No.	238 ○
23400... Touch display for US 1100	Ident. No.	270 ○
23400... Length adjustment device with dial gauge	Ident. No.	275 ○
23400... Length adjustment device with fixed stop	Ident. No.	276 ○

Accessories for		23400 233
23400... Smart Touch handheld scanner for US 1100	Ident. No.	277 ○
23400... TUS ferrite disc Accessories for US 1100	Ident. No.	278 ○
23400... TER collet chuck Accessories for US 1100 horizontal	Ident. No.	279 ○ 280 ○ 281 ○ 284 ○
23400... Removal pin Accessories for universal clamp	Ident. No.	282 ○
23400... Magnetic stop Accessories for universal clamp	Ident. No.	283 ○
23405... Ferrite discs Accessories for US 1100	Ident. No.	101 ○

ATORN Tool holder for horizontal shrinking devices

Accessories for art. no. 23400300

Application:
For mounting shrink-fit chucks.

Execution:
- Accessories for art. no. 23400300 Art. no. 23400311 clamping range dia. 12 to 100 mm

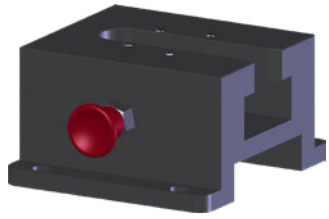
Delivery:
1x adapter

Notes:
Horizontal base set

Suitable for tool holding device	23400... Ident. No.	
-	310	○
Universal clamp	311	○

Prod. Gr. 278

Please order with art. no. 23400310 and 23400311



Ident. No. 310
Horizontal base set

Ident. No. 311

diebold Universal shrink unit US 1100 vertical

with parameter configuration, safe and effective overheating protection

Application:
The vertical units in the US 1100 series can be used to shrink shrink-fit chucks of dia. 3-32 mm (carbide) and dia. 6-32 (HSS) using fixed parameters.
The optional pyrometer coil also enables the temperature of the shrink-fit chuck to be controlled automatically and directly during the heating process.
This prevents the shrink-fit chuck from burning up. The safe and fast shrinking process does not require any prior identification of the shrink-fit chuck.

Execution:
- HSK 63/80/100 can be inserted directly into the centring disc. Adapters for tool holders are available for the other interfaces (SK 25, SK/CAT/BT 30 to 40 and HSK 25 to 50).
- Shrinking with Pyrometer and TempControl.
- Manual shrinking using one button or automated shrinking based on parameters.
- Precise length adjustment possible via an additional retrofit device.
- max. shrink length: approx. 500 mm.

Delivery:
1x DIEBOLD US 1100 vertical, basic coil, base plate, with 5x ferrite discs, 1x pair of protective gloves, 1x centring disc and Display Basic.

Notes:
For effective and gentle cooling of the tools, we recommend using the FKS 04 S water cooler.

Nominal voltage (V)	Power rating (kW)	Length (mm)	Depth (mm)	Height (mm)	Weight (kg)	23400... Ident. No.	
400	11	570	420	730	45.000	234	○+

Prod. Gr. 226

Please order tool chucks separately.

Accessories for		23400 234
23325... Adapter with longitudinal stop for TER collet inserts for US 1100 vertical and TubeChiller®	Ident. No.	220 ○
23325... Inserts for TER collet chucks Accessories for US 1100 vertical and TubeChiller®	Ident. No.	240 ○ 241 ○ 242 ○ 243 ○ 244 ○
23400... Foot-operated switch Accessories for US 1100	Ident. No.	237 ○
23400... Wireless keyboard Accessories for MS 3.0 and US 1100	Ident. No.	238 ○
23400... SK tool holders Accessories for US 1100	Ident. No.	271 ○ 272 ○

Accessories for		23400 234
23400... Length adjustment device with dial gauge	Ident. No.	275 ○
23400... Length adjustment device with fixed stop	Ident. No.	276 ○
23400... Smart Touch handheld scanner for US 1100	Ident. No.	277 ○
23400... TUS ferrite disc Accessories for US 1100	Ident. No.	278 ○
23403... Tool holder/ adapter Accessories for US 1100 TubeChiller®/US 1100 vertical	Ident. No.	120 ○
23400... OneTouch display For US1100	Ident. No.	236 ○
23400... Touch display for US 1100	Ident. No.	270 ○

diebold TubeChiller US 1100 vertical cooling unit

Accessories for Diebold vertical shrink unit, art. no. 23400234

Application:

With our newly developed TubeChiller, you can automatically cool down the tool holder. This significantly increases the level of occupational safety since there is no handling of hot tools.

Tool distortion can be completely ruled out by uniform flooding of the tool holder. Your chuck can be used directly after the cooling process thanks to the integrated blow-off function.

Combined with our patented pyrometer technology in the coil, this dramatically increases process safety and occupational safety.

Execution:

- Optional pyrometer coil with TempControl® for monitoring the temperature of the shrink-fit chuck.
- Foot-operated switch for “hands-free” operation.
- i4.0 functions of the devices.
- Integrated USB and RS 242 data interfaces for network integration.
- Preparation for data transfer for statistical evaluations and documentation.
- After the shrinking process, cooling is performed automatically in the TubeChiller.
- Directly after the cooling process with automatic blow-off function using compressed air.

Advantage:

- Automatic shrinking and subsequent cooling of the tool holder.
- The use of the TubeChiller does not require any additional space for a cooling system.
- Compact and ergonomic workplace.

Delivery:

1x DIEBOLD TubeChiller (base frame) for US 1100 vertical cooling unit

Notes:

The TubeChiller can only be ordered in combination with the vertical shrinking unit, art. no. 23400234. Subsequent additions on site will not be possible.

Weight (kg)	23400... Ident. No.	
50.000	235	○+

Prod. Gr. 226

diebold OneTouch display for US 1100

OneTouch display and pyrometer coil

Application:

Quick-adjustment display that controls all functions of the device.

Execution:

- World first from DIEBOLD.
- Adjustable user menu.
- Steady function.

Advantage:

- Burning is a thing of the past.
- Reliable.
- Conserves resources.

Delivery:

1x DIEBOLD optional touch display I4.0-ready.

Notes:

Optionally available Diebold foot-operated switch for US1100. Optionally available Diebold numerical keyboard for US1100.

23400... Ident. No.	
236	○

Prod. Gr. 226

Accessories for		23400 236
23400... US 1100 horizontal shrinking unit Basic unit	Ident. No.	233 ○+
23400... US 1100 vertical shrinking unit Basic device	Ident. No.	234 ○+
23400... TubeChiller (base frame) for US 1100 vertical Accessories for Diebold vertical shrink unit, art. no. 23400234	Ident. No.	235 ○+

diebold Tool chucks

suitable for ISG 2202

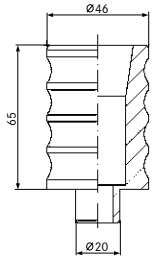
Application:
Ident. No. 111, 120–121: Tool holders for small tool interfaces, for securely holding shrink-fit chucks in the centring disc.

Execution:
- **Ident. No. 111, 120–121:** Made from hardened and ground tool steel

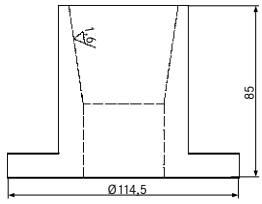
Delivery:
Ident. No. 111, 120–121: 1x DIEBOLD tool holder/ adapter for various versions of US 1100

Notes:
Ident. No. 111, 120–121: Suitable for US 1100 vertical and TubeChiller

Ident. No. 111, 120–121



Ident. No. 111



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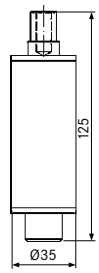

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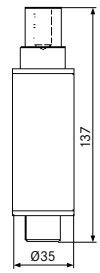


Ident. No. 121

Suitable for tool holding device		SK 30 | SK 40 | BT 30 | BT 40 | CAT 40	SK 50 | BT 50	HSK A25 | HSK A32	HSK A40 | HSK A50 | HSK F63
23403...	Ident. No.	111	112	120	121
		○	○	○	○

Prod. Gr. 226

ATORN Basic unit for tool assembly

4x 90° swivelling

Application:
The tool mounting block is intended as a base unit for fastening to a workbench or tool trolley. Adapters can be attached to allow all kinds of tool holders to be mounted or removed.

Execution:
- Modular tool holders made of steel
- Aluminium housing
- The unique technology ensures that the tool holder is not clamped at the high-precision cone, which is instead exposed. This not only protects your tool holder, but also ensures the precise machining of parts being produced.

Advantage:
- Easy and quick replacement of the adapters
- High degree of flexibility
- Mechanical interlock fastening of adapters
- No cone damage
- Practical swivel function for ergonomic and healthy working

Delivery:
1x tool-mounting block; without adapter

Notes:
Adapters must be ordered separately from the Accessories range.

Swivelling	Length (mm)	Max. length (mm)	Width (mm)	Height (mm)	23912... Ident. No.	
Yes	120	140	120	120	011	●

Prod. Gr. 280

ATORN Interchangeable adapter (ISO 7388-1)

for DIN ISO 7388-1 (DIN 69871), DIN ISO 7388-2 (DIN JIS-B), DIN 2080

Application:
The adapter is inserted into the tool mounting block and serves as an interface for the corresponding tool holder. The tool holders can then be fixed accordingly and tools mounted or removed.

Execution:
- Modular tool holders made of steel
- Use the adapter to rotate your tool at any time and reach the ideal working position in seconds
- Hand wheel for clamping and releasing

Advantage:
- No damage to the cone as the drive arbour does not rest against the holder
- Mount cone remains free

Delivery:
1x adapter for tool-mounting block

Notes:
For DIN ISO 7388-1 (DIN 69871), DIN ISO 7388-2 (DIN JIS-B), DIN 2080.

Ident. No. 141–151

Type	ISO	DIN	Ø (mm)	Height (mm)	Suitable for tool holding device	23912... Ident. No.	
SK30	7388-1	69871-1	98	60	SK 30 | BT 30	131	●
SK40	7388-1	69871-1	98	60	SK 40 | BT 40	141	●
SK50	7388-1	69871-1	108	60	SK 50 | BT 50	151	●

Prod. Gr. 280

ATORN Interchangeable adapter (DIN 69893-1)

for DIN 69893 shape A (HSK-A)

Application:
The adapter is inserted into the tool mounting block and serves as an interface for the corresponding tool holder. The tool holders can then be fixed accordingly and tools mounted or removed.

Execution:
- Modular tool holders made of steel
- Use the adapter to rotate your tool at any time and reach the ideal working position in seconds
- Hand wheel for clamping and releasing

Advantage:
- No damage to the cone as the drive arbour does not rest against the holder
- Mount cone remains free

Delivery:
1x adapter for tool-mounting block

Notes:
For DIN 69893 shape A (HSK-A).

Type	DIN	Ø (mm)	Height (mm)	Suitable for tool holding device	23912... Ident. No.	
HSK40	69893-1	98	60	HSK A40	241	●
HSK50	69893-1	98	60	HSK A50	251	●
HSK-63	69893-1	98	60	HSK A63	264	●
HSK80	69893-1	108	60	HSK A80	281	●
HSK100	69893-1	108	60	HSK A100	282	●

Prod. Gr. 280

Ident. No. 251–282

ATORN Interchangeable adapter (ISO 26623-1)

for ISO 26623-1

Application:
The adapter is inserted into the tool mounting block and serves as an interface for the corresponding tool holder. The tool holders can then be fixed accordingly and tools mounted or removed.

Execution:
- Modular tool holders made of steel
- Use the adapter to rotate your tool at any time and reach the ideal working position in seconds
- Hand wheel for clamping and releasing

Advantage:
- No damage to the cone as the drive arbour does not rest against the holder
- Mount cone remains free

Delivery:
1x adapter for tool-mounting block

Notes:
For ISO 26623-1.

Type	ISO	Ø (mm)	Height (mm)	23912... Ident. No.	
Capto C32	26623-1	98	60	314	●
Capto C40	26623-1	98	60	315	○
Capto C50	26623-1	98	60	316	●
Capto C63	26623-1	98	60	318	●
Capto C80	26623-1	108	60	319	●

Prod. Gr. 280

Ident. No. 315–319

ATORN Interchangeable adapter (DIN 69880-1)

For DIN 69880 (VDI)

Application:
The adapter is inserted into the tool mounting block and serves as an interface for the corresponding tool holder. The tool holders can then be fixed accordingly and tools mounted or removed.

Execution:
- Modular tool holders made of steel
- Use the adapter to rotate your tool at any time and reach the ideal working position in seconds
- Hand wheel for clamping and releasing

Advantage:
- No damage to the cone as the drive arbour does not rest against the holder
- Mount cone remains free

Delivery:
1x adapter for tool mounting block

Notes:
For DIN 69880 (VDI).

Type	DIN	Ø (mm)	Height (mm)	Suitable for tool holding device	23912... Ident. No.	
VDI20	69880-1	98	60	VDI 20	520	●
VDI30	69880-1	98	60	VDI 30	531	●
VDI40	69880-1	98	60	VDI 40	541	●
VDI50	69880-1	98	60	VDI 50	551	●

Prod. Gr. 280

Ident. No. 531–551

ORION® 2D mechanical edge finder

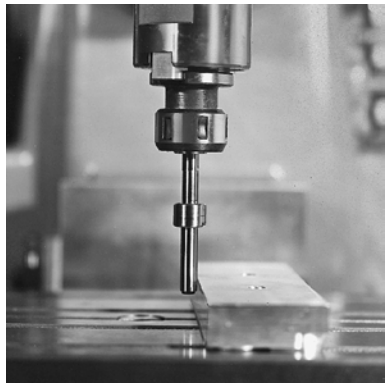
For milling and coordinates drill

Application:
The edge finder is used to accurately determine the edges of workpieces and bore centre points in relation to the working spindle during milling, for example.

Execution:
- For use with speeds from 400 - 600 rpm
- Repeatability of approx. 0.01 mm
- Hard chrome-plated probe head

Notes:
Spare part: Edge finder spring, ref. no. 23921501 in a pack of 10

Ident. No. 030



Sensor design		Single 2-D probe	Offset 2-D probe
Clamp in shank Ø (mm)		10	10
Probe head Ø (mm)		10	4/10
Repeat accuracy (mm)		0.01	0.01
23921...	Ident. No.	030 ●	050 ●

Prod. Gr. 227

ORION® 2D edge finder

With illuminated display and spring-loaded probe ball

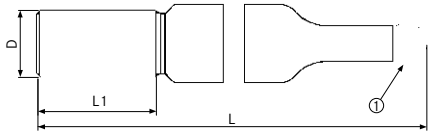
Application:
For precise alignment of workpiece reference surfaces or edges to determine the bore centre points aligned centrally to the working spindle.

Execution:
- Functional components are hardened and ground.
- **Ident. No. 011:** With acoustic signal. (already in title addition?)

Delivery:
1x edge finder.

Ident. No. 005

Ident. No. 010–011



① Spring ball Ø 10,000

Sensor design	D (mm)	Probe head Ø (mm)	L1 (mm)	L (mm)	Reading	Repeat accuracy (+/-) (mm)	23923... Ident. No.	
2-D	16	10	35	99	Light indicator	0.01	005	●
2-D	20	10	45	94	Light indicator	0.01	010	●
2-D audible	20	10	45	119	Audible light indicator	0.01	011	○

Prod. Gr. 298

ORION® 3D edge finder

With illuminated display and spring-loaded probe ball

Application:
For precise alignment of workpiece reference surfaces or edges to determine the bore centre points aligned centrally to the working spindle.

Execution:
- Functional components are hardened and ground.
- **Ident. No. 025:** With acoustic signal. (already in title addition?)

Advantage:
- 3D version also suitable for approaching the workpiece in the Z direction (vertically).

Delivery:
1x edge finder.

Ident. No. 020–025

Ident. No. 015

① Spring ball Ø 10,000
② Tracer path approx. 3 mm

Sensor design	(mm)	Probe head Ø (mm)	L1 (mm)	L (mm)	Reading	Repeat accuracy (+/-) (mm)	23923... Ident. No.	
3-D	16	10	35	111	Light indicator	0.01	015	●
3-D	20	10	45	106	Light indicator	0.01	020	●
3-D audible	20	10	45	131	Audible light indicator	0.01	025	●

Prod. Gr. 298

ATORN 3D edge finder

With dial gauge

SK 40

Application:
Suitable for defining and setting the workpiece reference points on all 3 axes (X, Y and Z) on all milling machines and machining centres. The workpiece is measured in any direction with the measuring probe until both indicators are at '0'.

Execution:
- Direct path measurement along the Z axis, can be used vertically and horizontally, concentricity can be readjusted using four screws
- Predetermined breaking point on the measuring probe prevents damage to the workpiece or dial gauge
- IP 67 degree of protection: suitable for temporary immersion in water and dustproof in accordance with DIN EN 60529
- For the ATORN 3D edge finder 23924010-020, spare part ATORN bellows for ref. no. 23924 009

Advantage:
- Easy-to-read metal housing
- Can be used with all tool and eroding machines
- Easy reading of the actual value

Delivery:
1x 3D edge finder; incl. probe insert

Ident. No. 010
Clamping shank diameter 20 mm

Ident. No. 020
ISO 7388-1 SK40

Product video: YouTube ID: sfOwDVvdNvs

p. 918

Tool holding device		-	SK 40
Clamp in shank Ø (mm)		20	-
Probe head Ø (mm)		4	4
Housing width (mm)		65	65
Meter Ø (mm)		57	57
Scale value (mm)		0.01	0.01
Sensor insert length (mm)		33	33
Repeat accuracy (+/-) (mm)		0.01	0.01
IP protection class		IP 67	IP 67
23924...	Ident. No.	010 ●	020 ●

Prod. Gr. 234

ATORN Probe insert

Replacement parts for 3D edge finder, ref. no. 23924 010-020

Application:
For inserting into 3D edge finder.

Execution:
- Predetermined breaking point on measuring probe prevents damage to 3D edge finder
- Short version ATORN no. 31000010, long version ATORN no. 31000011

Delivery:
Ident. No. 004: 1x short or long probe insert
Ident. No. 008: 1x long edge finder insert, dia. 8 mm

Ident. No. 004

Ident. No. 008

Probe head Ø (mm)		4	8
Sensor insert length (mm)		33	75
Repeat accuracy (+/-) (mm)		0.01	0.01
23924...	Ident. No.	004 ●	008 ●

Prod. Gr. 234

3D Digital 3D edge finder
with shank

HIGHLIGHT

Application:
Revolutionary! The new 3D digital probe combines the best of both worlds because the results can be displayed either as analogue or digital values. The digital display with figures enable you to read values easily and digitally. However, as it is difficult for your eyes to reliably follow a rapidly changing digital display, the additional analogue display of the 3D digital probe gives you assurance when reading off values because a moving pointer can be kept track of more efficiently and reliably. What's more, an integrated LED shows you the probing process status using different colours and helps you to prevent overrunning and the resulting defect. With the 3D digital probe you determine workpiece zero points and length dimensions in all axis directions (X/Y/Z) quickly and easily and align your workpiece or vice parallel to the machine axis.

Execution:
- Revolutionary: Digital and analogue on one display!
- Analogue display rough scale
- Analogue display precision scale 0.01 mm from -0.250
- Digital display resolution 0.005 mm

Advantage:
- 3D digital probe switched on by random movement of the probe insert in X, Y, or Z direction. If not used, the probe will switch off after two minutes.
- The 3D digital probe is of course small and slim, waterproof (IP67) and is delivered with serial number and test certificate.

Delivery:
1x Tschorn 3D probe 3D Digital + probe insert

Notes:
Probe status LED: Off = rough scale; green = precision scale; red = warning area

23924...	Ident. No.	030 ●

Prod. Gr. 227

SLIMplus V2 3D edge finder
with shank

HIGHLIGHT

Application:
Slim. Robust. Watertight. With Tschorn 3D edge finders, you can determine workpiece zero points and length dimensions quickly and easily or align your workpiece or vice parallel to the machine axis.

Execution:
- How to work with the 3D edge finder: Clamp the edge finder in your tool holder. Set the concentricity as described in the operating instructions. Approach your workpiece with the edge finder. As soon as the pointer displays "0", the spindle axis is precisely at the edge of the workpiece.
- One of the advantages of the SLIMplus V2 3D edge finder is its repeat accuracy of +/- 0.01 mm. This accuracy guarantees consistent and reliable measurements in any application. No matter whether you are recording workpiece contours or zero points, the SLIMplus V2 3D edge finder sets new standards in precision.
- The SLIMplus V2 3D edge finder is watertight according to IP67. You can rely on the 3D edge finder to deliver reliable measurement results even in dusty or damp working environments.

Advantage:
- Repeat accuracy +/- 0.01 mm
- IP67 watertight
- can be used with our proven ceramic probe inserts
- with serial number and test certificate

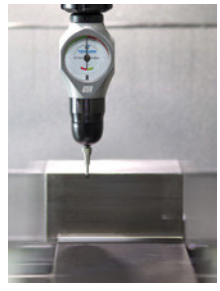
Delivery:
1x 3D edge finder with serial number incl. ceramic probe insert dia. 3 mm, operating key, with factory certificate

23924...	Ident. No.	031 ●

Prod. Gr. 227

SAVEplus analogue 3D edge finder
with shank

HIGHLIGHT



Application:
The SAVEplus 3D edge finder is characterised by its slim design - however, it is the cost-effective variant among our 3D edge finder models

Execution:
- slim design
- For the SAVEplus, we simply insert a complete dial gauge directly into the edge finder and save the time-consuming integration directly into the housing of the edge finder

Advantage:
- Repeat accuracy +/- 0.01 mm
- can be used with our proven ceramic probe inserts
- Adjustable scale

Delivery:
1x SAVEplus 3D edge finder incl. ceramic probe insert dia. 3 mm

Notes:
When changing the probe insert, take care not to damage the seal and check the concentricity after every probe change. Please refer to the operating instructions for a precise description.

23924...	Ident. No.	032 ●

Prod. Gr. 227

DREHplus V2 3D edge finder
with shank

HIGHLIGHT

Application:
No other measuring equipment gives you the opportunity to measure your tool to the turning centre simply, precisely and directly in your lathe. Our unique probing technology, which we have developed especially for use in your lathe, makes this possible. It is not possible to measure pointed lathe tools precisely on a ball. That's why the DREHplus 3D edge finder has a patented, conical probe body. This is used to probe directly to the centre of the spindle in both the X axis and the Y axis, which eliminates additional calculations, as X=0 and Y=0.

Execution:
- Y=0 corresponds to the turning centre. As a result, you ensure the best possible processing, achieve a longer service life and obtain optimal surfaces.
- Without any additional calculations, measure your tools to the centre of the spindle or X=0.
- You can also measure all tools in the Z axis, taking into account the length offset in your machine.

Advantage:
- Innovative probing technology
- The advantage for your lathe!
- Tool measurement in all axes including the turning centre (Y)

Delivery:
1x DREHplus 3D edge finder incl. probe insert, operating key, with factory certificate

23924...	Ident. No.	033 ●

Prod. Gr. 227

Ceramic probe inserts
The spare parts can be used universally for all our 3D edge finder models.

HIGHLIGHT

Application:
Probe insert is inserted into common Tschorn 3D edge finder models.

Execution:
- Ceramic ball on the tip
- Thread on the shank for screwing on

Delivery:
1x ceramic probe insert

Notes:
When changing the probe insert, take care not to damage the seal and check the concentricity after every probe change. Please refer to the operating instructions for a precise description.

Ø (mm)		3	6
Length (mm)		27	63
23924...	Ident. No.	034 ●	035 ●

Prod. Gr. 227

Probe insert dia. 56 mm
for edge finders from the SLIMplus series

HIGHLIGHT

Application:
Probe insert is inserted into common Tschorn 3D edge finder models.

Execution:
- As its diameter is larger than the housing of the 3D edge finder, this special probe insert enables probing to an almost infinite depth and opens up new possibilities. By using slim tool holders for clamping the 3D edge finder (the diameter of which is smaller than dia. 50 mm), you can extend the depth almost as much as you want. Determine the workpiece position and measure the parallelism - at almost infinite depths.

Advantage:
- extremely deep probing
- and parallelism measurement

Delivery:
1x probe insert dia. 56 mm

Ø (mm)		56
Length (mm)		62
23924...	Ident. No.	036 ○

Prod. Gr. 227

DREHplus probe insert
for Tschorn V2 models

Application:
Probe insert is inserted into common Tschorn 3D edge finder models.

Advantage:
- Probe inserts are easy to screw in and out due to practical bores

Delivery:
1x probe insert for DREHplus

Notes:
The spare parts can be used universally for all our 3D edge finder models.

HIGHLIGHT

Ø (mm)		3.6
Length (mm)		34
23924...	Ident. No.	037 ●

Prod. Gr. 227

ORION® Zero adjustment device with dial gauge

Application:
The device is placed on the workpiece. Using the machine spindle, the cutting tool is moved up to the probe until the indicator is at zero for the first time. Now the reference dimension for the distance from the workpiece of 100 mm has been reached.

Execution:
- Height adjustment gauge to determine position of workpiece surface in the Z direction on milling machines and lathes, can also be used horizontally
- Non-magnetic.

Delivery:
1x zero setter.

Scale value (mm)		0.01
Reference dimension (mm)		100
Repeat accuracy (+/-) (mm)		0.01
23931...	Ident. No.	010 ●

Prod. Gr. 227

Zero adjustment device, mechanical
With dial gauge

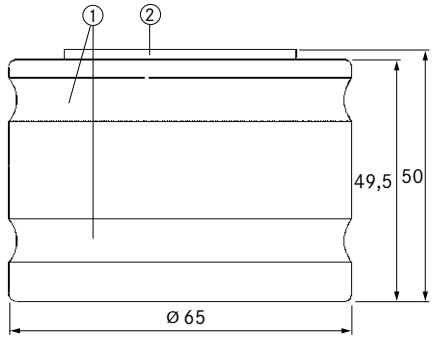
Application:
For accurately determining the position of workpiece surfaces or workpiece lengths in the Z direction on lathes or milling machines. The device is placed on the workpiece. It is then moved carefully towards the device with the spindle stationary until the dial gauge shows '0'. The reference dimension of 50 mm is now reached. Allowance has been made for a safety spring travel of approx. 0.5 mm for going beyond the 50 mm.

Execution:
- Zero point probe for improved guidance, for even more precise determination of the position of the workpiece surface in the Z direction on milling machines and lathes.
- Steel.
- With dial gauge.
- **Ident. No. 020:** No. 23932 020, magnetic: in order to also be able to mount the zero adjustment device on the side, a version with a built-in magnet is available for delivery.

Delivery:
1x zero setter in a wooden case with serial number and test certificate.

Ident. No. 010

Ident. No. 020



① = Gripping grooves
② = Spring-mounted button

Design	Scale value (mm)	Reference dimension (mm)	Repeat accuracy (+/-) (mm)	23932... Ident. No.	
Steel	0.01	50	0.01	010	●
Magnetic	0.01	50	0.01	020	●

Prod. Gr. 227

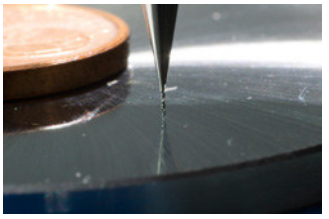
Zero adjustment device mechanical Micro

For measuring micro-tools

Application:
for accurately determining the position of workpiece surfaces or workpiece lengths in the Z direction on lathes or milling machines. the device is placed on the workpiece.

Execution:
- For measuring micro-tools, possible up to dia. 0.1 mm.
- Thanks to the safety spring travel, the zero setter is unaffected by an overrun of a maximum of 2 mm.
- Ref. no. 23932031: To enable mounting of the zero adjuster on the side, a version with built-in magnets is available.

Delivery:
1x zero setter in a wooden case with serial number and test certificate.



Probing the micro-tool

Design	Probe head Ø (mm)	Scale value (mm)	Ø (mm)	Height (mm)	23932... Ident. No.	
Steel	42	0.01	54.5	101	030	●

Prod. Gr. 227

Zero adjustment device, optical, 50 mm (magnetic)

Application:
For determining the position of workpiece surfaces or workpiece lengths in the Z direction on lathes or milling machines.

Execution:
- The device is placed on the workpiece. The spindle is now moved carefully up to the device. As soon as the LED lights up, the reference dimension of 50 mm has been reached. Allowance has been made for a safety spring travel of approx. 2 mm for going beyond the 50 mm. A magnetic version can be supplied for horizontal use.

Delivery:
1x zero setter with test certificate.

Design		Steel	Magnetic
Shank Ø (mm)		39	39
Probe head Ø (mm)		19	19
Reference dimension (mm)		50	50
Repeat accuracy (+/-) (mm)		0.01	0.01
23933...	Ident. No.	020 ●	030 ●

Prod. Gr. 227

Technical introduction - tool presetters

Success is a matter of adjustment - increase productivity with the right settings

ATORN

ImageController Basic
Measuring range: Z=350-600 mm
Monitor: 7 in
No. 23961 211-213

ImageController 1
Measuring range: Z=350-600 mm
Monitor: 13.3 in
No. 23961 214-217

ImageController 2 13.3 in
Measuring range: Z=350-600 mm
Monitor: 13.3 in
No. 23961 218-221

ImageController 2 24 in
Measuring range:
Z=350-600 mm
Monitor: 24 in
No. 23961 240-243

ATORN tool presetters save time and money, putting you an extra step ahead of the competition. Your tools are set and measured while your machine is producing metal chips - so there's no downtime.

Preparing tools correctly pays off

Precisely measured tools, optimised machine operating times and a longer service life for tools increase the output of your production facility by at least 15 percent. ATORN tool presetters pay for themselves quickly, are easy to operate, gentle on your budget and great when it comes to performance.

Simple!

- The ATORN concept: Efficient day-to-day operation starts with the user
- The latest image processing technology makes tool presetting child's play
- Fast familiarisation thanks to the intuitive ATORN operating concept

Precise!

- Image processing system with dynamic crosshair for contact-free, precise tool measurement, independent of the operator
- High-quality branded components including Bosch pneumatic systems, THK guides and Heidenhain glass scales ensure precision and a long, maintenance-free service life
- SK 50 tool holding spindle with high repeatability and integrated calibration edges

Economical!

- Three-in-one: Tool measurement, setting and testing
- Presetters include under-table, storage shelf for adapters and equipment and accessories and label printer
- "Made in Germany" quality at an unbeatable price
- Worldwide service

	Scratching	Scriber	Laser	Projector	ATORN
Investment	✔	✔	–	■	✔
Machine operating time	–	✔	–	✔	✔
Repeatability	–	–	✔	■	✔
Measurable parameters	–	–	■	–	✔
Process reliability	–	–	✔	■	✔
Cost of measurements	–	–	✔	■	✔
Written measurement report	–	–	–	■	✔
Tool inspection	–	–	–	–	✔
Conclusion	Uneconomical, high risk of tool damage	Low purchasing cost, but unsuitable for measuring and setting tools	High purchasing costs as each machine requires a separate laser	Outdated technology, a setting device with image processing is required for new purchases	Higher profitability thanks to reliable manufacturing quality, longer machine operating times, optimised service life and less waste

✔ Standard ■ Optional – Not available

ATORN tool presetters in detail

Simple and fast:
Time-consuming fine tuning is a thing of the past. The dynamic crosshair moves to the tool cutting edge and automatically measures within the entire camera image.

Reliably accurate results:
With projector technology, the measurement results are dependent on the operator. Different from EZset! The results are accurate, reproducible and reliable, regardless of the user.

Effective and economical:
Three-in-one! Rapid tool measurement, setting and testing - right next to your CNC machines.

① Device tower with three guides in three measuring range variants
② One-handed operating handle
③ Centre-turning measuring device (optional)
④ Membrane keypad (360° brake, 4 x 90° indexing, vacuum [optional])
⑤ Under-table
⑥ Image processing with CCD camera and integrated incident light power LEDs
⑦ Tool chuck spindle SK 50
⑧ ImageController image processing in four variants
⑨ Label printer
⑩ Utensil storage
⑪ Basic body with two guides in three measuring range variants

EZclick: ImageControllerbasic

Operate the ICbasic image processor using the EZclick rotary/push button. Use EZclick to activate the menus on the 7 inch monitor and select and confirm functions at the touch of a button. Graphic symbols help you when using the tool presetter.

EZpush: ImageController1

The IC1 image processor is easy to operate using the EZpush 13.3 inch touchscreen monitor. You can quickly and conveniently select and confirm all the functions of the tool presetter via a graphic menu.

EZtouch: ImageController2

The IC2 image processor features an EZtouch 13.3-inch touchscreen monitor for convenient and intuitive operation. Clear graphics on the function buttons enable standard measuring processes to be performed quickly and easily.

EZslide: ImageController3

The IC2 image processor features an EZtouch 24-inch touchscreen monitor for convenient and intuitive operation. Clear graphics on the function buttons enable standard measuring processes to be performed quickly and easily.

Note:

Further information on our ATORN presetters can be found in our online shop under Clamping Technology.
There is also a brochure available to download for each device type.
HAHN+KOLB Werkzeuge GmbH offers first-class expert advice for tailored on-site consultation.
This can take place on site or at our technology centre in Ludwigsburg, Germany.

overview: tool presetters

Function	Description	ICbasic	IC1	IC2 13.3 in	IC2 24 in
operation/features					
EZclick	Menu operation via a rotary/push button	✔	–	–	–
EZtouch	Menu operation via touchscreen	–	✔	✔	✔
EZslide	Window areas moved via touchscreen	–	–	–	✔
Monitor	TFT colour monitor	7.0 inch	13.3 inch	13.3 inch	24.0 in
Operating system	Operating system of the measuring device control system	Linux	Windows 10	Windows 10	Windows 10
Device design					
Spindle	SK 50 tool holding spindle	✔	✔	✔	✔
Pneum. spindle functions	4 x 90° indexing, 360° spindle brake	■	✔	✔	✔
Under-table	Under-table in sturdy industrial design	■	✔	✔	✔
Label printer	Thermal label printer	■	✔	✔	✔
Adapter shelf	For storing adapters	■	✔	✔	✔
Options					
Vacuum spindle	Tool holding spindle, SK 50 vacuum	■	■	■	■
universal spindle for power-operated tool clamping	Power-operated universal tool holding spindle	–	■	■	■
Adapters	Standard selection, other adapters on request	■	■	■	■
Adapter shelf	Additional adapter shelves as required	■	■	■	■
EZprotection/ EZspindle-protection	Cover hoods for protecting against dust and dirt	■	■	■	■
EZmaintain	Conditioning unit for preparing compressed air for the device	■	■	■	■
EZturn	Rotation centre measurement with monochrome camera	–	■	■	■
Autofocus	Automatic focus of the tool cutting edge	–	■	■	■
Software functions					
Dynamic crosshair	Dynamic crosshair for automatic measurement	✔	✔	✔	✔
Cutting edge shape detection	Automatic cutting edge shape detection	✔	✔	✔	✔
Cutting edge inspection	Magnification of the cutting edge in incident light for quality control	■ 12x	✔ 20x	✔ 20x	✔ 38-fold
Multi-cutter	Software function for concentricity and axial runout for multi-cutting edge tools	✔	✔	✔	✔
EZmax	Software function for determining and measuring the tool contour	✔	✔	✔	✔
Zero point monitoring	safety prompt for adapter zero points for preventing a machine crash	✔	✔	✔	✔
EZstart	Software function for quickly measuring standard tools	–	✔	✔	✔
Adapter management	Saving and managing adapter zero points	✔ 99	✔ 99	✔ 99	✔ 999
Tool management	Saving tool data	■	✔	✔	✔ 15000
Online help	Integrated help texts	✔	✔	✔	✔
EZnavigator	compass needle – simple camera positioning for measuring set values on the tool	■	✔	✔	✔
Graphics library	Graphic display of the tools	–	–	■	■
Tooling sheets	Create and save tool lists	–	–	■	■
Projector function	Conversion to projector function with crosshair	■	✔ Positionable	✔ Positionable	✔ Positionable
Data output					
Label printing	Output of thermal labels	■	✔	✔	✔
List print	Output of e.g. A4 reports	–	✔	✔	✔
USB	USB-2.0 interfaces, data output via USB	✔ 1 piece	✔ 4 pieces	✔ 4 pieces	✔ 4 pieces
LAN/network	Data output via network connection	–	■	■	■
COM/serial	data output via RS232 interface	✔	✔	✔	✔
control-specific to the CNC machine	output of measurement values and tool data suitable for machines from the IC2/IC3 tool management on the CNC machine	–	■	■	■

✔ standard ■ optional – not available

ATORN Thermal label printer

Accessories for ATORN tool presetter

Application:
Labels are used in the thermal label printer on the tool presetter. All acquired data are printed on a label and can be affixed to the tool for later transfer to the machine.

Delivery:
1x thermal label printer

23961...	Ident. No.	228 ○

Prod. Gr. 2AD

ATORN "BLUE-TACK" cleaning agent

Application:
The cleaning compound is used to eliminate chips that adhere to the tool cutting edges due to magnetic charge.

Delivery:
1x cleaning compound package

23961...	Ident. No.	161 ○

Prod. Gr. 2AD

EASY-TAG Data holder, vertical and horizontal

Space-saving mounting

Application:
For labelling tools.

Execution:
- Data holder, ideally suited to ATORN and Zoller tool presetting devices.
- Data holder dimensions 92 x 38 mm.
- The data holders can be affixed both horizontally and vertically.
- This allows tool carriers to be stored in a tool cabinet in a space-saving and visually clean way.
- Universal holder for (VDI) with two powerful magnets.
- Assignment of tools using colour coding possible.
- Tool data holder made of plastic.

Advantage:
- Minimisation of the setup time.
- Avoiding errors for pre-existing tool compilations.
- No additional measurements necessary.

Delivery:
1x data holder.

Notes:
Other dimensions on request.

Material	Plastic		Plastic		Plastic		Plastic		Plastic		Plastic	
Suitable for tool holding device	SK 30 | HSK 50/A-C		SK 40/HSK 63		SK 50/HSK 100		HSK 40/A-C		HSK 80/A-C		VDI/Universal	
Colour	23698... Ident. No.		23698... Ident. No.		23698... Ident. No.		23698... Ident. No.		23698... Ident. No.		23698... Ident. No.	
Red	050	●	060	●	070	●	080	●	090	●	100	●
Blue	051	●	061	●	071	●	081	●	091	●	101	●
Green	052	●	062	●	072	●	082	●	092	●	102	●
Yellow	053	●	063	●	073	○	083	●	093	●	103	●
Brown	054	●	064	●	074	●	084	●	094	●	104	●
Grey	055	●	065	●	075	●	085	●	095	●	105	●

Prod. Gr. 206

ORION Data clip holder

Magnetic basic holder for ORION data clips

NEW

Application:
The basic holders are used to fasten data clips and can be easily attached to all magnetic surfaces. It is also possible to attach them to a screw head.

Execution:
- quick installation using neodymium magnets
- plastic injection moulding

Advantage:
- Overview of the tool magazine
- tidy storage of the clips on the machine for reuse
- always know which tool is located in which magazine slot

Delivery:
1x packaging unit of magnetic basic holders = 10 pieces

Material	Plastic		Plastic	
Suitable for tool holding device	HSK 63, SK 40, BT 40		HSK A100, SK 50, BT 50	
Colour	23698... Ident. No.		23698... Ident. No.	
Blue	200	●	201	●

Prod. Gr. 206

ORION® Small data clip
for thermal labels

Application:
The data clips are available in different colours and sizes, depending on the customer's preference

Execution:
- plastic injection moulding
- for attaching directly to the tool holders or to the data clip holder
- different colours to choose from

Advantage:
- provides a clear overview of the tool cabinet and setup trolley as well as the tool magazine
- provides a tidy solution
- Minimises setup times

NEW

Delivery:
1 packaging unit of data clips = 10 pieces

Notes:
more colours available on request

Ident. No. 210

Ident. No. 211

Ident. No. 212

Ident. No. 213

Ident. No. 214

Ident. No. 215

Ident. No. 216

Colour				Grey	Black	Yellow	Red	Green	Blue	Orange
	Material	Suitable for tool holding device								
23698...	Plastic	HSK 63, SK 40, BT 40	Ident. No.	210 ●	211 ●	212 ●	213 ●	214 ●	215 ●	216 ●

Prod. Gr. 206

ORION® Large data clip
for thermal labels

Application:
The data clips are available in different colours and sizes, depending on the customer's preference

Execution:
- plastic injection moulding
- for attaching directly to the tool holders or to the data clip holder
- different colours to choose from

Advantage:
- provides a clear overview of the tool cabinet and setup trolley as well as the tool magazine
- provides a tidy solution
- Minimises setup times

NEW

Delivery:
1 packaging unit of data clips = 10 pieces

Notes:
more colours available on request

Ident. No. 220

Ident. No. 221

Ident. No. 222

Ident. No. 223

Ident. No. 224

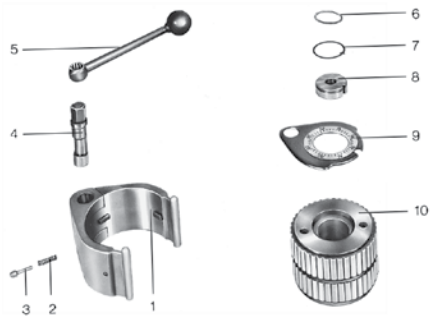
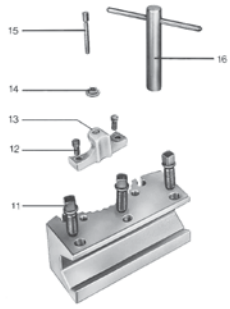
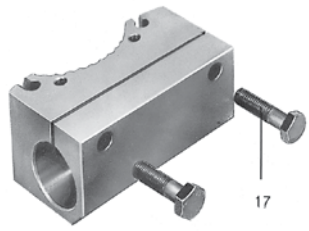
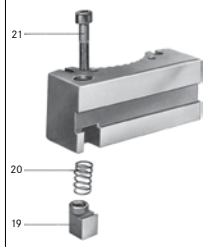
Ident. No. 225

Ident. No. 226

Colour				Grey	Black	Yellow	Red	Green	Blue	Orange
	Material	Suitable for tool holding device								
23698...	Plastic	HSK A100, SK 50, BT 50	Ident. No.	220 ●	221 ●	222 ●	223 ●	224 ●	225 ●	226 ●

Prod. Gr. 206

MULTIFIX spare parts for all sizes
When ordering, please state identification, part no. and MULTIFIX size

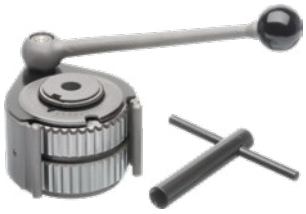
For MULTIFIX tool holder head	For MULTIFIX tool change holder	For MULTIFIX tool change holder J	For MULTIFIX cut-off tool holder
			
1 = tension bowl (compl. with eccentric bolt 4) 2 = plunger spring 3 = ram 4 = eccentric bolt with oil dispenser 5 = clamping lever 6 = ring spring 7 = pointer 8 = centring disc 9 = protective cover 10 = central body	11 = square head bolt 12 = cylinder head screw 13 = adjusting cap 14 = height adjustment nut 15 = height adjustment screw 16 = socket wrench	17 = clamping screw	19 = clamping claw 20 = compression spring 21 = cylinder head screw

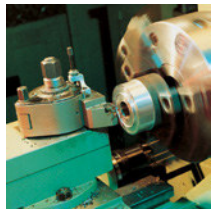
MULTIFIX quick-change steel tool holder

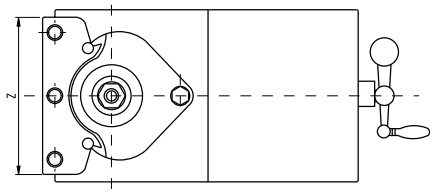
Application:
For holding change tool holders. The selection of the Multifix quick-change steel tool holder and change tool holder depends on the drive output, the tool carriage width and lathe chisel height.

Execution:
- The drill hole in the centring disc must be enlarged to the dimensions of the clamping screw.

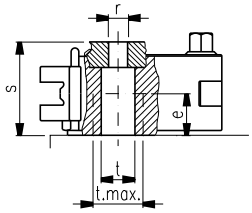
Advantage:
- Precision manufacture owing to the high repeat accuracy (0.01 mm)
- Versatile production possibilities (40 tool positions possible)
- Quick and trouble-free height adjustment thanks to adjusting screw
- Extremely flexible due to the modular structure

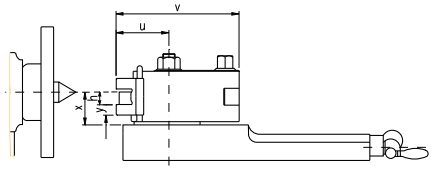






Tool holder width z ≥ tool skid width l





p. 929 p. 931 p. 929 p. 930

Steel holder head size		Aa	A	B	C	D1
Changeover holder size		Aa | D 12	AD 16 | AD 20	BD 25 | BD 32	CD 32 | CD 40 | CD 45	D1 D40 | D1 D50 | D1 D63
Max. drive power of lathe (kW)		1.1	2.2	6.6	13.2	22
Z (mm)		80	100	150	180	200
y		6 mm	9 mm | 10 mm	12 mm | 13 mm	16.5 mm	20.5 mm
r (mm)		10	10	16	16	22
t (mm)		13	35	40	55	65
t (mm)		13	20	32	40	40
e (mm)		-	35	45	75	75
s (mm)		36	54	75	105	122
v		70 mm	100 mm	150 mm	202 mm	230 mm | 234 mm | 242 mm
b		30 mm	48 mm	71 mm	102 mm	112 mm | 116 mm | 124 mm
22240...	Ident. No.	050 ●	060 ●	070 ●	080 ●	090 ○

Prod. Gr. 214

MULTIFIX cutting-off tool holder A

Application:
For cutting-off blade

Execution:
- for steel tool holder head no. 22240

		Steel holder head size		
22247...	Aa-A00	Aa	Ident. No.	005 ○
22247...	AA-AO	A	Ident. No.	010 ●
22247...	BA-A2a	B	Ident. No.	020 ●
22247...	CA-A3a	C	Ident. No.	030 ○

Prod. Gr. 214

Cutting-off tool holder A

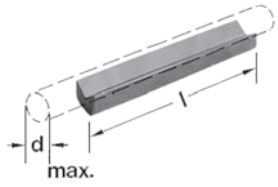
MULTIFIX vee block P

Application:
Accessories for quick-change holder H. For clamping small boring bars

Execution:
- for steel tool holder head no. 22240

		Steel holder head size	Length l (mm)	Max. clamping Ø d (mm)		
22249...	AP 1485	A	85	14	Ident. No.	010 ●
22249...	BP 20130	B	130	20	Ident. No.	020 ●
22249...	CP 25160	C	160	25	Ident. No.	030 ●
22249...	CP 32160	C	160	32	Ident. No.	040 ●
22249...	D1 P 40180	D1	160	40	Ident. No.	050 ●

Prod. Gr. 214



Vee block P

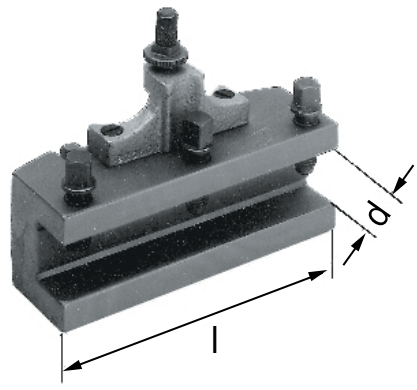
MULTIFIX cutting tool holder D

Application:
for square turning tools

Execution:
- For steel tool holder head no. 22240

		Steel tool holder head size shape No. 22240	Length L (mm)	Clamping width d (mm)		
22241...	AaD 1250	Aa	50	12	Ident. No.	010 ●
22241...	AD 1675	A	75	16	Ident. No.	020 ●
22241...	AD 1690	A	90	16	Ident. No.	030 ●
22241...	AD 2075	A	75	20	Ident. No.	040 ●
22241...	AD 2090	A	90	20	Ident. No.	050 ●
22241...	BD 25120	B	120	25	Ident. No.	060 ●
22241...	BD 25140	B	140	25	Ident. No.	070 ●
22241...	BD 32120	B	120	32	Ident. No.	080 ●
22241...	BD 32140	B	140	32	Ident. No.	090 ●
22241...	CD 32150	C	150	32	Ident. No.	100 ●
22241...	CD 32170	C	170	32	Ident. No.	110 ●
22241...	CD 40150	C	150	40	Ident. No.	120 ●
22241...	CD 40170	C	170	40	Ident. No.	130 ●
22241...	CD 45170	C	170	45	Ident. No.	140 ○
22241...	D1 D 40180	D1	180	40	Ident. No.	150 ●
22241...	D1 D 50180	D1	180	50	Ident. No.	160 ●
22241...	D1 D 63180	D1	180	63	Ident. No.	170 ●

Prod. Gr. 214



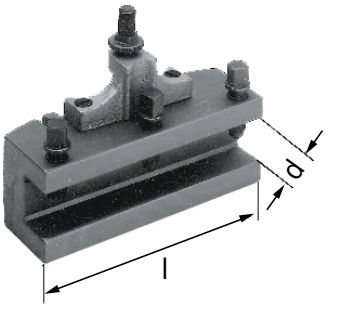
ORION® Quick-change holder D

Application:
For holding tools.

Execution:
- For steel tool holder head no. 22240

Steel tool holder head size shape No. 22240			B	B
Clamping width d (mm)			25	32
22251...	BD 25120	Ident. No.	060 ●	-
22251...	BD 25140	Ident. No.	070 ●	-
22251...	BD 32120	Ident. No.	-	080 ●
22251...	BD 32140	Ident. No.	-	090 ●

Prod. Gr. 264



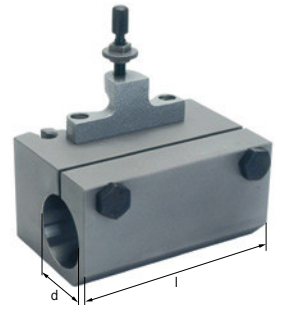
MULTIFIX boring bar holder J

Application:
For holding tools with straight shank.

Execution:
- No. 22243 010/020 side slot and no. 22243 030/040/050/070 upper slot.
- For steel tool holder head no. 22240

		Steel tool holder head size shape No. 22240	Length l (mm)	Clamping Ø d (mm)		
22243...	AaJ 1550	Aa	50	15	Ident. No.	010 ●
22243...	AJ 3080	A	80	30	Ident. No.	020 ●
22243...	BJ 40120	B	120	40	Ident. No.	030 ●
22243...	CJ 40160	C	160	40	Ident. No.	040 ●
22243...	CJ 50160	C	160	50	Ident. No.	050 ●
22243...	D1 J 63180	D1	180	63	Ident. No.	070 ●

Prod. Gr. 214



Quick-change holder J

ORION® Quick-change holder J

Application:
For holding tools.

Execution:
- For steel tool holder head no. 22240

Steel tool holder head size shape No. 22240			B
Clamping Ø (mm)			40
22253...	BJ 40120	Ident. No.	030 ●

Prod. Gr. 264

MULTIFIX Morse taper sleeves

Application:
Accessories for change holder for clamping Morse tapers.

Execution:
- BK 230 only for holder BH 30130
- For steel tool holder head no. 22240

		Steel tool holder head size shape No. 22240	Morse taper size	Length L (mm)	Clamping Ø d (mm)		
22245...	AL 130	A	MK 1	82	30	Ident. No.	005 ●
22245...	AL 230	A	MK 2	82	30	Ident. No.	010 ●
22245...	BK 230	B	MK 2	130	30	Ident. No.	020 ●
22245...	BL 340	B | C	MK 3	130	40	Ident. No.	030 ●
22245...	BL 440	B | C	MK 4	130	40	Ident. No.	040 ●
22245...	CL 350	C	MK 3	130	50	Ident. No.	050 ●
22245...	CL 450	C	MK 4	130	50	Ident. No.	060 ●
22245...	CL 550	C	MK 5	130	50	Ident. No.	065 ●

Prod. Gr. 214

MULTIFIX boring bar holder H

Application:
For holding tools with straight shank.

Execution:
- For steel tool holder head no. 22240

		Steel tool holder head size shape No. 22240	Length l (mm)	Clamping Ø d (mm)		
22242...	AaH 1250	Aa	50	12	Ident. No.	010 ●
22242...	AH 2085	A	85	20	Ident. No.	020 ●
22242...	BH 30130	B	130	32	Ident. No.	030 ●
22242...	CH 40160	C	160	40	Ident. No.	040 ●
22242...	CH 50160	C	160	50	Ident. No.	050 ●
22242...	D1 H 63180	D1	180	63	Ident. No.	060 ●

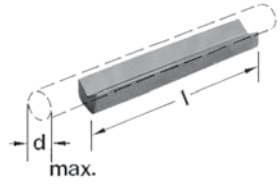
Prod. Gr. 214

Quick-change holder H

ORION® Vee block P for boring bar

Steel tool holder head size shape No. 22240			B
Length l (mm)			130
Max. clamping Ø d (mm)			20
22259...	BP 20130	Ident. No.	020 ●

Prod. Gr. 264

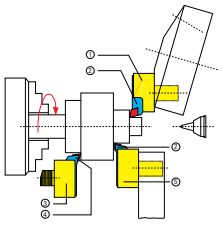


Vee block P

tool holders for lathes

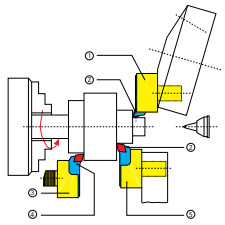
can be used on almost all lathes with tool chucks in line with DIN ISO 10889-1. Manufactured from quality steel (tensile strength 1000 N/mm²) and protected against corrosion by burnishing. all wear surfaces are hardened and sanded. Coolant supply is via adjustable jets or coolant tube. The lathe chisels are securely, precisely and gently clamped by a spring-loaded pressure plate.

use of radial tool holders for left-hand spindle rotation (direction of arrow)



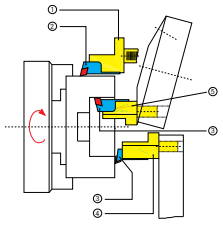
① Holder, right, type B1, B5
② Lathe chisel, left
③ Holder, overhead, right, type B3, B7
④ Lathe chisel, right
⑤ Holder, overhead left, type B4, B8

use of radial tool holders for right-hand spindle rotation (direction of arrow)



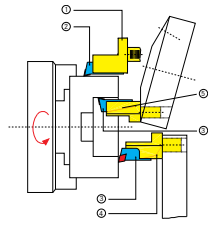
① Holder, overhead, right, type B3, B7
② Lathe chisel, right
③ Holder, right, type B1, B5
④ Lathe chisel, left
⑤ Holder left, type B2, B6

use of radial tool holders for left-hand spindle rotation (direction of arrow)



① Holder, right, type C1
② Lathe chisel, right
③ Lathe chisel, left
④ Holder, overhead, right, type C3
⑤ Holder, left, type C2

use of radial tool holders for right-hand spindle rotation (direction of arrow)



① Holder, overhead, right, type C3
② Lathe chisel, left
③ Lathe chisel, right
④ Holder, right, type C1
⑤ Holder, overhead, left, type C4

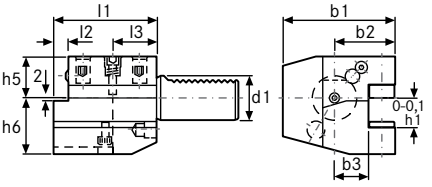
ORION® Axial tool holder shape C1 right-hand (DIN 69880-1)

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground

Form		C1 R	C1 R	C1 R	C1 R	C1 R	C1 R
d1 (mm)		16	20	25	30	40	50
h1 (mm)		12	16	16	20	25	32
b1 (mm)		43	52	58	70	85	100
b2 (mm)		24	27	33	35	42.5	50
b3 (mm)		13	13	19	17	21	26
h5 (mm)		20	25	25	28	32.5	35
h6 (mm)		22	30	30	38	48	60
l1 (mm)		44	55	55	70	85	100
l2 (mm)		5	7	7	10	12.5	16
22778...	Ident. No.	001 ●	002 ○	003 ●	004 ●	005 ●	006 ○

Prod. Gr. 2AC

Ident. No. 001–003, 005–006
Axial tool holder shape C1 right-hand



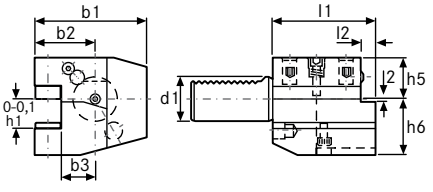
ORION® Axial tool holder shape C2 left-hand (DIN 69880-1)

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground

Form		C2 L	C2 L	C2 L	C2 L	C2 L	C2 L
d1 (mm)		16	20	25	30	40	50
h1 (mm)		12	16	16	20	25	32
b1 (mm)		43	65	58	76	90	105
b2 (mm)		24	40	33	41	47.5	55
b3 (mm)		13	26	19	23	25.5	30.5
h5 (mm)		20	25	25	28	32.5	35
h6 (mm)		22	30	30	38	48	60
l1 (mm)		44	50	55	70	85	100
l2 (mm)		5	7	7	10	12.5	16
22778...	Ident. No.	010 ●	011 ●	012 ●	013 ●	014 ●	015 ○

Prod. Gr. 2AC

Axial tool holder shape C2 left-hand



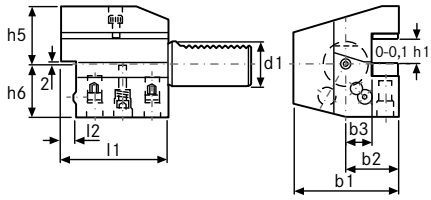
ORION® Axial tool holder, shape C3 right-hand, overhead (DIN 69880-1)

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground

Form		C3 R overhead	C3 R overhead	C3 R overhead	C3 R overhead	C3 R overhead	C3 R overhead
d1 (mm)		16	20	25	30	40	50
h1 (mm)		12	16	16	20	25	32
b1 (mm)		43	52	58	70	85	100
b2 (mm)		24	27	33	35	42.5	50
b3 (mm)		13	13	19	17	21	26
h5 (mm)		22	30	30	38	48	60
h6 (mm)		20	25	25	35	42.5	50
l1 (mm)		44	55	55	70	85	100
l2 (mm)		5	7	7	10	12.5	16
22778...	Ident. No.	020 ●	021 ●	022 ●	023 ●	024 ●	025 ○

Prod. Gr. 2AC

Axial tool holder, shape C3, overhead, right



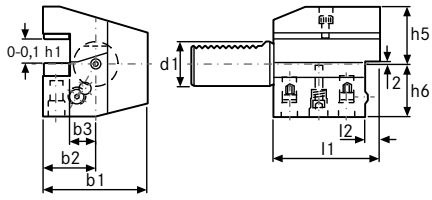
ORION® Axial tool holder shape C4 left-hand overhead (DIN 69880-1)

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground

Form		C4 L overhead	C4 L overhead	C4 L overhead	C4 L overhead	C4 L overhead	C4 L overhead
d1 (mm)		16	20	25	30	40	50
h1 (mm)		13	26	19	23	25.5	30.5
b1 (mm)		43	65	58	76	90	105
b2 (mm)		24	40	33	41	47.5	55
b3 (mm)		12	16	16	20	25	32
h5 (mm)		22	30	30	38	48	60
h6 (mm)		20	25	25	35	42.5	50
l1 (mm)		44	55	55	70	85	100
l2 (mm)		5	7	7	10	12.5	16
22778...	Ident. No.	030 ●	031 ●	032 ●	033 ●	034 ●	035 ○

Prod. Gr. 2AC

Axial tool holder, shape C4, overhead, left



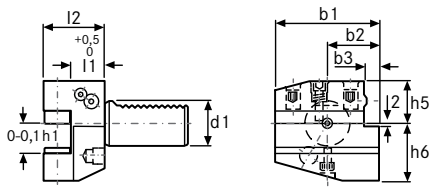
ORION® Radial tool holder shape B1 right-hand, short (DIN 69880-1)

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground

Form		B1 R	B1 R	B1 R	B1 R	B1 R	B1 R
VDI adapter d1iameter d1 (mm)		16	20	25	30	40	50
h1 (mm)		12	16	16	20	25	32
b1 (mm)		42	55	55	70	85	100
b2 (mm)		23	30	30	35	42.5	50
b3 (mm)		5	7	7	10	12.5	16
h5 (mm)		20	25	25	28	32.5	35
h6 (mm)		22	30	30	38	48	60
l1 (mm)		13	16	16	22	22	30
l2 (mm)		24	30	30	40	44	55
22778...	Ident. No.	080 ●	081 ●	082 ●	083 ●	084 ●	085 ●

Prod. Gr. 2AC

Radial tool holder shape B1 right-hand short



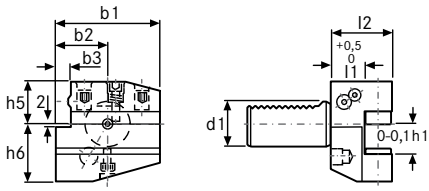
ORION® Radial tool holder shape B2 left-hand short (DIN 69880-1)

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground

Form		B2 L	B2 L	B2 L	B2 L	B2 L	B2 L
VDI adapter d1iameter d1 (mm)		16	20	25	30	40	50
h1 (mm)		12	16	16	20	25	32
b1 (mm)		42	55	55	70	85	100
b2 (mm)		23	30	30	35	42.5	50
b3 (mm)		5	7	7	10	12.5	16
h5 (mm)		20	25	25	28	32.5	35
h6 (mm)		22	30	30	38	48	60
l1 (mm)		13	16	16	22	22	30
l2 (mm)		24	30	30	40	44	55
22778...	Ident. No.	070 ●	071 ●	072 ●	073 ●	074 ●	075 ●

Prod. Gr. 2AC

Radial tool holder shape B2 left-hand short



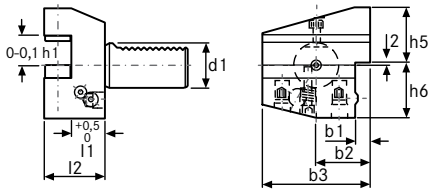
ORION® Radial tool holder shape B3 right-hand short overhead (DIN 69880-1)

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground

Form		B3 R overhead	B3 R overhead	B3 R overhead	B3 R overhead	B3 R overhead	B3 R overhead
VDI adapter d1iameter d1 (mm)		16	20	25	30	40	50
h1 (mm)		12	16	16	20	25	32
b1 (mm)		42	55	55	70	85	100
b2 (mm)		23	30	30	35	42.5	50
b3 (mm)		5	7	7	10	12.5	16
h5 (mm)		20	25	25	35	42.5	50
h6 (mm)		22	30	30	38	48	60
l1 (mm)		13	26	16	22	22	30
l2 (mm)		24	30	30	40	44	55
22778...	Ident. No.	060 ●	061 ●	062 ●	063 ●	064 ●	065 ●

Prod. Gr. 2AC

Radial tool holder shape B3 right-hand, short overhead



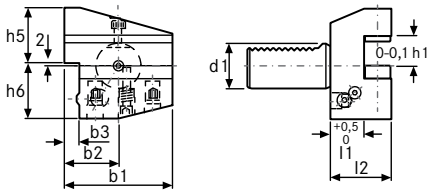
ORION® Radial tool holder shape B4 left-hand short overhead (DIN 69880-1)

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground

Form		B4 L overhead	B4 L overhead	B4 L overhead	B4 L overhead	B4 L overhead	B4 L overhead
VDI adapter d1iameter d1 (mm)		16	20	25	30	40	50
h1 (mm)		12	16	16	20	25	32
b1 (mm)		42	55	55	70	85	100
b2 (mm)		23	30	30	35	42.5	50
b3 (mm)		5	7	7	10	12.5	16
h5 (mm)		20	25	25	35	42.5	50
h6 (mm)		22	30	30	38	48	60
l1 (mm)		13	26	16	22	22	30
l2 (mm)		24	30	30	40	44	55
22778...	Ident. No.	050 ●	051 ●	052 ●	053 ●	054 ●	055 ○

Prod. Gr. 2AC

Radial tool holder shape B4 left-hand short overhead



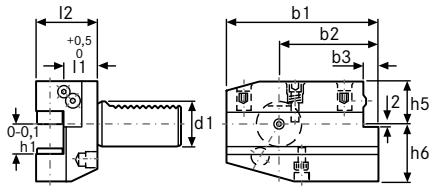
ORION® Radial tool holder shape B5 right-hand, long (DIN 69880-1)

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground

Form		B5 R	B5 R
VDI adapter d1iameter d1 (mm)		30	40
h1 (mm)		20	25
b1 (mm)		100	118
b2 (mm)		65	75.5
b3 (mm)		10	12.5
h5 (mm)		28	32.5
h6 (mm)		38	48
l1 (mm)		22	22
l2 (mm)		40	44
22778...	Ident. No.	042 ●	043 ●

Prod. Gr. 2AC

Radial tool holder shape B5 right-hand, long



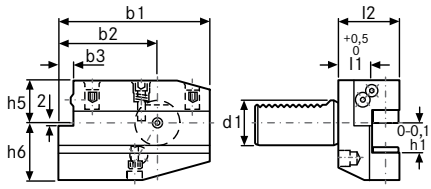
ORION® Radial tool holder shape B6 left-hand, long (DIN 69880-1)

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground

Form		B6 L	B6 L
VDI adapter d1iameter d1 (mm)		30	40
h1 (mm)		20	25
b1 (mm)		100	118
b2 (mm)		65	75.5
b3 (mm)		10	12.5
h5 (mm)		28	32.5
h6 (mm)		38	48
l1 (mm)		22	22
l2 (mm)		40	44
22778...	Ident. No.	040 ●	041 ●

Prod. Gr. 2AC

Radial tool holder shape B6 left-hand, long



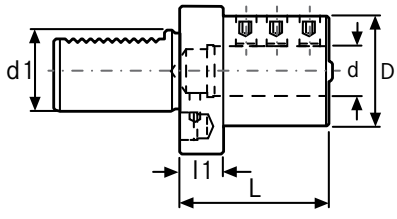
ORION® Boring bar holder shape E2 (DIN 69880-1)

For lathe tools with straight shanks

DIN 69880

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground
- Internal and external coolant supply

d1 (mm)	d (mm)	l1 (mm)	D (mm)	L (mm)	22778... Ident. No.	
16	6	13	32	44	090	○
16	8	13	32	44	091	●
16	10	13	32	44	092	●
16	12	-	40	44	093	●
16	16	-	40	44	094	●
20	8	18	40	50	095	●
20	10	18	40	50	096	●
20	12	18	40	50	097	●
20	16	18	40	50	098	●
20	20	18	50	50	099	○
20	25	18	50	60	100	●
25	8	18	40	50	101	●
25	10	18	40	50	102	●
25	12	18	40	50	103	●
25	16	18	40	50	104	●
25	20	18	58	50	105	●
25	25	18	58	60	106	●
30	8	22	55	60	107	●
30	10	22	55	60	108	●
30	12	22	55	60	109	●
30	16	22	55	60	110	●
30	20	22	55	60	111	●



d1 (mm)	d (mm)	l1 (mm)	D (mm)	L (mm)	22778... Ident. No.	
30	25	22	55	60	112	●
30	32	22	68	75	113	●
30	40	22	68	90	114	●
40	8	22	55	75	115	●
40	10	22	55	75	116	●
40	12	22	55	75	117	●
40	16	22	55	75	118	●
40	20	22	55	75	119	●
40	25	22	55	75	120	●
40	32	22	83	75	121	●
40	40	22	83	90	122	●
40	50	22	83	90	123	●
50	12	30	68	90	124	●
50	16	30	68	90	125	●
50	20	30	68	90	126	●
50	25	30	68	90	127	●
50	32	30	68	90	128	●
50	40	30	98	90	129	●
50	50	30	98	100	130	●

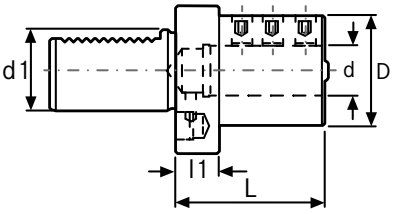
Prod. Gr. 2AC

ORION® Slotted boring bar holder, shape E2 (DIN 69880-1)

For lathe tools with straight shanks

DIN 69880

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground
- Internal and external coolant supply
- Vibration damping



d1 (mm)	d (mm)	l1 (mm)	L (mm)	22778... Ident. No.	
30	10	22	88	185	●
30	12	22	88	186	●
30	16	22	88	187	●
30	20	22	96	188	●
30	25	22	112	189	●
30	32	22	142	190	●
40	10	22	88	191	●
40	12	22	88	192	●
40	16	22	88	193	●
40	20	22	96	194	●
40	25	22	112	195	●
40	32	22	142	196	○
40	40	22	184	197	○

Prod. Gr. 2AC

ATORN Precision short drill chuck with worm gear mechanism (DIN 69880-1)

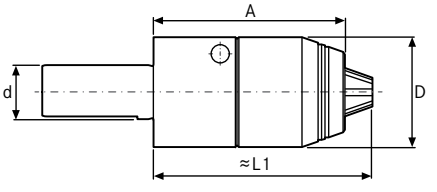
For NC lathes

IK DIN 69880

Application:
For clamping tools with straight shank.

Execution:
- For NC lathes
- The tool is clamped using a hexagon key
- Hexagon T-handle wrench operation
- With worm gear

Advantage:
- High concentricity
- Operates without play and with vibration damping
- It is possible to change the tool directly in the machine



VDI adapter Ø d (mm)	Min./max. clamping width	D (mm)	L1 max (mm)	A (mm)	Coolant supply	21329... Ident. No.	
30	1-16 mm	50	99	87	Internal axial	150	●
40	1-16 mm	50	99	87	-	151	●

Prod. Gr. 208

ORION® Tool holder for drilling tools shape E1 (DIN 69880-1)

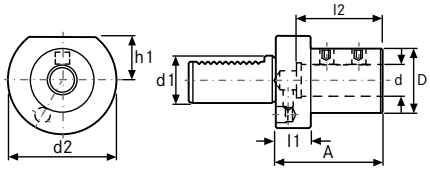
Mounts for indexable insert drill bits

DIN 69880

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground

d1 (mm)	d (mm)	D (mm)	A (mm)	d2 (mm)	l2 (mm)	h1 (mm)	l1 (mm)	22778... Ident. No.	
20	20	40	16	50	49	18	67	155	●
20	25	45	16	50	53	18	71	156	●
30	20	40	22	68	45	28	67	157	●
30	25	45	22	68	49	28	71	158	●
30	32	52	22	68	53	28	75	159	●
30	40	60	22	68	73	28	95	160	●
40	20	40	22	83	45	32.5	67	161	●
40	25	45	22	83	53	32.5	75	162	●
40	32	52	22	83	53	32.5	75	163	●
40	40	60	22	83	68	32.5	90	164	●
50	25	45	30	98	50	35	80	165	●
50	32	52	30	98	50	35	80	166	●
50	40	65	30	98	60	35	90	167	●
50	50	75	30	98	70	35	100	168	○

Prod. Gr. 2AC

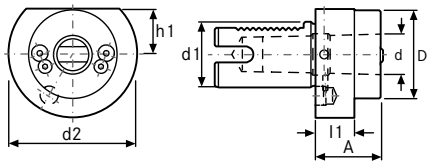


ORION® Morse taper mount shape F (DIN 69880-1)

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground

VDI adapter d1iameter d1 (mm)	Morse taper size	d (mm)	A (mm)	D (mm)	d2 (mm)	h1 (mm)	l2 (mm)	22778... Ident. No.	
20	MK 1	12.075	-	-	50	23	23	170	●
30	MK 1	12.07	-	-	68	28	27	171	○
40	MK 1	12.07	22	55	83	32.5	36	172	○
20	MK 2	17.78	30	40	50	23	90	173	●
30	MK 2	17.78	-	-	68	28	27	174	○
40	MK 2	17.78	22	55	83	32.5	36	175	○
50	MK 2	17.78	30	55	98	35	36	176	●
30	MK 3	23.83	22	58	68	28	66	177	●
40	MK 3	23.83	22	55	83	32.5	36	178	●
50	MK 3	23.83	30	58	98	35	36	179	○
40	MK 4	31.27	22	68	83	32.5	80	180	○
50	MK 4	31.27	30	68	98	35	50	181	○

Prod. Gr. 2AC



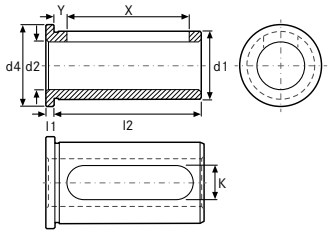
ORION® Reducing sleeves E1 + E2 with slotted hole

With groove

Execution:
- Surface hardness 58–60 HRc
- Core strength HV 950 N/mm2
- Hardness depth 0.8 mm ±0.2 mm
- Fully bronzed and precision-ground

d1 (mm)	d2 (mm)	d4 (mm)	l1 (mm)	l2 (mm)	Y (mm)	X (mm)	K (mm)	22778... Ident. No.	
20	12	25	52	3	3.5	45.5	13	230	●
20	16	25	52	3	3.5	45.5	13	231	●
25	16	30	50	3	3.5	43.5	13	233	●
25	20	30	50	3	3.5	43.5	13	234	●
32	20	37	59	3	5	51	13	235	●
32	25	37	59	3	5	51	13	236	●
40	32	45	69	3	5	61	17	237	●
50	40	45	80	3	5	72	17	238	●

Prod. Gr. 2AL

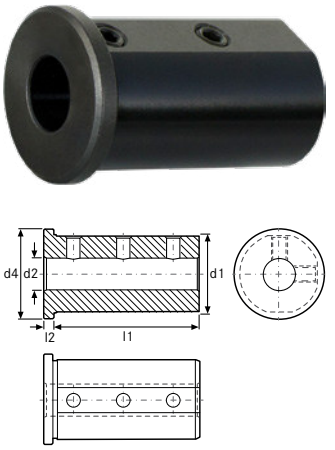


ORION® Reducing sleeves E1 + E2 with clamping screws

With clamping screws for tightening

d1 (mm)	d2 (mm)	d4 (mm)	l1 (mm)	l2 (mm)	22778... Ident. No.	
20	8	25	39	3	200	●
20	10	25	39	3	201	●
25	6	30	53	3	202	●
25	8	30	53	3	203	●
25	10	30	53	3	204	●
25	12	30	53	3	205	●
32	6	30	53	3	206	●
32	8	37	62	3	207	●
32	10	37	62	3	208	●
32	12	37	62	3	209	●
32	14	37	62	3	210	●
32	16	37	62	3	211	●
40	6	37	62	3	212	●
40	8	45	72	3	213	●
40	10	45	72	3	214	●
40	12	45	72	3	215	●
40	14	45	72	3	216	●
40	16	45	72	3	217	●
40	20	45	72	3	218	●
40	25	45	72	3	219	●
50	8	55	80	3	220	○
50	10	55	80	3	221	●
50	12	55	80	3	222	○
50	16	55	80	3	223	●
50	20	55	80	3	224	●
50	25	55	80	3	225	●
50	32	55	80	3	226	●

Prod. Gr. 2AL



ORION® Quick-change tapping chuck (DIN 69880-1)

DIN 69880

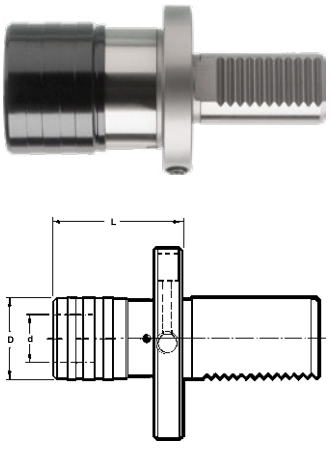
Application:
For thread cutting and thread shaping on NC machines.

Execution:
- For holding quick-change inserts, see no. 21566

- Elastic length compensation under compression and tension
- For quick-change inserts with adjustable safety coupling
- For reverse motion, the direction of rotation of the machine spindle needs to be changed.

VDI mount Ø (mm)		20	30	40	30	40
For insert size		1	1	1	2	2
Suitable for min./max. thread		M3-M12	M3-M12	M3-M12	M6-M20	M6-M20
D (mm)		38	38	38	55	55
d (mm)		19	19	19	31	31
L (mm)		55	55	55	77	77
Pressure length compensation (mm)		9	9	9	15	15
Tension length compensation (mm)		9	9	9	15	15
22787...	Ident. No.	121 ○	131 ●	141 ○	231 ●	241 ○

Prod. Gr. 295



p. 901

EWS Tool Technologies Protective plugs

For NC lathes, shape Z 2, plastic

Application:
For protection against dirt and chippings.

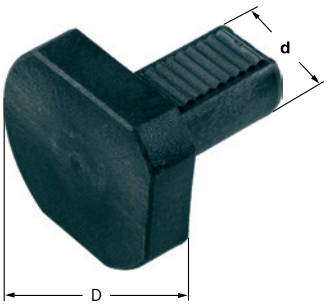
Execution:
- For insertion into the jaw guide of the lathe chuck.

- Made of plastic
- TYPE Z 2

Notes:
Steel version on request.

VDI adapter Ø d (mm)		20	30	40	50	60
Outer Ø D (mm)		50	68	83	98	123
22766...	Ident. No.	020 ●	030 ●	040 ●	050 ●	060 ○

Prod. Gr. 215



Bar grips (DIN 69880-1)

For CNC lathes

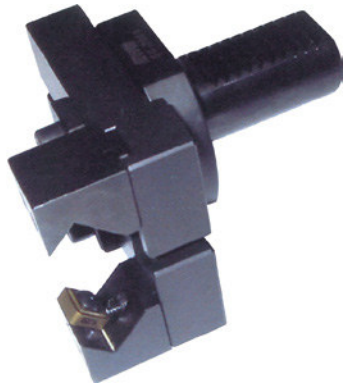
Application:
For automatic retightening of material on CNC lathe.

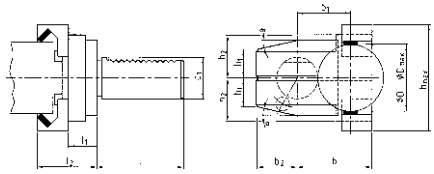
Execution:
- For CNC lathes
- Replacement for bar loader

Advantage:
- For reliably pulling out workpiece length

Delivery:
With standard grabber attachments and cemented carbide plates.

Notes:
Special accessories for extending grabber diameter to 18-36 on request.





VDI adapter Ø d (mm)		30	40	16	20
VDI shank length l (mm)		55	63	32	40
Distance l1 (mm)		34	34	28	34
Projection length l2 (mm)		59/63	59/63	53	59
Distance between stop and centre of hole b (mm)		61	61	35	61
Bar spacing centre b1 (mm)		54	54	28	54
Stangenspann-Ø max. D (mm)		42	65	22	42
Distance 2 b2 (mm)		37	41.5	26.5	36.5
Min. rod clamping Ø D (mm)		2	2	2	2
Bar puller height h (mm)		105	125	74	85
Left adjustment height h1 (mm)		27	27	12.5	17
Right adjustment height h2 (mm)		38	38	28	38
22798...	Ident. No.	**030**	**040**	**016**	**020**
		○	○	○	○

Prod. Gr. 215

RIHETEC Kühlmitteldüsen — SmartKD coolant nozzle, flexible composite material

Application:
The innovative coolant nozzle SmartKD saves a great deal of time when setting up a lathe. Complicated adjustments to stubborn copper pipes are a thing of the past in Fig.3. Thanks to the replaceable coolant pipe, you always have a suitable coolant nozzle. The SmartKD can be mounted in a flash. Simply insert the coolant nozzle into the coolant hole and screw it tight. Then align the tube with the tool blade.

Execution:
- Stainless steel ball Ø 14, 15 and 16
- internal pipe diameter 4 mm
- pipe length 50 mm, 70 mm or 100 mm, extremely flexible
- pressure 6 - 10 bar (dependent on length)

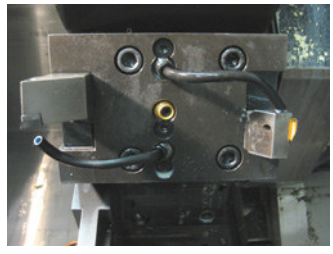
Advantage:
- Simple installation
- optimum cooling of tool cutting edge
- precise and strong coolant stream
- suitable for many CNC machines

Notes:
Accessories ref. no. 21665212 sealing plug quantity 5 pieces

Ident. No. 201–208

Model	Length (mm)	Ø (mm)	**21665...** Ident. No.	
SmartKD1405	50	14	**200**	●
SmartKD1407	70	14	**201**	●
SmartKD1410	100	14	**202**	●
SmartKD1505	50	15	**203**	●
SmartKD1507	70	15	**204**	●
SmartKD1510	100	15	**205**	●
SmartKD1605	50	16	**206**	○
SmartKD1607	70	16	**207**	○
SmartKD1610	100	16	**208**	○

Prod. Gr. 278



Smart KD in insert

RIHETEC Kühlmitteldüsen — MiniKD coolant nozzle, flexible composite material

Application:
The MiniKD was specially developed for use in compact VDI holders, but also fits many other tool holders with external cooling. As in the case of the SmartKD, mounting is extremely simple. Simply insert in the coolant bore, tighten, and align. The MiniKD with an M5 or M6 thread is then simply screwed in and aligned.

Execution:
- Stainless steel ball Ø 10 mm, 11 mm or 12 mm or
- connecting thread M5 or M6 thread
- Internal pipe diameter 4 mm
- Pipe length 50 mm or 70 mm
- special length 100 mm upon request (max. 6 bar)
- max. pressure 10 bar

Advantage:
- Simple installation
- optimum cooling of tool cutting edge
- precise and strong coolant stream
- suitable for many CNC machines
- reasonable price

Notes:
The MiniKD is also installed in the DriveKD and is very versatile in its uses.

Model	Length (mm)	Ø (mm)	Connection thread	21665... Ident. No.	
MiniKD1005	50	10	-	230	●
MiniKD1007	70	10	-	231	●
MiniKD1010	100	10	-	232	●
MiniKD1105	50	11	-	233	●
MiniKD1205	50	12	-	234	●
MiniKD1207	70	12	-	235	●
MiniKD-M6	50	-	M6	236	●
MiniKD-M5	50	-	M5	237	●

Prod. Gr. 278

RIHETEC Kühlmitteldüsen — DriveKD coolant nozzle for rotary tools

Double nipple, galvanised steel

Application:
Conventional coolant nozzles, often spray in all directions and do not provide a direct coolant jet. This often results in inadequate cooling at the tool cutting edge. The DriveKD performs its task superbly well.

Execution:
- threaded connectors M8x1, M10x1 and 1/8 thread
- internal pipe diameter 4 mm
- pipe length 50 mm or 70 mm
- max. pressure 10 bar (50 mm, 70 mm)
- special length of 100 mm available upon request (max. pressure up to 6 bar)

Advantage:
- quick, easy installation
- Precise and strong coolant stream onto the tool cutting edge, for a long service life.
- precisely adjust the coolant stream using the flexible pipe
- reasonable price
- Broad range of uses

Ident. No. 251–258

Model	Length (mm)	Connection thread	21665... Ident. No.	
DriveKD1005	50	M10 x 1	250	●
DriveKD1005	70	M10 x 1	251	●
DriveKD1010	100	M10 x 1	252	●
DriveKD0805	50	M8 x 1	253	●
DriveKD0807	70	M8 x 1	254	●
DriveKD0810	100	M8 x 1	255	○
DriveKD1805	50	G 1/8 inch	256	●
DriveKD1807	70	G 1/8 inch	257	●
DriveKD1810	100	G 1/8 inch	258	●

Prod. Gr. 278

RIHETEC Kühlmitteldüsen — EdgeKD coolant nozzle for rotary tools

Easy to swivel and lock

Application:
For use in tool holders where an angled outlet is required for assembly. EdgeKD does away with the laborious assembly of inflexible coolant pipes. This makes it easy to swivel and lock the EdgeKD into place. Suitable for EWS, Heimatec and many other manufacturers.

Execution:
- threaded connectors M10x1 and 1/8" thread
- internal pipe diameter 4 mm
- pipe length 100 mm, replaceable
- max. pressure 6 bar

Advantage:
- quick, easy installation
- flexible coolant tube (SmartPipe)
- precise and strong coolant stream
- attractive price
- Broad range of uses

Delivery:
Consists of one smart tube, union screw, ring piece, hollow screw and two aluminium seals

Ident. No. 282

Model		EdgeKD10	EdgeKD18
Length (mm)		100	100
Connection thread		M10 x 1	G 1/8 inch
21665...	Ident. No.	281 ●	282 ●

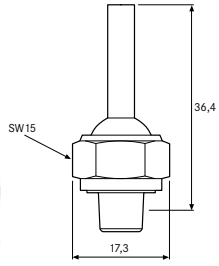
Prod. Gr. 278

RIHETEC Kühlmitteldüsen — JetKD-A coolant nozzle

Application:
The JetKD is suitable for installation in both fixed and driven tool holders. Machines with high-pressure pumps require special coolant nozzles to suit the higher pressures. This is where the JetKD-A comes in!

Execution:
- screw-in thread M8x1, M10x1 or 1/8 BSP thread
- nozzle aperture 4 mm
- nozzle lengths 12 mm and 20 mm
- suitable for high pressures

Advantage:
- Simple installation
- nozzle can be locked in any position
- high level of stability
- minimal space requirements
- large adjustment range, can be swivelled up to 45° in every direction



Model		JETKD0812-A	JETKD0820-A	JETKD1012-A	JETKD1020-A
Length (mm)		12	20	12	20
Connection thread		M8 x 1	M8 x 1	M10 x 1	M10 x 1
21665...	Ident. No.	300 ●	301 ●	302 ●	303 ●

Model		JETKD1812-A	JETKD1820-A
Length (mm)		12	20
Connection thread		G 1/8 inch	G 1/8 inch
21665...	Ident. No.	304 ●	305 ●

Prod. Gr. 278

RIHETEC Kühlmitteldüsen — EasyKD coolant nozzle

Made from 100 % stainless steel, very robust

Application:
EasyKD fits in all tool holders with a 12 mm location hole. In all situations where a flexible pipe is not required and a high level of stability is required.

Execution:
- ball diameter 12 mm
- nozzle aperture 4 mm
- nozzle length 10 mm, 15 mm and 20 mm
- high-pressure-proof

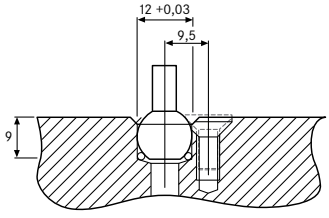
Advantage:
- Simple installation
- available in 3 lengths
- large swivel range
- minimal space requirements

Notes:
packing unit 10 pieces

Ident. No. 321–323

Model			EasyKD1210	EasyKD1215	EasyKD1220	-
Length (mm)			10	12	15	-
Ø (mm)			12	12	12	12
21665...		Ident. No.	320 ●	321 ○	322 ●	-
21665...	O-ring for EasyKD	Ident. No.	-	-	-	323 ●

Prod. Gr. 278



Mounted in the 12 mm location hole on the tool holder. The ball is clamped with an M5 countersunk head screw to keep the coolant stream in position.

RIHETEC Kühlmitteldüsen

RingKD coolant nozzle

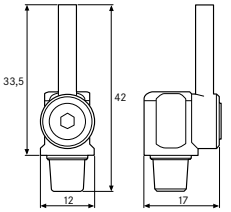
Very robust and virtually wear-free

Application:
The RingKD transports the drilling emulsion/cutting oil into a straight adjustable nozzle via a ring. It is suitable for many tool holders with an appropriate threaded connection. The RingKD is ideal for use in narrow spaces and where precise adjustment of the stream is required.

Execution:
- nozzle aperture 4 mm
- stainless steel nozzle
- threaded connection, brass body
- high-pressure-proof
- self-sealing tapered thread

Advantage:
- Simple installation
- Broad range of uses
- swivel range >180°
- minimal space requirements
- extremely precise coolant stream

Ident. No. 341–343



Model		RingKD08	RingKD10	RingKD18
Connection thread		M8 x 1	M10 x 1	G 1/8 inch
21665...	Ident. No.	340 ●	341 ●	343 ●

Prod. Gr. 278

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Workpiece clamping

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ORION® Fixed centring points (DIN 806)

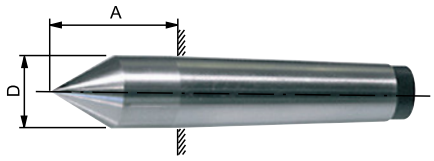
Full tip

Application:
For centring and supporting long and narrow workpieces on lathes and grinding machines.

Execution:
- Tip angle 60°.
- Made of tool steel.
- Fully hardened and ground.

Delivery:
1x centring point MK 1.

Notes:
Centring points in special design on request.



Morse taper size		MK 2	MK 3	MK 4	MK 5
A (mm)		36	44	57.5	70.5
D (mm)		18	24.1	31.6	44.7
22104...	Ident. No.	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 211

ORION® Fixed centring points (DIN 806)

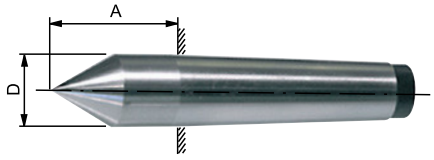
Carbide tip

Application:
For centring and supporting long and narrow workpieces on lathes and grinding machines.

Execution:
- Tip angle 60°.
- Carbide-tipped.
- Precision-ground.

Advantage:
- Wear-resistant carbide tip.

Notes:
Centring points in special design on request.



Morse taper size		MK 2	MK 3	MK 4	MK 5
D (mm)		7	11	14	18
A (mm)		36	44	57.5	70.5
D (mm)		18	24.1	31.6	44.7
22107...	Ident. No.	020 ●	030 ●	040 ○	050 ○

Prod. Gr. 211

BRUCKNER® Fixed centring points (DIN 806)

Full 60° tip and safety core

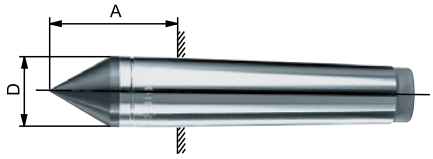
Application:
For centring and supporting long and narrow workpieces on lathes and grinding machines.

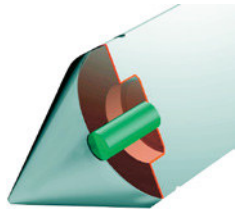
Execution:
- Tip angle 60°.
- Made from solid carbide.
- Concentricity tolerance on cemented carbide ≤ 0.8 µm.
- Post grinding groove marks end of use of centring point.
- With safety core.

Advantage:
- Wear-resistant carbide tip.
- The safety core prevents the cemented carbide from slipping off with the clamped workpiece, the consequence of which would be major damage.

Delivery:
1x centring point MK 2.

Solid carbide tip





Safety core

Morse taper size		MK 2	MK 3	MK 4	MK 5
A (mm)		46	69	57.5	70.5
D (mm)		18	24.1	31.6	44.7
Concentricity tolerance (mm)		0.008	0.008	0.008	0.008
22110...	Ident. No.	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 2AA

BRUCKNER Fixed centring points (DIN 806)

Full tip

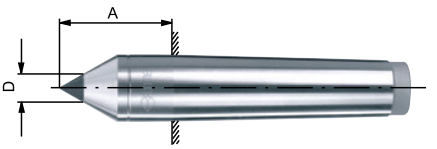
Application:
For centring and supporting long and narrow workpieces on lathes and grinding machines.

Execution:
- Tip angle 60°.
- Taper hardened and precision-ground.
- Carbide-tipped.
- Concentricity tolerance on cemented carbide ≤ 0.8 µm.
- Precision machining to roughing.

Advantage:
- Wear-resistant carbide tip.

Delivery:
1x centring point MK 1.

Carbide tip



Morse taper size		MK 1	MK 2	MK 3	MK 4	MK 5
D (mm)		7	7	11	14	18
A (mm)		26.5	36	44	57.5	70.5
Concentricity tolerance (mm)		0.008	0.008	0.008	0.008	0.008
22112...	Ident. No.	010 ○	020 ●	030 ●	040 ●	050 ○

Prod. Gr. 2AA

BRUCKNER Fixed centring points (DIN 806)

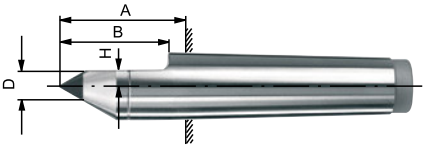
Half flattened tip

Application:
For centring and supporting long and narrow workpieces on lathes and grinding machines.

Execution:
- Tip angle 60°.
- Taper hardened and precision-ground.
- Carbide-tipped.
- Concentricity tolerance on cemented carbide ≤ 0.8 µm.

Advantage:
- Very good accessibility to workpieces.
- Wear-resistant carbide tip.

Delivery:
1x centring point MK 1.



Morse taper size		MK 1	MK 2	MK 3	MK 4	MK 5
D (mm)		7	7	11	14	18
A (mm)		26.5	36	44	57.5	70.5
B (mm)		22	30	38	50	63
H (mm)		4	4	6	7.5	9.5
Concentricity tolerance (mm)		0.008	0.008	0.008	0.008	0.008
22113...	Ident. No.	010 ○	020 ●	030 ●	040 ●	050 ○

Prod. Gr. 2AA

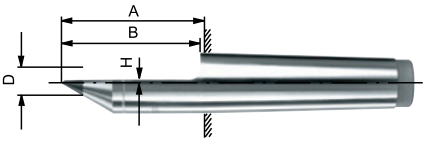
BRUCKNER Fixed centring points (DIN 806)

Half, extremely flattened tip

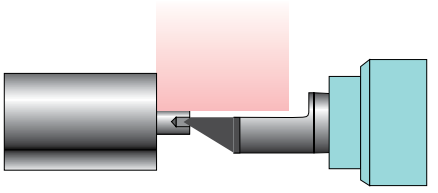
Application:
For centring and supporting long and narrow workpieces on lathes and grinding machines.

Execution:
- Tip angle 60°.
- Taper hardened and precision-ground.
- Carbide-tipped.
- Concentricity tolerance ≤ 0.8 µm.
- For flat grinding.

Delivery:
1x centring point MK 4.



No. 22114



Carbide centring tip, extremely flattened and extended for smaller diameters and with short shoulder or surface grinding.

Morse taper size		MK 2	MK 2	MK 3	MK 3
D (mm)		7	7	11	11
A (mm)		46	46	69	69
B (mm)		40	40	63	63
H (mm)		1.5	2.5	1.5	2.5
Concentricity tolerance (mm)		0.008	0.008	0.008	0.008
22114...	Ident. No.	020 ○	021 ○	030 ●	031 ●

Morse taper size		MK 3	MK 4	MK 4	MK 4
D (mm)		11	14	14	14
A (mm)		69	77.5	77.5	77.5
B (mm)		63	70	70	70
H (mm)		4	1.5	2.5	4
Concentricity tolerance (mm)		0.008	0.008	0.008	0.008
22114...	Ident. No.	032 ○	040 ○	041 ○	042 ●

Prod. Gr. 2AA

BRUCKNER® Fixed centring points (DIN 807)

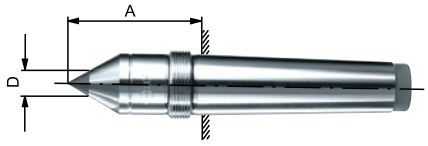
With full tip and thread for draw-off nuts

Application:
For centring workpieces on lathes, grinding machines and radial drilling machines.

Execution:
- Tip angle 60°.
- With thread for draw-off nut.
- Taper fully hardened and precision-ground.
- Carbide-tipped.
- Concentricity tolerance ≤ 0.8 µm.

Delivery:
1x centring point MK 2.

Notes:
Supplied without draw-off nut.



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Morse taper size		MK 2	MK 3	MK 4	MK 5
D (mm)		7	11	14	18
A (mm)		48	57	72.5	87.5
Nut for removing spindles		M22 x 1.5	M27 x 1.5	M36 x 1.5	M48 x 1.5
Concentricity tolerance (mm)		0.008	0.008	0.008	0.008
22121...	Ident. No.	120 ●	130 ●	140 ●	150 ●

Prod. Gr. 2AA

BRUCKNER® draw-off nut DIN 807 for fixed centring points

Application:
Draw-off nut for no. 22121.

Delivery:
1x draw-off nut.

Morse taper size		MK 2	MK 3	MK 4	MK 5
Nut for removing spindles		M22 x 1.5	M27 x 1.5	M36 x 1.5	M48 x 1.5
22122...	Ident. No.	120 ●	130 ●	140 ●	150 ●

Prod. Gr. 2AA

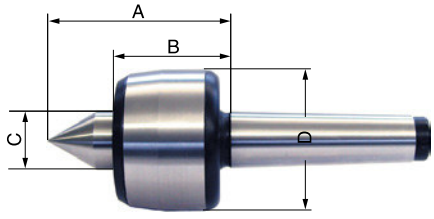
ORION® Revolving centring tips

With extended moving point

Execution:
- Tip angle 60°.
- Moving point is hardened and can be reground multiple times.

Advantage:
- Precision roller bearings ensure a high level of concentricity.
- Special seal prevents the ingress of dirt and coolant.
- Maintenance-free owing to permanent lubrication.

Delivery:
1x revolving centring point.



Morse taper size		MK 1	MK 2	MK 3	MK 4	MK 5
Programming dimension A (mm)		60.5	65	79.5	103	129
Programming dimension for housing B (mm)		43.5	41	48.5	61.5	78.5
Max. workpiece weight (kg)		100	200	500	800	2000
Max. rotation speed (rpm)		7000	7000	5000	3800	3000
Angle (Degree)		60	60	60	60	60
Concentricity tolerance (mm)		0.01	0.005	0.005	0.005	0.005
Ø of housing D (mm)		36	45	60	70	90
Point Ø C (mm)		15	20	25	32	40
22124...	Ident. No.	110 ○	120 ●	130 ●	140 ●	150 ●

Prod. Gr. 211

Revolving centring points
With shock absorber

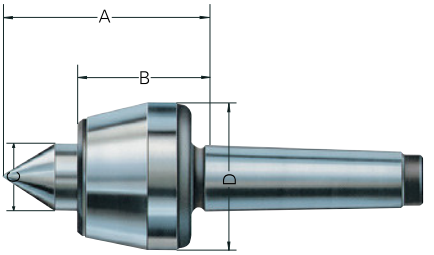
Application:
For fine turning, rough machining and copying on lathes.

Execution:
- Tip angle 60°.
- Bearings supported on a spring pack for impact absorption.
- Body and moving point are hardened and ground.
- Moving point can be reground multiple times.
- For absorbing impact loads and compensating for linear expansion.

Advantage:
- Special seal prevents the ingress of dirt and coolant.
- Precision roller bearings ensure a high level of concentricity.
- Maintenance-free owing to permanent lubrication.

Delivery:
1x revolving centring point.

Ident. No. 035–060



Morse taper size		MK 1	MK 2	MK 3	MK 3	MK 4	MK 5	MK 6
Programming dimension A (mm)		60.5	65	70.5	79.5	102.5	129	152
Programming dimension for housing B (mm)		43.5	41	43	48.5	61.5	78.5	94.5
Max. workpiece weight (kg)		100	200	400	500	800	2000	3500
Max. rotation speed (rpm)		7000	7000	6300	5000	3800	3000	2600
Angle (Degree)		60	60	60	60	60	60	60
Concentricity tolerance (mm)		0.005	0.005	0.005	0.005	0.005	0.005	0.01
Ø of housing D (mm)		36	45	50	60	70	90	105
Point Ø C (mm)		15	20	22	25	32	40	50
22126...	Ident. No.	010 ●	020 ○	030 ●	035 ○	040 ●	050 ●	060 ●

Prod. Gr. 201

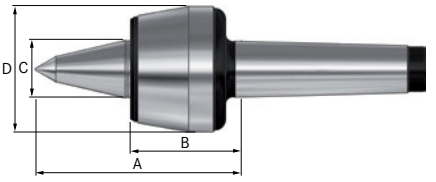
Revolving centring points
With extended moving point

Application:
For fine turning, rough machining and copying on lathes.

Execution:
- With extended moving point 60°/30°.
- Body and moving point are hardened and ground.
- Moving point can be reground multiple times.

Advantage:
- Special seal prevents the ingress of dirt and coolant.
- Precision roller bearings ensure a high level of concentricity.
- Maintenance-free owing to permanent lubrication.

Delivery:
1x revolving centring point.



Morse taper size		MK 2	MK 3	MK 4	MK 5
Programming dimension A (mm)		75	95.5	114.5	143.5
Programming dimension for housing B (mm)		41	48.5	61.5	78.5
Max. workpiece weight (kg)		140	400	500	1200
Max. rotation speed (rpm)		7000	3800	3800	3000
Concentricity tolerance (mm)		0.005	0.005	0.005	0.005
Ø of housing D (mm)		45	60	70	90
Point Ø C (mm)		20	25	32	40
22127...	Ident. No.	020 ○	035 ●	040 ●	050 ●

Prod. Gr. 201

BRUCKNER® Revolving high-performance tips

With reinforced bearings

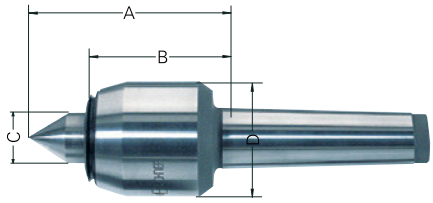
Application:
For use in conjunction with conventional turning, CNC turning, rough machining and smoothing.

Execution:
- 60° moving point.
- For all turning operations (roughing, finishing and fine turning).
- Precision and rough machining of medium-sized components.
- Hardened and precision-ground.

Advantage:
- Long service life.
- Concentricity guaranteed with test report.
- Maintenance-free owing to permanent lubrication.
- Reinforced and hard-wearing precision bearings to absorb radial and axial forces.

Delivery:
1x revolving high-performance tips.

Notes:
Bokö system high-performance live points on request. For grinding and testing with a concentricity tolerance of 0.003 mm on request.



Morse taper size		MK 2	MK 3	MK 3	MK 4	MK 4	MK 5	MK 6
Programming dimension A (mm)		82	84	102	102	121	160	179
Programming dimension for housing B (mm)		57	59	67	67	78	100	115
Max. workpiece weight (kg)		280	400	525	700	1000	2000	3500
Max. rotation speed (rpm)		5500	5500	5000	5000	4000	3500	2300
Angle (Degree)		60	60	60	60	60	60	60
Concentricity tolerance (mm)		0.005	0.005	0.005	0.005	0.005	0.005	0.005
Ø of housing D (mm)		45	45	58	58	76	95	120
Point Ø C (mm)		20	20	25	25	35	45	58
22130...	Ident. No.	020 ○	030 ●	035 ○	040 ●	045 ●	050 ●	060 ●

Prod. Gr. 2AA

ROHM Slim revolving centring point

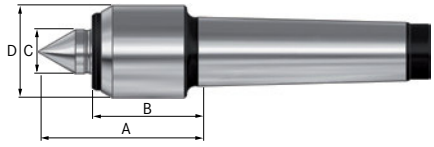
Centring point with small housing diameter

Application:
For mounting and supporting long and projecting lathe parts with centre drill hole to avoid imbalance and to encourage stabilisation.

Execution:
- Tip angle 60°.
- Precision and rough machining of universal components.
- Hardened and ground.
- Moving point can be replaced.

Advantage:
- Particularly favourable where conditions on the lathe are confined.
- Precision roller bearings ensure a high level of concentricity.

Delivery:
1x revolving centring point.



Morse taper size		MK 2	MK 3	MK 4	MK 5
Programming dimension A (mm)		62	62	75.5	106
Programming dimension for housing B (mm)		44	44	50.5	70
Max. workpiece weight (kg)		200	400	800	1600
Max. rotation speed (rpm)		7000	7000	6300	4300
Angle (Degree)		60	60	60	60
Concentricity tolerance (mm)		0.005	0.005	0.005	0.01
Ø of housing D (mm)		32	34	42	58
Point Ø C (mm)		15	15	20	30
22132...	Ident. No.	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 201

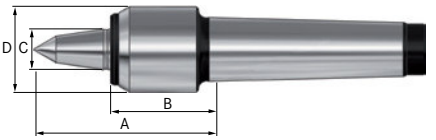
Slim synchronously revolving centring point with extended moving point, 60°/30°

Application:
For mounting and supporting long and projecting lathe parts with centre drill hole to avoid imbalance and to encourage stabilisation.

Execution:
- With extended moving point 60°/30°.
- Body and moving point are hardened and ground.

Advantage:
- Particularly favourable where conditions on the lathe are confined.
- Precision roller bearings ensure a high level of concentricity.

Delivery:
1x revolving centring point.



Morse taper size		MK 2	MK 3	MK 4	MK 5
Programming dimension A (mm)		73	74	88.5	119
Programming dimension for housing B (mm)		44	44	50.5	70
Max. workpiece weight (kg)		170	340	700	1400
Max. rotation speed (rpm)		7000	7000	6300	4300
Concentricity tolerance (mm)		0.008	0.008	0.008	0.01
Ø of housing D (mm)		32	34	42	58
Point Ø C (mm)		15	15	20	30
22133...	Ident. No.	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 201

Synchronously revolving centring point, for interchangeable inserts

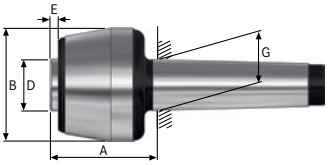
Without insert

Application:
For rough machining and fine turning in general turning operations.

Execution:
- Body hardened and ground.

Advantage:
- Very flexible thanks to interchangeable inserts.

Delivery:
1x revolving centring point.



Morse taper size		MK 2	MK 3	MK 3	MK 4	MK 5
Programming dimension A (mm)		45	55	48	67	85
Programming dimension for housing B (mm)		43	58.5	48.5	68.5	88.5
Max. workpiece weight (kg)		40	150	130	250	650
Concentricity tolerance (mm)		0.01	0.01	0.01	0.01	0.01
Ø of housing D (mm)		45	55	48	67	85
22144...	Ident. No.	020 ●	030 ●	035 ●	040 ●	050 ○

Prod. Gr. 201

Ejector for revolving centring points

Application:
For ejecting exchangeable inserts.

Execution:
- Hardened and ground.

Delivery:
1x ejector for centring point.

For Morse taper size		MK 2	MK 3 | MK 4	MK 5
22146...	Ident. No.	020 ●	030 ●	050 ●

Prod. Gr. 201

Revolving self-centring taper, blunt version, taper angle 60°

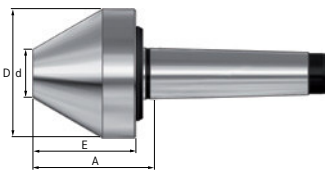
Blunt version, 60° taper angle

Application:
For holding hollow bodies and tubes for lathe machining.

Execution:
- Body type: blunt taper.
- 60° taper angle.
- Self-centring taper and cone shank are fully hardened and precision-ground.

Advantage:
- Maintenance-free owing to permanent lubrication.

Delivery:
1x synchronous running self-centring taper MK 2.



Morse taper size		MK 2	MK 3	MK 4	MK 4	MK 5
Ø of housing D (mm)		50	80	80	120	120
Point Ø d (mm)		20	30	30	30	30
Programming dimension A (mm)		65	77	78.5	98	99
Taper length E (mm)		52	64	64	83	83
Max. workpiece weight (kg)		200	400	400	800	800
Taper angle (Degree)		60	60	60	60	60
Concentricity tolerance (mm)		0.008	0.008	0.008	0.008	0.008
22176...	Ident. No.	020 ○	030 ○	040 ●	045 ○	050 ○

Prod. Gr. 201

Revolving self-centring taper, blunt version, taper angle 75°

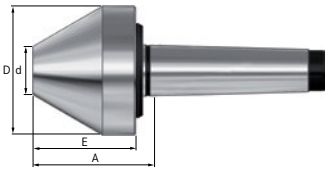
Blunt version, 75° taper angle

Application:
For holding hollow bodies and tubes for lathe machining.

Execution:
- Body type: blunt taper.
- 75° taper angle.
- Self-centring taper and cone shank are fully hardened and precision-ground.

Advantage:
- Maintenance-free owing to permanent lubrication.

Delivery:
1x synchronous running self-centring taper MK 3.



Morse taper size		MK 3	MK 3	MK 4	MK 4
Ø of housing D (mm)		80	120	80	120
Point Ø d (mm)		20	30	30	50
Programming dimension A (mm)		80	85.5	81.5	87
Taper length E (mm)		67	72	83	90
Concentricity tolerance (mm)		0.008	0.008	0.008	0.008
Max. workpiece weight (kg)		400	600	400	800
22176...	Ident. No.	130 ○	135 ○	140 ○	143 ○

Morse taper size		MK 4	MK 5	MK 5
Ø of housing D (mm)		170	120	170
Point Ø d (mm)		30	30	50
Programming dimension A (mm)		107	88	106
Taper length E (mm)		72	83	90
Concentricity tolerance (mm)		0.01	0.008	0.01
Max. workpiece weight (kg)		1200	800	1600
22176...	Ident. No.	145 ○	150 ○	155 ○

Prod. Gr. 201

CoA face driver set

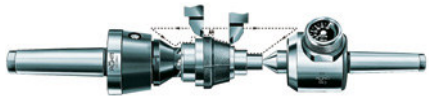
Diameter of clamping circle 12-50 mm, turning range 13-100 mm

Application:
For stripping workpieces across the whole length without reclamping.

Execution:
- Tip angle 60°.
- Max. workpiece weight 100 kg.
- Centring point diameters of 6 mm and 12 mm.

Advantage:
- Fast retooling to different workpiece diameters by changing the driving discs.
- The centring point can be easily reground.
- The driving disc adapts to unevenness of up to 5° angled workpiece faces thanks to the hydraulic pressure compensation of the 3 support pistons.
- The preloaded and axially adjustable Belleville washer pack compensates for varying centre depths.

Delivery:
1x RÖHM CoA face driver MK 3 for clockwise rotation.



Appropriate centring points on request

p. 952

Taper shank size		3	4
Min. turning range Ø (mm)		12	12
Max. turning range Ø (mm)		100	100
Min. clamping circuit Ø (mm)		12	12
Max. clamping circuit Ø (mm)		50	50
Direction of rotation		Clockwise rotation	Clockwise rotation
22208...	Ident. No.	230 ○	240 ○

Prod. Gr. 204

Driving discs, individual

Accessories for CoA face driver

Application:
For driving cylindrical components.

Execution:
- Driving disc directly toothed.

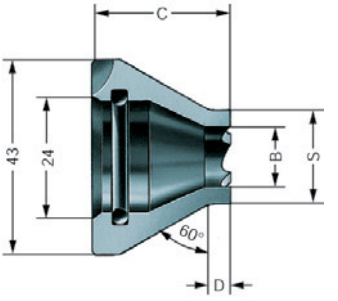
Delivery:
1x driving disc.

Notes:
Driving discs with interchangeable cemented carbide driving plates on request.

S (mm)	Min./max. turning range Ø	Suitable tip Ø (mm)	C (mm)	Direction of rotation	22208... Ident. No.	
8	9-16 mm	4	38	Anti-clockwise rotation	408	●
10	11-20 mm	4	38	Anti-clockwise rotation	410	●
12	13-24 mm	6	36	Anti-clockwise rotation	412	●
16	17-32 mm	10	33	Anti-clockwise rotation	416	●
20	21-40 mm	12	30	Anti-clockwise rotation	420	●
25	26-50 mm	16	30	Anti-clockwise rotation	425	●
32	33-64 mm	16	30	Anti-clockwise rotation	432	○
10	11-20 mm	4	38	Clockwise rotation	310	○
8	9-16 mm	4	38	Clockwise rotation	308	●
12	13-24 mm	6	36	Clockwise rotation	312	●
16	17-32 mm	10	33	Clockwise rotation	316	●
20	21-40 mm	12	30	Clockwise rotation	320	●
25	26-50 mm	16	30	Clockwise rotation	325	●
32	33-64 mm	16	30	Clockwise rotation	332	●

Prod. Gr. 204

Ident. No. 408–432



p. 952

Centring point, individual

Accessories for CoA face driver

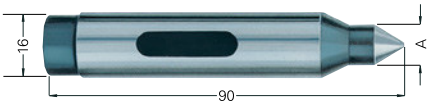
Application:
For compensating for different workpiece centres.

Execution:
- Tip angle 60°.

Advantage:
- Suitable for all basic body sizes.

Delivery:
1x centring point.

Notes:
Centring points with head on request.



A (mm)		4	6	10	12	16
22208...	Ident. No.	604 ●	606 ●	610 ○	612 ○	616 ●

Prod. Gr. 204

Reversible jaws DB, one piece

For 3-jaw lathe chuck

Application:
For clamping workpieces on jaw chucks.

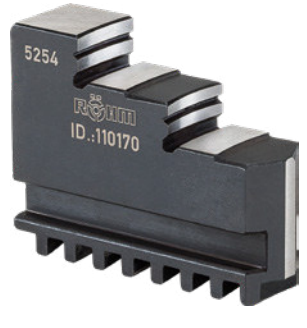
Execution:
- stepped on the inside
- hardened

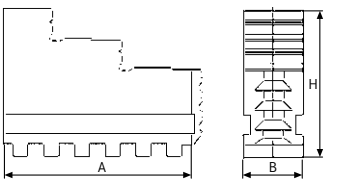
Delivery:
All sets feature 3 pieces.

Notes:
Grinding down in chuck necessary to achieve precise concentricity.

For chuck Ø		80 mm	100 mm	160 mm	200 mm	250 mm	315 mm
A (mm)		37	48	61	69	90	130
B (mm)		12	14	18	20	24	34
H (mm)		26	33.5	47.5	53.5	67.5	79.5
22389...	Ident. No.	010 ○	020 ○	040 ●	050 ○	060 ○	070 ○

Prod. Gr. 203





Reversible jaws BB, one piece

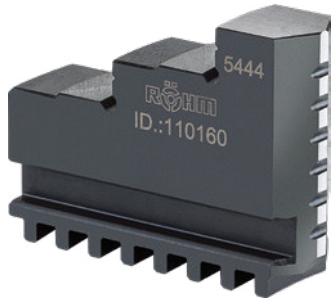
For 3-jaw lathe chuck

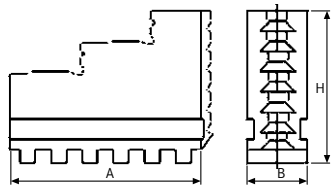
Application:
For clamping workpieces on jaw chucks.

Execution:
- stepped towards the inside
- hardened

Delivery:
All sets feature 3 pieces.

Notes:
Grinding down in chuck necessary to achieve precise concentricity.





For chuck Ø		80 mm	100 mm	125 mm	160 mm
A (mm)		37	48	52	61
B (mm)		12	14	18	18
H (mm)		26	33.5	41.5	47.5
22389...	Ident. No.	510 ○	520 ○	530 ●	540 ●

For chuck Ø		200 mm	250 mm	315 mm
A (mm)		69	90	130
B (mm)		20	24	34
H (mm)		53.5	67.5	79.5
22389...	Ident. No.	550 ●	560 ●	570 ○

Prod. Gr. 203

Block jaws, one-piece, unstepped, BL

For 3-jaw lathe chuck

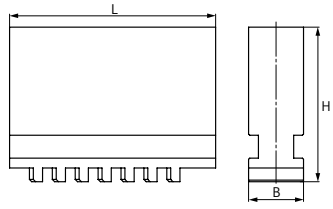
Application:
For clamping workpieces on jaw chucks.

Execution:
- For screwing onto plain jaws.
- Material 16MnCr 5
- soft
- can be hardened

Advantage:
- subsequent machining possible as well as adaptation of shape to workpieces
- High precision by unscrewing the jaws in the chuck

Delivery:
All sets feature 3 pieces.

Notes:
Grinding down in chuck necessary to achieve precise concentricity.
Jaw width: Dimensions not included in diagram.



For chuck Ø		80 mm	100 mm	125 mm	160 mm
A (mm)		37	48	52	61
B (mm)		12	14	18	18
H (mm)		26	33.5	41.5	47.5
Design		Unhardened	Unhardened	Unhardened	Unhardened
22391...	Ident. No.	010 ●	020 ●	030 ●	040 ●

For chuck Ø		200 mm	250 mm	315 mm
A (mm)		69	90	130
B (mm)		20	24	34
H (mm)		53.5	67.5	79.5
Design		Unhardened	Unhardened	Unhardened
22391...	Ident. No.	050 ●	060 ●	070 ○

Prod. Gr. 203

GB plain jaw set

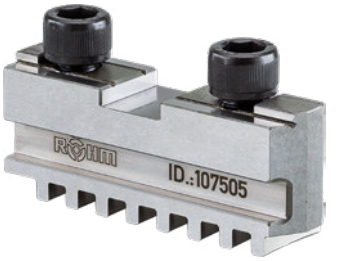
For 3-jaw lathe chuck

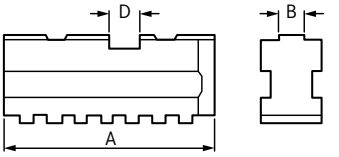
Application:
Carrier jaw for mounting reverse top jaws or unstepped interchangeable jaw grips.

Execution:
- Hardened

Delivery:
All sets feature 3 pieces, including the screws.

Notes:
Grinding down in chuck necessary to achieve precise concentricity.
Jaw width: Dimensions not included in diagram.





For chuck Ø		100 mm	125 mm	160 mm	200 mm	250 mm	315 mm
A (mm)		46	55	65	78	92	108
Jaws width (mm)		14	18	18	20	24	34
B (mm)		7.94	7.94	7.94	7.94	12.7	12.7
D (mm)		9.5	12.68	12.68	12.68	19.03	19.03
22412...	Ident. No.	020 ○	030 ○	040 ●	050 ●	060 ●	070 ○

Prod. Gr. 203

p. 954

Interchangeable jaw grip, unstepped

For 3-jaw lathe chuck

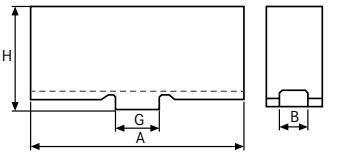
Application:
For clamping workpieces on jaw chucks.

Execution:
- For screwing onto plain jaws.
- soft
- can be hardened

Advantage:
- subsequent machining possible as well as adaptation of shape to workpieces
- high precision by unscrewing the jaws in the chuck

Delivery:
All sets feature 3 pieces, including the screws.

Notes:
Grinding down in chuck necessary to achieve precise concentricity.
Jaw width: Dimensions not included in diagram.



For chuck Ø		125 mm	160 mm	200 mm	250 mm	315 mm	400 mm
B (mm)		7.96	7.96	7.96	12.72	12.72	12.72
A (mm)		62	74	87	103	120	137
Jaws width (mm)		26.5	28.5	30.5	36.5	42.5	42.5
H (mm)		38	42	43	53	58	65
G (mm)		12.68	12.68	12.68	19.03	19.03	19.03
Design		Unhardened	Unhardened	Unhardened	Unhardened	Unhardened	Unhardened
22416...	Ident. No.	030 ○	040 ●	050 ●	060 ●	070 ●	080 ○

Prod. Gr. 203

ORION® Scroll chuck

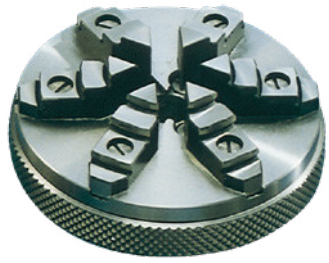
Application:
Suitable for individual or series parts for small workpieces with thin walls as well as for use as a workpiece holder on drilling and grinding machine tables.

Execution:
- Steel body
- Jaws are case-hardened and reversible
- Ref. no. 010/020 with 3 jaws, ref. no. 040 with 6 jaws.
- Chuck with soft jaws
- Chuck with collet holder or Morse taper shank
- Centric clamping
- See table:
- Clamping range min./max.= internal clamping
- Clamping range 2 min./max. = external clamping

Delivery:
Chuck JF ultra-flat, incl. a set of reversible, case-hardened interchangeable jaw grips type D

Notes:
Chucks available as 3-jaw or 6-jaw design, also corrosion-protected. Chucks with aluminium body available; quote on request.

Ident. No. 010–020



Ident. No. 040

Number of jaws (PCS)		3	3	6
E (mm)		57	72	102
A (mm)		55	70	100
Min./max. clamping range 2		1-61 mm	1-71 mm	1.5-99.5 mm
B (mm)		8	8	10
Min./max. clamping range		13-50 mm	17-64 mm	27-96 mm
C (mm)		13.8	15.7	18.2
F (mm)		10	11	12
G (mm)		2.5	2.5	3
H (mm)		14.5	17	18.8
N (mm)		-	-	7
O (mm)		32	37	42
P (mm)		20	22	25
Rotation speed		2500	2500	2000
22380...	Ident. No.	**010** ●	**020** ●	**040** ●

Prod. Gr. 220

fastening screws

Additional and replacement jaws

Execution:
- For hand chucks no. 22425-22426, 22427-22428
- For use on SCHUNK ROTA-S plus, RÖHM DURO-T and FORKARDT F plus hand chucks.

Delivery:
All sets have 3 pieces

For chuck Ø		125 mm	160 mm | 200 mm	250 mm	315 mm	400 mm | 500 mm
Thread dimension		M6 x 1	M8 x 1	M12 x 1.5	M12 x 1.5	M16 x 1.5
22443...	Ident. No.	**030** ○	**040** ●	**060** ●	**070** ○	**080** ○

Prod. Gr. 222

RÖHM Safety chuck wrench, spring-loaded, with ejector

For lathe chucks with square socket

Application:
The key has to be firmly pressed into the chuck drive and held there until the clamping procedure is complete. When the pressure is relieved, the key is automatically ejected.

Execution:
- Ref. no. 080-170 with sliding sleeve, for lathe chucks with female square drive.

Ident. No. 090–140

For chuck Ø		100 mm | 110 mm	125 mm | 140 mm	160 mm	200 mm	250 mm	315 mm | 350 mm	400 mm
For lathe chucks with inner square (mm)		8	9	10	11	12	14	17
Length (mm)		130	130	160	160	160	200	250
22471...	Ident. No.	**080** ●	**090** ●	**100** ●	**110** ●	**120** ●	**140** ●	**170** ○

Prod. Gr. 203

Safety wrench

For lathe chucks with square drive

Application:
The key has to be firmly pressed into the chuck drive and held there until the clamping procedure is complete. When the pressure is relieved, the key is automatically ejected.

Execution:
- Ref. no. 210-219 with ejector pin, for lathe chucks with male square drive (tapered rod chuck)

For chuck Ø		160 mm	200 mm	250 mm	315 mm	400 mm
For lathe chucks with external square (mm)		10	12	14	17	19
Length (mm)		140	160	220	230	250
22471...	Ident. No.	**210** ●	**212** ●	**214** ●	**217** ○	**219** ○

Prod. Gr. 202

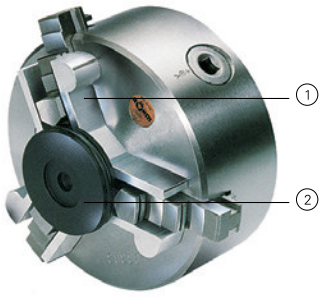
ORION® Workpiece stop

Application:
For clamping short parts on lathe chucks.

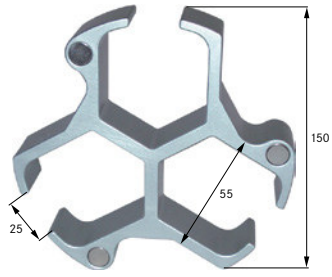
Execution:
- Fastened with 3 magnets that are built into the limit stop by simply placing on the lathe chuck body.
- Stop is coloured blue
- Contact surfaces are polished
- Material: aluminium

Notes:
Workpiece stop is suitable for 3-jaw chucks with jaw width up to 25 mm, but can be easily milled so that it also fits larger jaws up to 55 mm, for workpiece diameter 15-130 mm

Ident. No. 015



1 = Workpiece stop
2 = Workpiece



Workpiece stop

Workpiece stopper height		15 mm	20 mm	25 mm	30 mm	35 mm
Min. jaw width (mm)		25	25	25	25	25
Max. jaw width (mm)		55	55	55	55	55
For min./max. workpiece Ø		15-130 mm	15-130 mm	15-130 mm	15-130 mm	15-130 mm
22474...	Ident. No.	**015** ●	**020** ●	**025** ●	**030** ●	**035** ●

Prod. Gr. 264

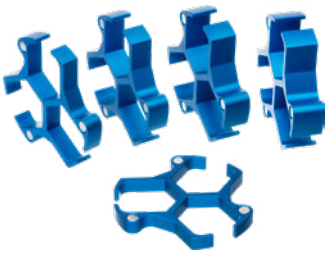
ORION® Workpiece stop set

Application:
For clamping short parts on lathe chucks.

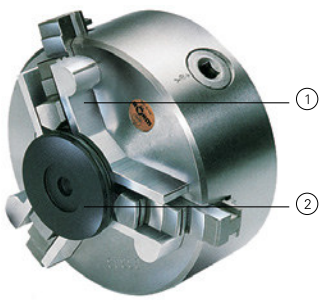
Execution:
- Fastened with 3 magnets that are built into the limit stop by simply placing on the lathe chuck body.
- Stop is coloured blue
- Contact surfaces are polished
- Material: aluminium

Delivery:
Complete set in wooden case

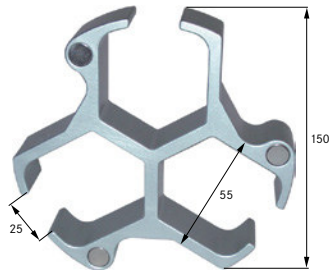
Notes:
Workpiece stop is suitable for 3-jaw chucks with jaw width up to 25 mm, but can be easily milled so that it also fits larger jaws up to 55 mm, for workpiece diameter 15-130 mm



Workpiece stop set



1 = Workpiece stop
2 = Workpiece



Workpiece stop

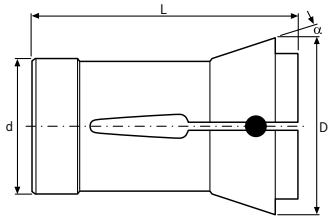
Workpiece stopper height		15 mm | 20 mm | 25 mm | 30 mm | 35 mm
Min. jaw width (mm)		25
Max. jaw width (mm)		55
For min./max. workpiece Ø		15-130 mm
22474...	Ident. No.	100 ●

Prod. Gr. 264

ORION® Pressure collet chuck DIN6343 173E with square profile (DIN 173)

Execution:
- hardened and ground
- clamping bridge max. 0.1 mm of the nominal diameter
- Concentricity
- Ø 1-10 mm ≤ 20 µm
- Ø 11-30 mm ≤ 30 µm
- Ø 31-60 mm ≤ 40 µm
- Other designs and complete sets can be supplied on request.

Notes:
ref. no. 23354040-300 = collet chucks with square profile, available from size 4 - 30 mm
Tips for ordering:
5-digit item no. (23354) for collet chucks with square profile
Example: collet chuck, square profile with size 17 mm = order no. 23354170



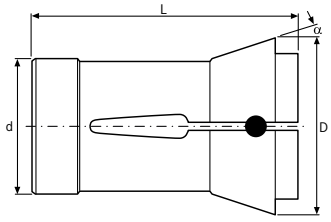
Outer Ø D (mm)	60		60	
Ø d (mm)	48		48	
Length L (mm)	94		94	
Profile shape	Square and smooth		Square with transverse grooves	
DIN	173		173	
Width across flats SW	23354... Ident. No.		23354... Ident. No.	
6 mm	060	○	-	-
7 mm	070	○	-	-
8 mm	080	○	-	-
9 mm	090	○	-	-
10 mm	100	○	-	-
11 mm	110	○	-	-
12 mm	120	○	-	-
13 mm	-	-	130	○
14 mm	-	-	140	○
15 mm	-	-	150	●
16 mm	-	-	160	○
17 mm	-	-	170	○
18 mm	-	-	180	○
19 mm	-	-	190	○
20 mm	-	-	200	○
22 mm	-	-	220	○
24 mm	-	-	240	○
25 mm	-	-	250	○
26 mm	-	-	260	○
28 mm	-	-	280	○
30 mm	-	-	300	○

Prod. Gr. 2AE

ORION® Pressure collet chuck DIN6343 173E with hexagonal profile (DIN 173)

Execution:
- hardened and ground
- clamping bridge max. 0.1 mm of the nominal diameter
- Concentricity
- Ø 1-10 mm ≤ 20 µm
- Ø 11-30 mm ≤ 30 µm
- Ø 31-60 mm ≤ 40 µm
- Other designs and complete sets can be supplied on request.

Notes:
ref. no. 23353540-860 = collet chucks with square profile, available from size 4 - 36 mm
Tips for ordering:
5-digit item no. (23353) for collet chucks with square profile
Example: Collet chuck with hexagonal profile with size 17 mm = order no. 23353670.



Outer Ø D (mm)	60		60	
Ø d (mm)	48		48	
Length L (mm)	94		94	
Profile shape	Hexagon and smooth		Hexagon with transverse grooves	
DIN	173		173	
Width across flats SW	23353... Ident. No.		23353... Ident. No.	
4 mm	540	○	-	-
5 mm	550	○	-	-
6 mm	560	○	-	-
7 mm	570	○	-	-
8 mm	580	○	-	-
9 mm	590	○	-	-
10 mm	600	●	-	-
11 mm	610	○	-	-

Outer Ø D (mm)	60		60	
Ø d (mm)	48		48	
Length L (mm)	94		94	
Profile shape	Hexagon and smooth		Hexagon with transverse grooves	
DIN	173		173	
Width across flats SW	23353... Ident. No.		23353... Ident. No.	
12 mm	620	○	-	-
13 mm	-	-	630	●
14 mm	-	-	640	○
15 mm	-	-	650	●
16 mm	-	-	660	○
17 mm	-	-	670	●
18 mm	-	-	680	○
19 mm	-	-	690	●
20 mm	-	-	700	○
21 mm	-	-	710	○

Prod. Gr. 2AE

ORION® Pressure collet chuck DIN6343 185E, round

Execution:

- hardened and ground
- clamping bridge max. 0.1 mm of the nominal diameter
- concentricity
- Ø 1-10 mm ≤ 20 µm
- Ø 11-30 mm ≤ 30 µm
- Ø 31-60 mm ≤ 40 µm
- up to Ø 8 mm smooth bore, from Ø 9 mm with crosswise grooves

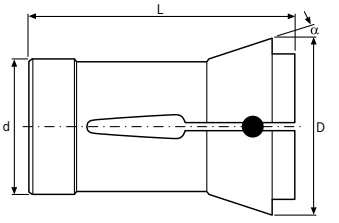
Notes:

Ref. no. 23354330-23354900 = collet chucks with round profile, available from Ø3 - 60 mm with 1.0 mm increments.

Tips for ordering:

5-digit item no. (23354) for collet chucks with round profile

Example: collet chuck Ø 14 mm = order no. 23354440



Outer Ø D (mm)	84		84	
Ø d (mm)	66		66	
Length L (mm)	110		110	
Profile shape	Round and smooth		Round with transverse grooves	
Clamping Ø (mm)	23354... Ident. No.		23354... Ident. No.	
4.0	340	○	-	-
5.0	350	○	-	-
6.0	360	●	-	-
7.0	370	○	-	-
8.0	380	●	-	-
9.0	-	-	390	○
10.0	-	-	400	●
11.0	-	-	410	○
12.0	-	-	420	●
13.0	-	-	430	○
14.0	-	-	440	○
15.0	-	-	450	○
16.0	-	-	460	●
17.0	-	-	470	○
18.0	-	-	480	●
19.0	-	-	490	○
20.0	-	-	500	●
21.0	-	-	510	●
22.0	-	-	520	●
23.0	-	-	530	○
24.0	-	-	540	○
25.0	-	-	550	●
26.0	-	-	560	●
27.0	-	-	570	●
28.0	-	-	580	○
29.0	-	-	590	○
30.0	-	-	600	●
31.0	-	-	610	●

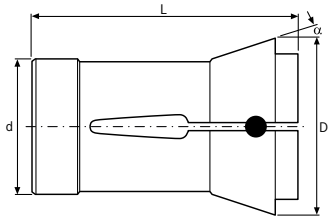
Outer Ø D (mm)	84		84	
Ø d (mm)	66		66	
Length L (mm)	110		110	
Profile shape	Round and smooth		Round with transverse grooves	
Clamping Ø (mm)	23354... Ident. No.		23354... Ident. No.	
32.0	-	-	620	●
33.0	-	-	630	○
34.0	-	-	640	●
35.0	-	-	650	●
36.0	-	-	660	●
37.0	-	-	670	○
38.0	-	-	680	○
39.0	-	-	690	○
40.0	-	-	700	●
41.0	-	-	710	●
42.0	-	-	720	○
43.0	-	-	730	○
44.0	-	-	740	○
45.0	-	-	750	○
46.0	-	-	760	○
48.0	-	-	780	○
49.0	-	-	790	○
50.0	-	-	800	○
51.0	-	-	810	●
52.0	-	-	820	○
53.0	-	-	830	○
54.0	-	-	840	○
55.0	-	-	850	●
56.0	-	-	860	○
57.0	-	-	870	○
58.0	-	-	880	○
59.0	-	-	890	○
60.0	-	-	900	●

Prod. Gr. 2AE

ORION® Pressure collet chuck DIN 6343 185 E, square

Execution:
- Hardened and ground
- Clamping bridge max. 0.1 mm of the nominal diameter
- Concentricity
- Ø 1-10 mm ≤ 20 µm
- Ø 11-30 mm ≤ 30 µm
- Ø 31-60 mm ≤ 40 µm
- Other designs and complete sets can be supplied on request.
- 23355990 is an emergency collet chuck

Delivery:
Ref. no. 23355640-23356000 = collet chucks with square profile, available from Ø4 - 40 mm.
Tips for ordering:
5-digit item no. (23355) for collet chucks with square profile
Example: collet chuck size 16 mm = order no. 23355760, example: collet chuck size 20 mm = order no. 23355800
Example: collet chuck size 40 mm = order no. 23356000

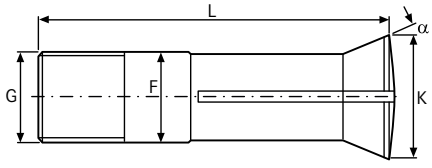


Outer Ø D (mm)	84		84	
Ø d (mm)	66		66	
Length L (mm)	110		110	
Profile shape	Square and smooth		Square with transverse grooves	
Width across flats SW	23355... Ident. No.		23355... Ident. No.	
4 mm	640	○	-	-
5 mm	650	○	-	-
6 mm	660	○	-	-
7 mm	670	○	-	-
8 mm	680	○	-	-
9 mm	690	○	-	-
10 mm	700	○	-	-
11 mm	710	○	-	-
12 mm	720	○	-	-
13 mm	-	-	730	○
14 mm	-	-	740	○
15 mm	-	-	750	○
16 mm	-	-	760	○
20 mm	-	-	800	○
22 mm	-	-	820	○
24 mm	-	-	840	○
25 mm	-	-	850	○
28 mm	-	-	880	○
30 mm	-	-	900	○
32 mm	-	-	920	○
36 mm	-	-	960	○
-	-	-	990	○

Prod. Gr. 2AE

ORION® draw-in collet chuck DIN 6341 355 E

Delivery:
Ref. no. 23356010-180 = draw-in collet chucks with round profile, available from Ø1 - 18 mm with 0.5 mm increments.
Tips for ordering:
5-digit item no. (23356) for draw-in collet chucks with round profile
Example: draw-in collet chucks 10.5 mm = order no. 23356105



	DIN 6341 355 E	
Outer Ø D (mm)	28	
Ø d (mm)	20	
Length L (mm)	117.5	
Thread dimension G	SG 20 x 2	
Profile shape	Round and smooth	
Alpha angle	17° 30'	
Clamping Ø (mm)	23356... Ident. No.	
1.0	010	●
1.5	015	●
2.0	020	●
2.5	025	●
3.0	030	●
3.5	035	○
4.0	040	●
4.5	045	●
5.0	050	●
5.5	055	●
6.0	060	●
6.5	065	●

	DIN 6341 355 E	
Outer Ø D (mm)	28	
Ø d (mm)	20	
Length L (mm)	117.5	
Thread dimension G	SG 20 x 2	
Profile shape	Round and smooth	
Alpha angle	17° 30'	
Clamping Ø (mm)	23356... Ident. No.	
7.0	070	●
7.5	075	○
8.0	080	●
8.5	085	●
9.0	090	○
9.5	095	●
10.0	100	●
10.5	105	○
11.0	110	●
11.5	115	○
12.0	120	●
12.5	125	○

	DIN 6341 355 E	
Outer Ø D (mm)	28	
Ø d (mm)	20	
Length L (mm)	117.5	
Thread dimension G	SG 20 x 2	
Profile shape	Round and smooth	
Alpha angle	17° 30'	
Clamping Ø (mm)	23356... Ident. No.	
13.0	130	○
13.5	135	○
14.0	140	○
14.5	145	○
15.0	150	●
15.5	155	○
16.0	160	●
16.5	165	○
17.0	170	○
17.5	175	○
18.0	180	●

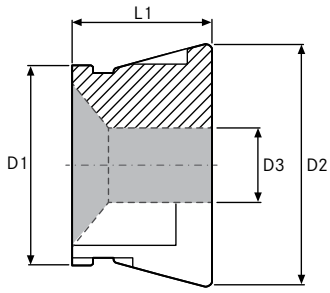
Prod. Gr. 2AE

ORION® Clamping heads SK65 round version

Application:
For versatile applications, machining centres, all common axial force clamping systems on lathes and vices, measuring machines and pallet clamping.

Execution:
- high-strength rubber/metal connection
- high retention forces
- Corrosion protection coating

Notes:
Version with transverse grooves and for multi-spindle lathes available on request. Sizes SK32, SK52 and SK80 round are available in the Hahn & Kolb online shop. All sizes from SK32 to SK80 are available in square and hexagon versions on request.



Size		65	
Design		Without stem	
Profile shape		Round and smooth	
D2 (mm)		99.65	
L1 (mm)		53	
D2 (mm)		22001... Ident. No.	
99.65		311	○

Prod. Gr. 2AO

ROHM Replacement device for Captis-M collet chucks

Size		42	52	65	80
23359...	Ident. No.	050 ○	051 ○	052 ○	053 ○

Prod. Gr. 2AK

ATORN Permanent-magnet clamping plates

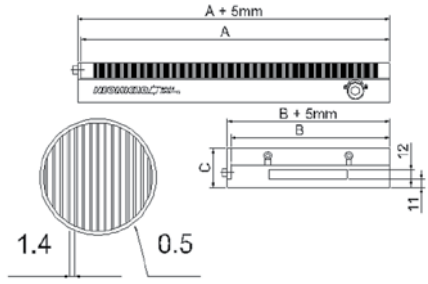
with particularly narrow transverse pole pitch

Application:
For high-precision grinding and eroding work.

Execution:
- Double neodymium magnetic system generates an adhesive force of up to 100 N/cm²
- Universal clamping of extremely small and thin or large workpieces
- Very robust structure with solid basic body and solid pole plate
- No deformation during switching operation due to special switching method
- Sealed against coolant and dielectric
- Easy switching using hex key

Delivery:
1x permanent magnet clamping plate; with 2 stop rails, 2 adjustable clamps and hex key, operating instructions

Notes:
Other sizes available on request.



A (mm)		150	175	200	250
B (mm)		150	100	100	150
Magnetic field height (mm)		6	6	6	6
Height (mm)		51	49	49	51
Pole pitch ST/NE		1.4/0.5 mm	1.4/0.5 mm	1.4/0.5 mm	1.4/0.5 mm
Pole plate thickness (mm)		20	20	20	20
Wear of pole surface (mm)		8	8	8	8
Weight (kg)		9	7	8	15
24314...	Ident. No.	**150** ●	**175** ●	**200** ●	**250** ●

A (mm)		350	400
B (mm)		150	200
Magnetic field height (mm)		6	6
Height (mm)		51	51
Pole pitch ST/NE		1.4/0.5 mm	1.4/0.5 mm
Pole plate thickness (mm)		20	20
Wear of pole surface (mm)		8	8
Weight (kg)		22	35
24314...	Ident. No.	**350** ●	**400** ●⁺

Prod. Gr. 280

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SAV NEOMILL permanent-magnet clamping plates

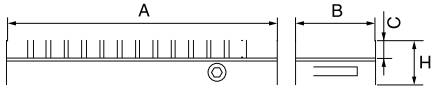
Application:
Suitable for heavy and rough machining. The dense, maximum
concentrated magnetic field allows applications for small,
medium and large workpieces, even with rough or uneven
surfaces.

Execution:
- With narrow transverse pole pitch.
- High-adhesion neodymium magnet system.
- The pole pitch allows universal clamping, even for workpieces with rough or uneven contact surfaces.
- Maximum stability due to single-piece housing and solid pole plate.
- ON/OFF switch via hand lever.
- In the OFF position, a weak opposing field facilitates the removal of workpieces.

Advantage:
- Double neodymium magnetic system for high adhesive force up to 150 N/cm².
- Adhesive force from 6 mm workpiece thickness.
- Sealed against dirt and coolant.

Delivery:
1x permanent magnet clamping plate; incl. adjustable clamps, hex key and instructions.

Notes:
Other dimensions on request.



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A (mm)		250	350	300	400	500	600
B (mm)		150	150	200	200	200	300
Magnetic field height (mm)		12	12	12	12	12	12
Height (mm)		57	57	60	60	60	64
Pole pitch ST/NE		12/3 mm	12/3 mm	12/3 mm	12/3 mm	12/3 mm	12/3 mm
Pole plate thickness (mm)		20	20	23	23	23	23
Wear of pole surface (mm)		5	5	5	5	5	5
Weight (kg)		17	24	26	35	44	67
24341...	Ident. No.	**110** ●	**120** ○	**140** ●	**150** ●⁺	**160** ○⁺	**170** ○⁺

Prod. Gr. 230

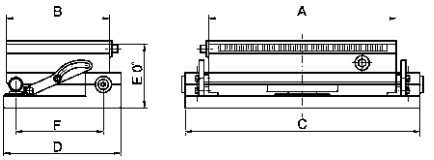
ATORN Sine bar with permanent-magnet clamping plate

Application:
For highly precise angle grinding, eroding work and measurements.

Execution:
- For very small to large workpieces
- Precision-ground steel base plate, 60 HRC hardened
- Angle setting with gauge blocks
- Clamping repeatability: 10 inch
- Clamping using retaining shears and upper guide shells
- Parallelism tolerance 0.010/100 mm
- Sealed against dirt and coolant
- Pivot range: 0° to 45°

Delivery:
1x permanent magnet clamping plate; with 2 stop rails, chuck wrench, operating instructions

Notes:
Delivered ex-works, postage and packaging excluded.



Swivel range 0° to 45°

A (mm)		140	175	250	350	450
B (mm)		70	100	150	150	150
C (mm)		170	215	290	390	490
D (mm)		100	115	165	165	165
E (mm)		68	77	79	87	87
Pole pitch ST/NE		1.4/0.5 mm	1.4/0.5 mm	1.4/0.5 mm	1.4/0.5 mm	1.4/0.5 mm
Magnetic field height (mm)		6	6	6	6	6
Nominal adhesive strength (N/cm²)		100	100	100	100	100
Roll distance (mm)		55	85	135	135	135
24351...	Ident. No.	210 ●	215 ●	235 ●	245 ●+	250 ○+

Prod. Gr. 280

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SAV Permanent-magnet round chuck NEOMICRO

With particularly narrow parallel pole pitch

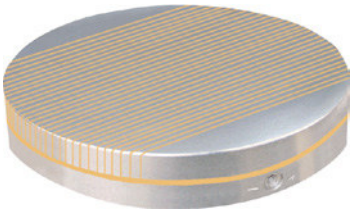
Application:
For clamping small and thin to medium-sized workpieces.

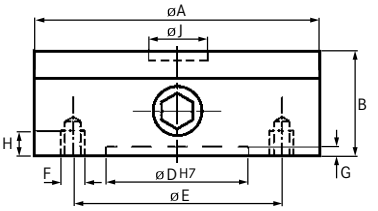
Execution:
- Powerful magnetic system with neodymium magnets and low magnetic field height of 8 mm.
- Infinitely variable adhesive force adjustment simplifies workpiece alignment.
- Machining on both sides at the centre of the pole plate is possible with dimension J.
- The micro pole pitch of this magnetic clamping plate makes it possible to clamp medium-sized as well as very flat turning, grinding and erosion parts.

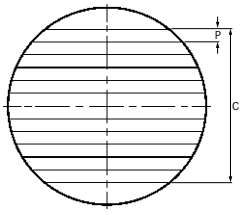
Advantage:
- The low magnetic field height is ideal for clamping very thin and small workpieces from a diameter of 150, nominal adhesive force 100 N/cm2 (where A = diameter 100: 70 N/cm2).
- The pole plate can also be machined with holes for driving pins and centring aids, max. incorporation 5 mm.
- Low profile and low weight.

Delivery:
1x permanent round magnet; incl. hex key.

Notes:
Available with flange on request.







A (mm)		100	150	200	250	300
B (mm)		50	50	57	57	62
D (mm)		60	110	150	200	250
G (mm)		4	4	4	4	4
E (mm)		85	142	180	232	285
C (mm)		77	117	154	192	227
P		0.5/1.4 mm	0.5/1.4 mm	0.5/1.4 mm	0.5/1.4 mm	0.5/1.4 mm
Wear of pole surface (mm)		5	5	5	5	5
Machining of pole panel, Ø x depth		20 x 14 mm	24 x 5 mm	200 x 5 mm	250 x 5 mm	300 x 5 mm
F		M8	M8	M8	M8	M8
Max. rotation speed (rpm)		780	680	600	500	450
Magnetic field height (mm)		8	8	8	8	8
Nominal adhesive strength (N/cm²)		70	100	100	100	100
Weight (kg)		3	9	15	20	31
24367...	Ident. No.	100 ●	150 ○	200 ○	250 ○	300 ○+

Prod. Gr. 230

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Permanent-magnet round chuck FERROMAX

With parallel pole pitch

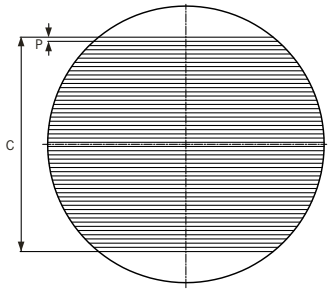
Application:
For clamping small to large workpieces for sanding and turning work.

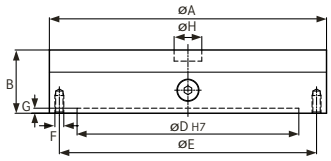
Execution:
- Powerful magnetic system with neodymium magnets
- and low magnetic field height.
- All sizes with 1 switching point. Magnetic force infinitely adjustable.
- Possibility of incorporating a centring hole.
- Concentric rings facilitate optical alignment of workpieces.

Advantage:
- Compact construction and hence low weight.
- Nominal adhesive force 150 N/cm², from diameter 250 mm nominal adhesive force 100 N/cm².

Delivery:
1 permanent round magnet; incl. operating key.

Notes:
Available with flange on request.





A (mm)		200	250	300	350	400
B (mm)		57	57	62	62	67
D (mm)		150	200	250	300	300
G (mm)		4	4	4	5	5
E (mm)		180	232	285	334	350
F		M8	M8	M8	M8	M10
C (mm)		146	198	228	288	318
P		8/3 mm	12/3 mm	12/3 mm	12/3 mm	12/3 mm
Max. rotation speed (rpm)		600	500	450	400	350
Wear of pole surface (mm)		6	6	6	6	6
Magnetic field height (mm)		10	10	10	10	10
Nominal adhesive strength (N/cm²)		120	150	150	150	150
Weight (kg)		13	20	31	43	60
24371...	Ident. No.	200 ●	250 ●	300 ○+	350 ○+	400 ○+

Prod. Gr. 230

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Permanent-magnet round chuck NEOSTAR

With radial pole pitch

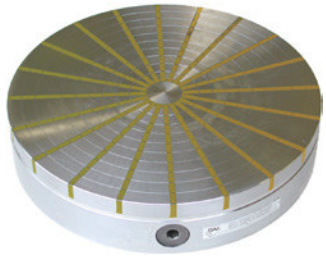
Application:
For round and ring-shaped workpieces.

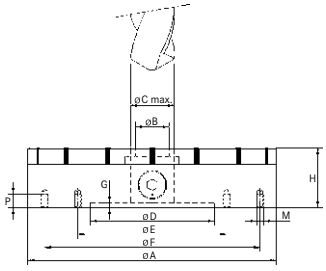
Execution:
- High magnetic force.
- Concentric rings allow easy alignment of workpieces.
- The magnetic field can be infinitely adjusted up to diameter 300 mm.
- Standard design without through-bore in the centre.

Advantage:
- Balanced design.
- Suitable for high rotation speeds.
- Infinitely variable adjustment of adhesive force.

Delivery:
1x permanent round magnet; incl. hex key.

Notes:
Delivered ex-works, postage and packaging excluded.





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A (mm)		350	300	250	200	150	400
H (mm)		73	73	70	57	57	75
D (mm)		170	150	80	60	50	200
B (mm)		40	40	30	28	20	40
C (mm)		58	58	50	30	24	58
F (mm)		300	260	220	180	120	340
M		M8	M8	M6	M6	M6	M8
E (mm)		220	180	140	110	80	260
Pole plate thickness (mm)		20	20	20	20	20	20
Wear of pole surface (mm)		5	5	5	5	5	10
Number of magnetic terminals (PCS)		20	16	16	12	10	20
Nominal adhesive strength (N/cm²)		100	100	100	100	100	100
Weight (kg)		49	30	20	13	7	75
24376...	Ident. No.	350 ○+	300 ○+	250 ●	200 ●	150 ●	400 ○+

Prod. Gr. 230

Permanent-magnet clamping blocks

With 4 magnetic clamping surfaces

Application:
For parallel and angular grinding of small and medium-sized workpieces.

Execution:
- For flat, angular, coordinate and profile grinding, countersinking and wire erosion, measuring and testing.
- With four magnetic clamping surfaces.
- Robust design with good magnetic force.
- Magnetic field height approx. 2 mm.
- Regrinding possible on all four sides up to the height of the two front panels.

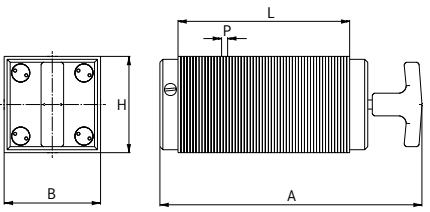
Advantage:
- Firm clamping for small and thin parts.
- Sealed to prevent fluid ingress.

Delivery:
1x permanent magnet clamping block.

Notes:
Ref. no. 030 stainless version with high-alloy chrome steel poles for use on wire eroding machines. Less suitable for grinding, as stainless steel version has reduced adhesive force.

A (mm)		140	160	140
L (mm)		115	135	115
B/H (mm)		65	65	65
Magnetic field height (mm)		2	2	2
P		2/2 mm	2/2 mm	2/2 mm
Nominal adhesive strength (N/mm²)		50	50	30
Max. wear of pole surface (mm)		4	4	4
Type		Standard	Standard	Stainless
24355...	Ident. No.	010	020	030
		●	●	○

Prod. Gr. 265



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Demagnetising devices

For connection to 230 V AC, 50 Hz, power-on time 100 % (50 % at full load)

Application:
For demagnetising.

Execution:
- For connection to 230 V AC, 50 Hz, power-on time 100 % (50 % at full load).
- Unlike other devices, the intensity of the magnetic field is increased automatically with these devices to correspond to the size of the workpiece, i.e. no workpiece equals low power consumption and low heat development. The devices are therefore also suitable for use underneath a conveyor belt. The devices are fitted with a signal lamp, toggle switch, 3 m cable and power plug.
- Workpieces machined on permanent magnet or electromagnetic clamping plates become slightly magnetised. Demagnetising devices are used to remove this magnetisation. The workpieces are placed on one pole of the device and pushed over to the other pole. The process must be repeated a few times depending on the size and shape of the parts. The plates must not be switched off until the workpieces have been removed, as otherwise they will be magnetised again.
- The demagnetising devices are suitable for
- use in measurement rooms, workshops and
- production lines and have a demagnetisation effect on bearing rings, stamps,
- dies and other tools.

Delivery:
1x demagnetising device incl. power plug and 3 m cable.

Notes:
Particularly ideal for demagnetising high-alloy steels, e.g. ring bearings, stamps and moulds.

Model		3	4	5
Length (mm)		250	200	400
Width (mm)		180	266	306
Height (mm)		87	87	87
Current consumption with workpiece (A)		4	4	4
Current consumption without workpiece (A)		1.5	1.5	1.5
Nominal voltage (V/AC)		230	230	230
Max. penetration depth (mm)		50	50	50
Weight (kg)		11	18	24
24491...	Ident. No.	130	140	150
		●	●	●

Prod. Gr. 230

Manual demagnetising device

For connection to 230 V AC, 50 Hz, degree of protection IP 40, power-on time 50 %

Application:
For demagnetising the surfaces of larger workpieces. Mobile use.

Execution:
- For connection to 230 V AC, 50 Hz, degree of protection IP 40, power-on time 50 %.
- Handy device with plastic housing for focused demagnetising of large surfaces. The device is also suitable for separating steel parts and for conveying lightweight bulk material. The device is switched on and off via an illuminated pushbutton. Supply cable, 3 m with plug.

Delivery:
1x manual demagnetising device incl. power plug and 3 m cable.

Model		HD-1	HD-2
Length (mm)		200	215
Width (mm)		105	150
Height (mm)		75	95
Max. penetration depth (mm)		20	40
Max. switch-on time (min)		5	5
Real switch-on time (%)		30	30
Nominal voltage (V/AC)		230	230
Weight (kg)		1.9	2.2
24492...	Ident. No.	**210** ●	**220** ●

Prod. Gr. 230

Vacuum clamping system and adapter mat set

For dry and wet machining

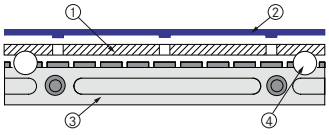
Application:
For clamping workpieces by means of vacuum. Wide range of workpiece shapes can be clamped. For grinding, milling, drilling and 5-sided machining including all breakouts. VAC-MAT is a thin, soft plastic mat with 77 vacuum holes, suction cups in various sizes with elastic lips on the top and fine bore holes in the centre. The underside features protruding plastic lugs for positioning the VAC-MAT on the vacuum clamping plate.

Execution:
- Since no sealing cords need to be inserted, setup times are significantly reduced and workpieces can be reclamped within a few seconds
- Gentle contact surface against the workpiece prevents clamping surfaces from being damaged
- Prevents surfaces from getting scratched
- No special equipment required
- The elastic sealing cords fill any uneven areas on the workpiece clamping surface. The sealing cord can compensate for up to 0.5 mm of unevenness or curvature
- The modular design allows multiple vacuum plates to be connected across the grid. The operating vacuum to the individual plates is routed through the fasteners

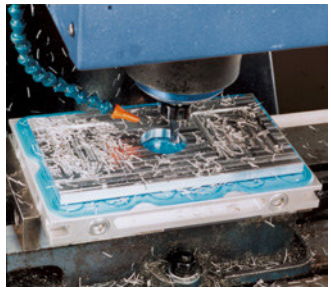
Advantage:
- High retention forces
- Clamping surface with high coefficient of friction
- External and internal contours can be milled through
- The possibility of milling or drilling into the mat ensures precise and clean workpiece cutting edges without burrs
- Universal clamping system for a wide range of workpieces

Delivery:
1x VAC-MAT modular plate, 1x adapter plate, 10x blue VAC-MAT mats, 2x adjustable clamps, 1x assembly tool, 10 m black vacuum sealing cord dia. 4 mm, 1 m vacuum wire spiral hose

Technical data:
- Adapter plate height H: 32.5 mm
- Grid dimension: 12.5 mm
- Vacuum panels couplable: Yes



① Grid vacuum clamping plate



Set contents

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Model		VM 1	VM 2	VM 3
Adapter plate length L (mm)		300	400	600
Adapter plate width B (mm)		200	300	400
For number of adapter mats (PCS)		1	2	4
24500...	Ident. No.	**010** ○	**015** ○	**020** ○

Prod. Gr. 2BE

ATORN Adapter mats

Accessories for vacuum clamping system with adapter mats

Application:

Ident. No. 025: Standard mat.

Ident. No. 050: Hard mat.

Ident. No. 060: For covering unoccupied vacuum fields.

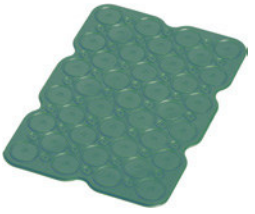
Execution:

- The adapter mats allow machine workpieces to be clamped on five sides in one clamping operation, and openings can be created in external and internal contours
- The service life of the VAC-MAT depends on the number and size of the grooves created when cutting through workpieces
- The workpieces to be clamped must be at least 150 x 200 mm in size
- Accessories for ref. no. 24500010-020

Delivery:

1 PU = 10 VAC-MAT mats

Ident. No. 025
for workpieces with rough, surfaces (blue) soft, tolerance ±0.04 mm



Ident. No. 050
For workpieces with hard, smooth surfaces (green), tolerance ±0.04 mm

Ident. No. 060
black adapter mats for leakage-free covering of vacant clamping surfaces

Length (mm)		300	300	300
Width (mm)		200	200	200
Thickness (mm)		2.5	2.5	2.5
Colour		Blue	Green	Black
24502...	Ident. No.	025 ●	050 ●	060 ●

Prod. Gr. 2BE

ATORN Grid vacuum plate sets

With Venturi nozzle for dry machining

Application:

For simple geometric workpieces with rough shapes without breakouts or large breakouts that can be sealed with sealing cords (size must be a multiple of the grid).

Execution:

- Simple vacuum generation using compressed air. The built-in vacuum pumps (Venturi system) require an operating pressure of 3.5-6 bar
- The final vacuum is 80 mbar absolute (92 % vacuum)
- A built-in silencer in the vacuum plate reduces the noise of the escaping air
- The plates can be operated either with the integrated Venturi nozzle or with a vacuum pump. A suitable tool is supplied
- All grid vacuum plates can also be connected to conventional vacuum pump no. 24501 110 or no. 24501 120.

Advantage:

- The elastic sealing cords fill and even out minor irregularities and curvatures
- Good sealing, also suitable for rough (e.g. sawn) surfaces
- High retention forces, especially suitable for heavy machining such as milling and grinding

Delivery:

1 vacuum grid plate, 2 adjustable clamps, 3 m pneumatic hose, 10 m vacuum sealing cord diameter 4 mm black, 1 vacuum generator (Venturi nozzle)

Notes:

Conversion set for wet machining included in scope of delivery. A vacuum pump is also needed for wet machining.

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Model		RV 1	RV 2	RV 3
Vacuum plate length L (mm)		300	400	600
Vacuum plate height H (mm)		32.5	32.5	32.5
Vacuum plate width B (mm)		200	300	400
Grid dimension (mm)		12.5	12.5	12.5
Vacuum panels couplable		No	No	No
24504...	Ident. No.	010 ○	020 ○	030 ○

Prod. Gr. 2BE

ATORN Slotted vacuum plate sets

With Venturi nozzle for dry machining

Application:
Ideal for light machining tasks such as milling or drilling - e.g. printed circuit boards or electronic components - or also engraving. It is thus also possible to securely clamp workpieces that are much smaller than the clamping surface of the vacuum plate. Workpieces no larger than a postage stamp can be cut out of larger material sections using milling techniques. Individual adaptation to part geometry ensures reliable clamping of almost all conceivable workpiece geometries.

Execution:
- The narrowing of the cross section within the Venturi pipe creates a vacuum, which draws the air in
- Depending on the application, the clamping plate surfaces are equipped with slots. Rubber adapter mats or cover films are required for clamping workpieces that do not cover the entire plate surface
- Noise level of just 57 db (A)
- Vacuum generated by pneumatic vacuum ejector: max. vacuum approx. 5-6 bar. End vacuum of up to 87 % depending on conditions of use. Air consumption approx. 90 l/min
- All slotted vacuum plates can also be connected to conventional vacuum pump no. 24501 110 or no. 24501 120.

Advantage:
- Low overall height
- Rubber adapter mats enable a wide range of applications
- Can be used in HSC (high-speed cutting) applications for milling small contours with the help of plane-parallel rubber adapter mats suitable for milling
- Very small workpieces can be clamped
- Venturi technology requires little maintenance

Delivery:
1x vacuum slotted plate, 2x adjustable clamps, 1x hose connection for quick-action coupling, 3 m pneumatic hose, 1x red rubber adapter mat, 1x connection for standard vacuum pump

Notes:
Conversion set for wet machining included in scope of delivery. A vacuum pump is also needed for wet machining.

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Model		SV 1	SV 2	SV 3
L (mm)		300	400	600
B (mm)		200	300	400
H (mm)		32.5	32.5	32.5
Average slot spacing (mm)		5	5	5
Vacuum panels couplable		No	No	No
24503...	Ident. No.	010 ○	020 ○	030 ○

Prod. Gr. 2BE

ATORN Rubber adapter mats

Accessories for slotted vacuum plates

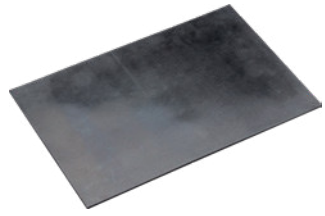
Application:
No. 24502: The rubber adapter mat blue is placed between the workpiece and the vacuum clamping plate, and must be perforated. It covers areas of the clamping plate that are not required and, thanks to its high coefficient of friction, additionally protects the workpiece against slipping.
No. 24505 010, 24505 030, 24505 050: Brown mat (cut): Cannot be face milled, medium friction ideal for drilling through workpieces with small drill hole diameters, reusable workpieces with small drill hole diameters, reusable.
No. 24505 020, 24505 040, 24505 060: Black mat (cut): Can be face milled, low friction, reusable.

Execution:
- **No. 24502:** Available as a roll only

Delivery:
No. 24502: 1x blue rubber adapter mat roll
No. 24505 010, 24505 030, 24505 050: 1x brown rubber adapter mat
No. 24505 020, 24505 040, 24505 060: 1x black rubber adapter mat

No. 24502

No. 24505 010, 24505 030, 24505 050
Outstanding coefficient of friction offers excellent resistance to shifting forces encountered during machining. The height tolerance of the rubber adapter mat is ±0.1 mm.



No. 24505 020, 24505 040, 24505 060
Made from synthetic elastomer. These mats can be face-milled, thereby allowing significantly greater plane parallelism. The rubber adapter mat can be milled up to a depth of 1.5 mm without vacuum loss. Height tolerance ±0.02 mm

Colour		Blue	Brown	Brown	Brown	Black	Black	Black
Length (mm)		2000	300	400	600	300	400	600
Width (mm)		400	200	300	400	200	300	400
Thickness (mm)		1	3	3	3	3	3	3
Thickness tolerance of adapter mat (+/-) (mm)		0.02	0.1	0.1	0.1	0.02	0.02	0.02
24502...	Ident. No.	070 ●	-	-	-	-	-	-
24505...	Ident. No.	-	010 ○	030 ○	050 ●	020 ●	040 ●	060 ●

Prod. Gr. 2BE

ATORN Sealing cord

Application:
For sealing grid vacuum plates.

Delivery:
1x sealing cord roll, 50 m

Execution:
- Sealing cord 4 mm in diameter and 50 m long

Length (m)		50
Outer Ø (mm)		4
Colour		Black
24502...	Ident. No.	010 ●

Prod. Gr. 2BE

ATORN Vacuum hose
With wire spiral, 10 m

Application:
Connecting hose for vacuum pumps and vacuum plates.

Execution:
- Transparent
- with wire spiral, 10 m

Delivery:
10 m wire spiral hose

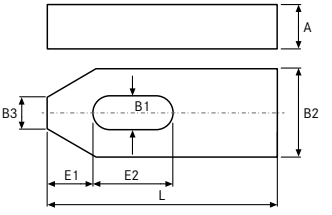
Length (m)		10
Outer Ø (mm)		18
Internal Ø (mm)		12
Colour of vacuum suction hose		Transparent
24502...	Ident. No.	020 ●

Prod. Gr. 2BE

amf **Adjustable clamps** (DIN 6314)

Execution:
- Heat-treated steel
- Painted

Notes:
Other sizes on request.



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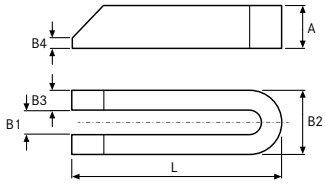
B1 (mm)	L (mm)	Suitable cheese-head screw DIN 912	E1 (mm)	E2 (mm)	A	B2 (mm)	B3 (mm)	26120... Ident. No.	
6.6	50	M6	10	20	10 mm	20	8	010	●
9	60	M8	13	22	12 mm	25	10	020	●
11	80	M10	15	30	15 mm	30	12	030	●
14	100	M12 | M14	21	40	20 mm	40	14	040	●
14	125	M12 | M14	21	50	20 mm	40	14	050	●
18	125	M16 | M18	26	45	25 mm	50	18	060	●
18	160	M16 | M18	26	65	25 mm	50	18	070	●
22	160	M20 | M22	30	60	30 mm	60	22	080	●
22	200	M20 | M22	30	80	30 mm	60	22	090	●
26	200	M24	35	80	30 mm	70	26	100	●
26	250	M24	35	105	35 mm	70	26	110	●
33	250	M30	45	100	40 mm	80	34	120	○

Prod. Gr. 260

Forked clamps
Bevelled

Execution:
- Heat-treated steel
- Painted

Notes:
Other sizes on request



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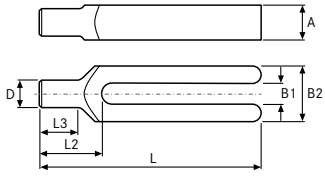
B1 (mm)	L (mm)	Suitable cheese-head screw DIN 912	A	B2 (mm)	B3 (mm)	B4 (mm)	26125... Ident. No.	
9	80	M8	15 mm	25	8	4	020	●
11	100	M10	20 mm	31	10	5	030	●
14	125	M12 | M14	25 mm	38	12	6	040	●
14	160	M12 | M14	25 mm	38	12	6	050	●
14	200	M12 | M14	25 mm	38	12	6	060	●
18	160	M16 | M18	30 mm	48	15	8	070	●
18	200	M16 | M18	30 mm	48	15	8	080	●
18	250	M16 | M18	40 mm	48	15	10	090	●
22	200	M20 | M22	40 mm	52	15	10	100	●
22	250	M20 | M22	40 mm	62	20	10	110	●
22	315	M20 | M22	40 mm	62	20	10	120	●
26	200	M24	40 mm	66	20	10	130	●
26	250	M24	40 mm	66	20	10	140	●
26	315	M24	40 mm	66	20	10	150	●
33	250	M30	50 mm	74	20	12	160	○
33	315	M30	50 mm	74	20	12	170	○
33	400	M30	50 mm	74	20	12	180	●

Prod. Gr. 260

Forked clamps (DIN 6315)
With round clamping adapter

Execution:
- Heat-treated steel
- Painted
- With round clamping face

Notes:
Other sizes on request.



p. 975 p. 980 p. 981

B1 (mm)	L (mm)	Suitable cheese-head screw DIN 912	A	B2 (mm)	D (mm)	L2 (mm)	L3 (mm)	26130... Ident. No.	
11	125	M10	20 mm	30	16	36	24	030	●
14	160	M12 | M14	25 mm	40	20	45	30	040	●
14	200	M12 | M14	25 mm	40	20	45	30	050	●
18	200	M16 | M18	30 mm	50	24	55	36	060	●
18	250	M16 | M18	30 mm	50	24	55	36	070	●
22	250	M20 | M22	40 mm	60	30	65	45	080	●
22	315	M20 | M22	40 mm	60	30	65	45	090	○
26	250	M24	40 mm	70	38	80	56	100	○
26	315	M24	40 mm	70	38	80	56	110	○

Prod. Gr. 260

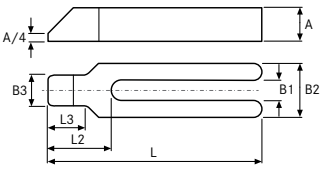
Forked clamps (DIN 6315)

With lug

Execution:
- Heat-treated steel
- Painted

- With nose

Notes:
Other sizes on request.



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B1 (mm)	L (mm)	Suitable cheese-head screw DIN 912	A	B2 (mm)	B3 (mm)	L2 (mm)	L3 (mm)	26132... Ident. No.	
9	100	M8	15 mm	30	16	32	18	020	●
11	125	M10	20 mm	30	20	38	24	030	●
14	160	M12 | M14	25 mm	40	24	47	30	040	●
14	200	M12 | M14	25 mm	40	24	47	30	050	●
18	200	M16 | M18	30 mm	50	28	57	36	060	●
18	250	M16 | M18	30 mm	50	28	57	36	070	●
22	250	M20 | M22	40 mm	60	35	68	45	080	●
22	315	M20 | M22	40 mm	60	35	68	45	090	●
26	250	M24	40 mm	70	43	83	56	100	○
26	315	M24	40 mm	70	43	83	56	110	●

Prod. Gr. 260

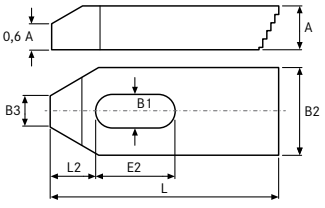
Adjustable clamps (DIN 6314)

Stepped teeth

Execution:
- Heat-treated steel
- Painted
- With stepped teeth

- Only in conjunction with packing blocks, no. 26150-26151

Notes:
Aluminium alloy version and other sizes on request.



p. 975 p. 980 p. 981

B1 (mm)	L (mm)	Suitable cheese-head screw DIN 912	E2 (mm)	A	B2 (mm)	B3 (mm)	L2 (mm)	26136... Ident. No.	
9	60	M8	22	12 mm	25	10	13	020	●
9	100	M8	60	12 mm	25	10	13	025	●
11	80	M10	30	15 mm	30	12	15	030	●
11	125	M10	70	15 mm	30	12	15	035	●
14	100	M12 | M14	40	20 mm	40	14	21	040	●
14	160	M12 | M14	90	20 mm	40	14	21	045	●
18	125	M16 | M18	45	25 mm	50	18	26	050	●
18	200	M16 | M18	110	25 mm	50	18	26	055	●
22	160	M20 | M22	60	30 mm	60	22	26	060	●
26	200	M24	80	30 mm	70	26	26	070	○

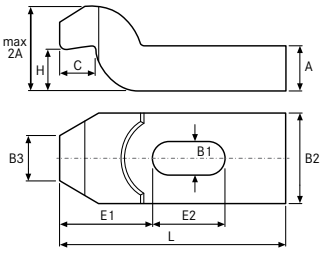
Prod. Gr. 260

Adjustable clamps (DIN 6316)

Offset

Execution:
- Heat-treated steel
- Painted
- Single depressed centre

Notes:
Aluminium alloy version and other sizes on request.



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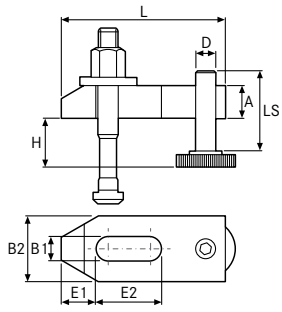
B1 (mm)	L (mm)	Suitable cheese-head screw DIN 912	E2 (mm)	A	B2 (mm)	H (mm)	B3 (mm)	C (mm)	26138... Ident. No.	
6.6	60	M6	20	10 mm	20	9	10	8	010	●
9	80	M8	25	12 mm	25	11	12	9	020	●
11	100	M10	32	15 mm	30	14	15	12	030	●
14	125	M12 | M14	40	20 mm	40	18	20	16	040	●
18	125	M16 | M18	40	25 mm	50	23	25	20	050	●
18	160	M16 | M18	50	25 mm	50	23	25	20	060	●
22	160	M20 | M22	55	30 mm	60	27	30	24	070	●
22	200	M20 | M22	70	30 mm	60	27	30	24	080	●
26	200	M24	60	35 mm	70	32	35	25	090	●
26	250	M24	80	35 mm	70	32	35	25	100	○

Prod. Gr. 260

Adjustable clamps
Bevelled

Application:
For clamping workpieces.

Execution:
- With support screw and clamping screw
- Made from heat-treated steel
- Painted



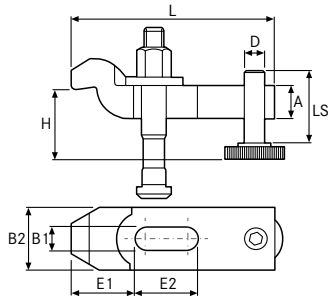
For table grooves according to DIN 650		10 mm	12 mm	14 mm	16 mm	18 mm
Suitable screw DIN 787		M10 x 80 mm	M12 x 100 mm	M12 x 100 mm	M16 x 125 mm	M16 x 125 mm
H		8-32 mm	10-40 mm	10-38 mm	13-48 mm	13-46 mm
B1 (mm)		11	14	14	18	18
B2 (mm)		30	40	40	50	50
L (mm)		80	100	100	125	125
D		M10	M12	M12	M16	M16 x 2
LS (mm)		39	49	49	55	55
A (mm)		15	20	20	25	25
E1 (mm)		15	21	21	26	26
E2 (mm)		30	40	40	45	45
26221...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 260

Adjustable clamps
Offset

Application:
For clamping workpieces.

Execution:
- With support screw and clamping screw
- Made from heat-treated steel
- Painted



For table grooves according to DIN 650		10 mm	12 mm	14 mm	16 mm	18 mm
Suitable screw DIN 787		M10 x 80 mm	M12 x 100 mm	M12 x 100 mm	M16 x 125 mm	M16 x 125 mm
H		22-46 mm	28-58 mm	28-56 mm	36-71 mm	36-69 mm
B1 (mm)		11	14	14	18	18
B2 (mm)		30	40	40	50	50
L (mm)		100	125	125	160	160
D		M10	M12	M12	M16	M16
LS (mm)		39	49	49	55	55
A (mm)		15	20	20	25	25
E1 (mm)		36	44	44	51.5	51.5
E2 (mm)		32	40	40	50	50
26222...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ○

Prod. Gr. 260

Support bolt spare parts

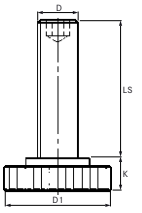
Accessories for ref. no. 26221 and 26222

Application:

Tempered

Design		Tempered	Tempered	Tempered
LS (mm)		39	49	55
D		M10	M12	M16
K (mm)		8	10	13
Screw length (mm)		47	59	68
D1 (mm)		30	36	42
Property class		8.8	8.8	8.8
26222...	Ident. No.	110 ●	112 ●	116 ●

Prod. Gr. 260



Infinitely adjustable clamp, complete

Infinitely adjustable

Application:

For clamping workpieces. It is designed to withstand extremely high loads and is particularly suitable for clamping cutting tools and punches.

Execution:

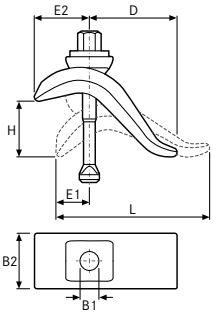
- made of steel, forged, tempered and galvanised.

Advantage:

- The infinitely variable adjustable clamp quickly spans various clamping heights without any additional support and requires little space on the machine table.

Notes:

with screws for DIN 787 T-groove, length 160 mm, the size 17 adjustable clamp can reach a maximum clamping height of 75 mm.



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For table grooves according to DIN 650		12 mm	14 mm	16 mm	18 mm	20 mm	22 mm
H1		0-50 mm	0-50 mm	0-75 mm	0-75 mm	0-85 mm	0-85 mm
L (mm)		140	140	140	140	175	175
B1 (mm)		50	50	50	50	60	60
B1 (mm)		17	17	17	17	21	21
Suitable screw DIN 787		M20 x 160 mm	-	-	-	-	-
D (mm)		60	60	60	60	80	80
E1 (mm)		30	30	30	30	40	40
E2 (mm)		55	55	55	55	70	70
26223...	Ident. No.	010 ●	020 ●	030 ●	040 ●	065 ○	070 ●

Prod. Gr. 260

Adjustable clamps

Short, continuously adjustable, with U-piece

Application:

For clamping workpieces.

Execution:

- With U-piece
- Suitable for tough conditions, e.g. on presses
- Tempered
- Galvanised and blue passivated

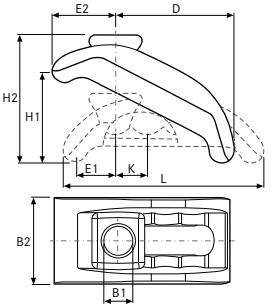
- Infinitely adjustable

Delivery:

With U-piece, though without clamping screw

Notes:

Please order clamping screw separately, see no. 26200.



For table grooves according to DIN 650		12 mm | 14 mm	16 mm | 18 mm	20 mm | 22 mm	24 mm | 28 mm
H1		0-35 mm	0-55 mm	0-65 mm	0-75 mm
H2		30-55 mm	42-84 mm	50-100 mm	54-111 mm
L (mm)		88	130	144	174
B1 (mm)		38	56	66	76
B1 (mm)		13	18	22	26
Suitable screw DIN 787		M12 x 100 mm	M16 x 160 mm	M20 x 200 mm	M24 x 200 mm
D (mm)		48	74	80	100
E1 (mm)		23	29	32	39
E2 (mm)		28	38	46	52
K (mm)		14	18	20	24
Height (mm)		55	84	100	111
26225...	Ident. No.	010 ●	020 ●	030 ●	040 ●

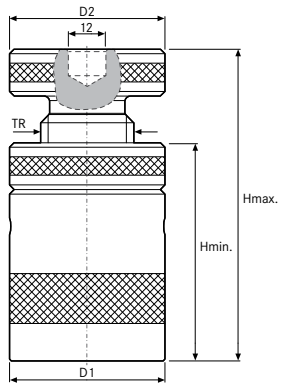
Prod. Gr. 260

p. 981

Screw jacks

Execution:
- Heat-treated steel
- Painted
- With self-locking trapezoidal thread spindle and end safety device.
- With flat support

Notes:
For attachments see no. 26161.



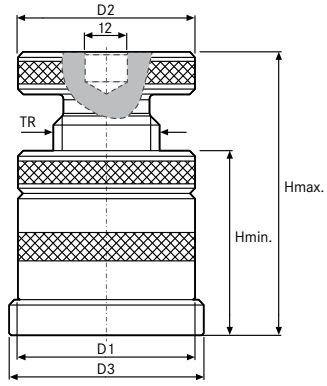
H		38-50 mm	42-52 mm	50-70 mm	70-100 mm	100-140 mm	140-210 mm	190-300 mm
D1 (mm)		31	50	50	50	68	80	-
D2 (mm)		31	50	50	50	68	70	80
Max. force range (kN)		25	100	100	100	120	170	350
Centring Ø (mm)		12	12	12	12	12	12	12
26157...	Ident. No.	**010** ●	**020** ●	**030** ●	**040** ●	**050** ●	**060** ●	**070** ●

Prod. Gr. 260

Screw jacks
with magnetic base

Execution:
- Heat-treated steel
- Painted
- With self-locking trapezoid spindle and end safety device
- With flat support
- Centring hole Ø12 mm

Advantage:
- Durable and precise positioning of workpiece thanks to permanent magnet in the base.



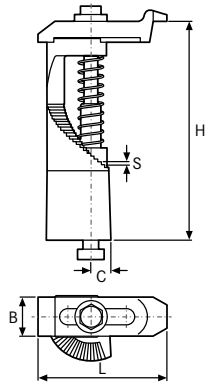
H		52-62 mm	60-80 mm	80-110 mm
D1 (mm)		50	50	50
D3 (mm)		50	50	50
D2 (mm)		50	50	50
Max. force range (kN)		100	100	100
Centring Ø (mm)		12	12	12
26157...	Ident. No.	**120** ●	**130** ●	**140** ●

Prod. Gr. 260

Stepped clamps

Execution:
- Special cast iron
- For 14 mm bench grooves
- Fine detent steps enables quick adaptation
- Up to 195 mm workpiece height

Advantage:
- Ready for use in no time
- Fine detent steps enables quick adaptation
- Requires little space on the machine table



Groove width (mm)		14	14	14
B (mm)		34	34	34
H		0-45 mm	15-45 mm	30-75 mm
L (mm)		140	112	112
C (mm)		14	14	15
S (mm)		0.75	0.75	1.25
26233...	Ident. No.	**005** ●	**010** ●	**020** ●

Groove width (mm)		14	14
B (mm)		34	34
H		60-135 mm	120-195 mm
L (mm)		112	112
C (mm)		16	19
S (mm)		2.5	2.5
26233...	Ident. No.	**030** ●	**040** ●

Prod. Gr. 260

Deep clamping jaws, model Bulle

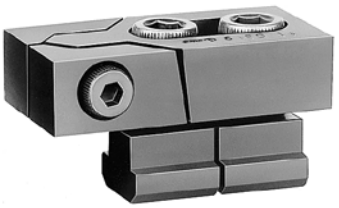
Application:
For clamping with draw-down effect.

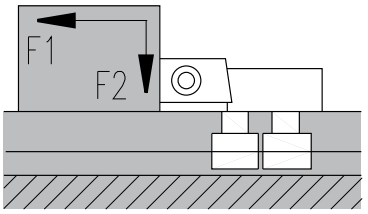
Execution:
- Tempered
- With burnished finish
- Wedge effect in forward and downward direction

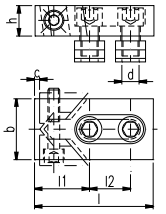
Advantage:
- No protruding clamping screws
- Clamps at every angle to the groove

Delivery:
2 pieces in a box with fastening screws ISO 4762 (10.9), nuts for T-slots DIN 508 and hexagon screwdriver ISO 2936.

Notes:
Can also be supplied for groove widths of 20, 24 and 30 mm. Prices on request.







Suitable for groove width (mm)		12	14	16	18	22	28
C (mm)		3	3	4	4	5	5
l (mm)		80	80	100	100	140	140
l1 (mm)		39	39	46	46	50	50
l2 (mm)		26	26	34	34	36	40
Width b (mm)		40	40	50	50	78	78
Overall height of pull-down jaw h (mm)		20	20	25	25	30	30
Clamping force F1 (kN)		16	22	32	36	36	40
Clamping force F2 (kN)		0.6	0.9	1.2	1.4	1.4	1.6
Suitable screw ISO 4762		M10	M12	M14	M16	M20	M24
26140...	Ident. No.	**020** ●	**030** ●	**040** ●	**050** ●	**060** ●	**070** ○

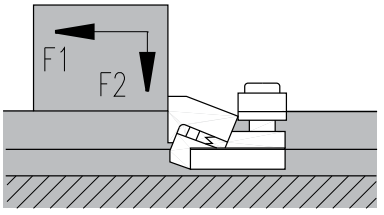
Prod. Gr. 260

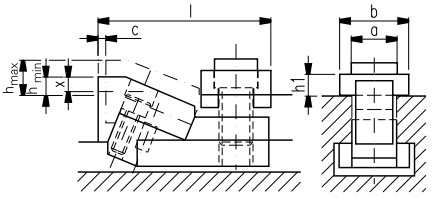
Flat clamp, model Mini-Bulle

Execution:
- With burnished finish
- For flat workpieces
- Wedge effect in forward and downward direction

Advantage:
- The wedge effect of the clamping jaws causes the workpiece to be pressed down firmly and securely onto the machine table. The horizontal forces are absorbed by a screw fitting the size of the slot, which provides for perfect clamping without damaging the table.

Delivery:
2 pieces in a box with fastening screws ISO 4762 (8.8) and hexagon screwdriver ISO 2936.





Suitable for groove width (mm)		12	14	16	18	22
Min./max. height		2.5-13.5 mm	1.5-13.5 mm	2.5-17 mm	1.5-16 mm	4.5-21.5 mm
l (mm)		52	55	68	71	89
b (mm)		18	22	25	28	35
F1 (kN)		5	5.5	8	9	16
F2 (kN)		0.6	0.7	0.9	1	1.9
X (mm)		5	5	6	6	9
h1 (mm)		11	11	15	15	20
c (mm)		1.8	1.8	2.5	2.5	3
26141...	Ident. No.	**010** ●	**020** ●	**030** ●	**040** ●	**050** ○

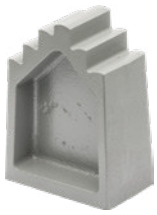
Prod. Gr. 260

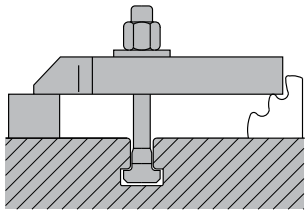
Stepped clamps (DIN 6318)

Application:
For supporting adjustable clamps.

Execution:
- Machine casting
- Painted

- Contact surface and step face-milled
- With clamping stages, each with a height difference of 7.5 mm





Height (mm)		50	95	140	185	230
Min. step height (mm)		12.5	57.5	102.5	147.5	192.5
Width (mm)		42.5	95	100	105	110
26145...	Ident. No.	**010** ●	**020** ●	**030** ●	**040** ○	**050** ○

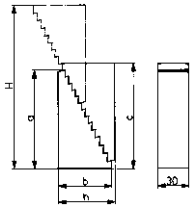
Prod. Gr. 260

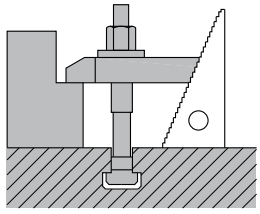
Clamping supports

Application:
For supporting adjustable clamps.

Execution:
- Heat-treated steel
- Painted

- Packing blocks can be combined with adjustable clamps
- Step height: vertical 4.65 mm, horizontal 2.3 mm





Size		1	2	3
Min. support plate height a (mm)		23	39	71
Max. support plate height H (mm)		51	107	208
Width b (mm)		19	35.5	68
c (mm)		30	30	30
26150...	Ident. No.	**110** ●	**120** ●	**130** ●

Prod. Gr. 260

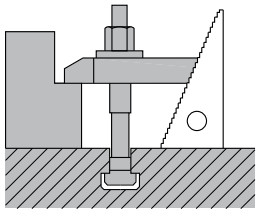
Clamping supports set

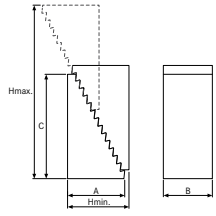
Application:
For supporting adjustable clamps.

Execution:
- Heat-treated steel

- Painted
- Packing blocks can be combined with adjustable clamps
- L x W x H 280 x 155 x 40 mm

Delivery:
8 x size 1, 8 x size 2, 4 x size 3, in sturdy wooden case, L x W x H mm





Size		1. 2. 3
Min. support plate height (mm)		22
Max. support plate height (mm)		280
26151...	Ident. No.	**010** ●

Prod. Gr. 260

Clamping tool assortments

Basic assortment

Application:
For conventional clamping on machine tables with T-grooves, ideal for toolmaking.

Execution:
- All parts made of heat-treated steel
- Rolled thread
- T-slot screws heat-treated

Delivery:
Ref. no. 26152140: Clamp, 2 pcs. 14×100 mm, 2 pcs. 14×160 mm, clamping supports 4 pcs. Size 2, 4 pcs. Size 3, T-slot screws, 2 pcs. M14×16×63 mm; 4 pcs. M14×16×100 mm; 4 pcs. M14×16×160 mm stud bolts 2 pcs. Size M14×100, 2 pcs. Size M14×160, high nuts 6 pcs. Size M14, extension nuts 2 pcs. Size M14, washers 6 pcs. Size M14,

Other sizes available

Suitable for groove width (mm)		14	16
Suitable for thread		M12	M14
Tension force (kN)		20	28
Clamping height (mm)		165	195
Weight (kg)		10	11.1
26152...	Ident. No.	140 ●	160 ○

Prod. Gr. 260

Clamping tool assortment in box

Application:
This assortment contains all of the requisite elements for quick clamping of workpieces or equipment on T-groove tables.

Execution:
- All parts made of heat-treated steel

Delivery:
Assortment in wooden case

Suitable for groove width		12	14	16	16	18	22
Thread dimension		M12	M12	M14	M16	M16	M20
Min./max. clamping height with 2 clamping points		2-270 mm	2-270 mm	2-270 mm	2-270 mm	2-270 mm	2-270 mm
Min./max. clamping height with 4 clamping points		2-160 mm	2-160 mm	2-160 mm	2-160 mm	2-160 mm	2-160 mm
Wooden box length (mm)		460	460	510	510	510	480
Wooden box width (mm)		330	330	415	415	415	528
Wooden box height (mm)		50	50	50	50	50	50
Weight (kg)		14.3	14.6	18.5	21.5	21.5	24.5
Number of DIN 787 T-slot screws		2 x 50 mm, 4 x 80 mm, 4 x 125 mm	2 x 50 mm, 4 x 80 mm, 4 x 125 mm	2 x 63 mm, 4 x 100 mm, 4 x 160 mm	4 x 100 mm, 4 x 160 mm | 2 x 63 mm	2 x 63 mm, 4 x 100 mm, 4 x 160 mm	4 x 125 mm, 4 x 200 mm
Number of DIN 6379 stud bolts (extension pin)		4 x 100 mm	4 x 100 mm	4 x 125 mm	4 x 125 mm	4 x 125 mm	4 x 125 mm
Number of DIN 6330 B high nuts (PCS)		6	6	6	6	6	6
Number of rounded washers and ball sockets DIN 6319 G (PCS)		6	6	6	6	6	6
Number of extension nuts (PCS)		4	4	4	4	4	4
26153...	Ident. No.	012 ●	014 ●	015 ●	016 ○	018 ●	022 ○

Prod. Gr. 260

Clamping screw sets

For T-slots

Execution:
- Tempered
- Strength class 8 or 10
- Different clamping heights can be set as required using extension nuts and studs (extension studs).
- Widths across flats are in accordance with ISO standard (DIN ISO 272)

Delivery:
In a sturdy, high-quality wooden box with removable hinged lid.

Notes:
All parts are also available individually on request.
“Nuts for T-slots DIN 508” cannot be used for this size.

Suitable for groove width (mm)		10	12	14	16	16	18	22
Thread dimension		M10	M12	M12	M14	M16	M16	M20
Number of DIN 787 T-slot screws		2 x M10 x 40 mm | 4 x M10 x 63 mm | 4 x M10 x 100 mm	2 x M12 x 50 mm | 4 x M12 x 80 mm | 4 x M12 x 125 mm	2 x M12 x 50 mm | 4 x M12 x 80 mm	2 x M14 x 63 mm | 4 x M14 x 100 mm	2 x M16 x 63 mm | 4 x M16 x 100 mm | 4 x M16 x 160 mm	2 x M16 x 63 mm | 4 x M16 x 100 mm	2 x M20 x 80 mm | 4 x M20 x 125 mm
Number of DIN 6379 stud bolts (extension pin)		4 x M10 x 50 mm | 4 x M10 x 80 mm | 4 x M10 x 200 mm	4 x M12 x 63 mm | 4 x M12 x 100 mm | 4 x M12 x 200 mm	4 x M12 x 63 mm | 4 x M12 x 100 mm | 4 x M12 x 125 mm | 4 x M12 x 200 mm	4 x M14 x 63 mm | 4 x M14 x 100 mm | 4 x M14 x 160 mm | 4 x M14 x 250 mm	4 x M16 x 80 mm | 4 x M16 x 125 mm | 4 x M16 x 250 mm	4 x M16 x 80 mm | 4 x M16 x 125 mm | 4 x M16 x 160 mm	4 x M20 x 80 mm | 4 x M20 x 125 mm | 4 x M20 x 200 mm | 4 x M20 x 315 mm
Number of DIN 508 slots (PCS)		-	-	4	4	-	4	4
Number of DIN 6330 B high nuts (PCS)		4	4	4	4	4	4	4
Number of extension nuts (PCS)		4	4	4	4	4	4	4
Wooden box length (mm)		254	278	278	317	339	339	358
Wooden box width (mm)		188	234	234	239	294	294	342
Wooden box height (mm)		32	36	36	44	48	48	56
26209...	Ident. No.	**100** ●	**120** ●	**140** ●	**160** ●	**165** ○	**180** ●	**220** ●

Prod. Gr. 260

Sturdy clamping jaws

Application:
For lateral clamping of tall workpieces with draw-down force.

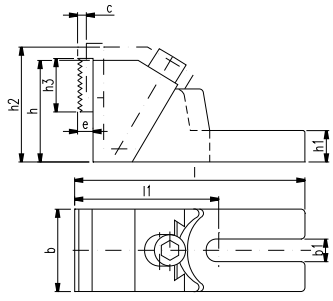
Execution:
- Tall design with precise prism guide
- Basic body made of malleable iron
- Clamping jaws made of case-hardening steel, reversible
- Clamping jaws with smooth side for machined workpieces and knurled side for rough clamping surfaces

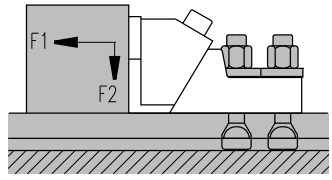
Advantage:
- The specified clamping forces are achieved with optimal fastening screws and the maximum permissible torque.

Notes:
To fix the sturdy clamping jaws on the machine table, we recommend the use of two clamping screws.

Suitable T-groove width		12 mm | 14 mm | 16 mm | 18 mm	20 mm | 22 mm | 24 mm | 28 mm | 30 mm
Min./max. clamping force F1		8-28 kN	25-36 kN
Min./max. clamping force F2		1.2-4.2 kN	4.5-5.4 kN
l (mm)		179	230
l1 (mm)		112.5	138.5
b (mm)		65	75
b1 (mm)		19	26
h (mm)		85	100
h2 (mm)		99	118
h3 (mm)		40	40
c (mm)		8	11
26178...	Ident. No.	**010** ●	**020** ●

Prod. Gr. 260





p. 981

Herkules alignment wedges

Application:
For vertical alignment of complex castings or forgings on machine tools, fine adjustment.

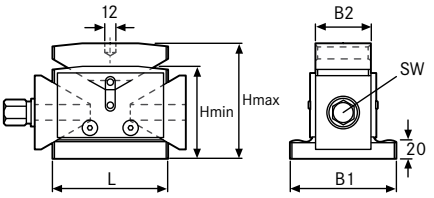
Execution:
- Tempered
- With burnished finish

Advantage:
- The straightening wedge can be adjusted slightly at a load of maximum 1/3 F with just hand force.
- The simple and sturdy design ensures a long service life.
- The fine machined wedge surfaces allow careful and precise adjustment, which means that 0.1 mm can be adjusted with ease, either with a knurled thumb screw or with a hexagon screwdriver.
- The double wedge effect results in a large travel and precise vertical movement without lateral offset.

Notes:
For attachments see no. 26161.

Size		63	125
Min./max. support plate height		50-68 mm	100-125 mm
B2 (mm)		40	60
B1 (mm)		63	115
L (mm)		63	125
Height adjustment per revolution (mm)		0.86	1.16
Tension force (kN)		40	100
Weight (kg)		1.7	8.6
Width across flats		13 mm	24 mm
26170...	Ident. No.	063	125
		●	●

Prod. Gr. 260



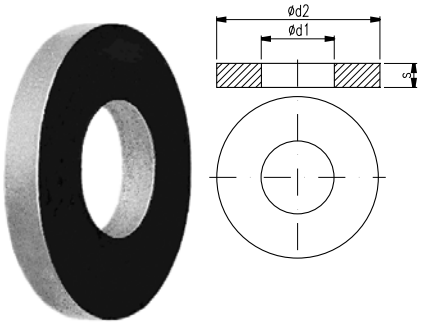
Washers (DIN 6340)

Application:
For transferring clamping forces in cases where clamping elements need to adapt to uneven clamping surfaces.

Execution:
- Washers, tempered, 350 + 80 HV 30

Suitable cheese-head screw DIN 912	Suitable for screw	d2 (mm)	d1 (mm)	max. s (mm)	26208... Ident. No.	
M10	3/8 inch	28	10.5	4	100	●
M12	1/2 inch	35	13	5	120	●
M14	-	40	15	5	140	●
M16	5/8 inch	45	17	6	160	●
M18	-	45	19	6	180	●
M20	3/4 inch	50	21	6	200	●
M22	7/8 inch	50	23	8	220	●
M24	7/8 inch	60	25	8	240	●
M27	1 1/16 inch	68	28	10	270	○
M30	1 1/8 inch	68	31	10	300	●
M36	1 1/4 inch	80	38	10	360	○
M8	5/16 inch	23	8.4	4	080	●

Prod. Gr. 260



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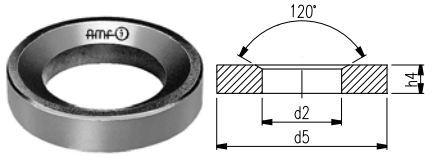
Conical washers (DIN 6319)
Case-hardened and phosphated

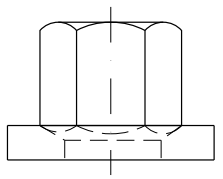
Application:
For transferring clamping forces in cases where clamping elements need to adapt to uneven clamping surfaces. For use only on drill holes, not on slots.

Execution:
- Case-hardened and phosphatised
- Only use when the conical washer is fully in contact.

Suitable cheese-head screw DIN 912	d2 (mm)	d5 (mm)	b4 (mm)	26208... Ident. No.	
M8	9.6	17	3.5	612	●
M10	12	21	4.2	614	●
M12	14.2	24	5	616	●
M14	16.5	28	5.6	618	●
M16	19	30	6.2	620	●
M20	23.2	36	7.5	622	●

Prod. Gr. 260





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Conical washers (DIN 6319)
Pressed and tempered

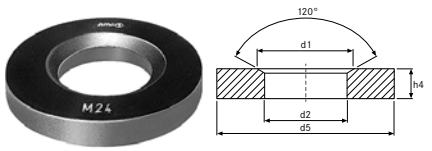
Application:
For transferring clamping forces in cases where clamping elements need to adapt to uneven clamping surfaces.

Advantage:
- Thanks to the large diameter, these are particularly ideal for clamping via the slot in the case of clamps.

Execution:
- Stamped, pressed and tempered

Suitable cheese-head screw DIN 912	d2 (mm)	d5 (mm)	d1 (mm)	b4 (mm)	26208... Ident. No.	
M8	9.6	24	-	5	712	●
M10	12	30	18.5	5	714	●
M12	14.2	36	20	6	716	●
M14	16.5	40	24.8	6	718	●
M16	19	44	26	7	720	●
M20	23.2	50	31	8	722	●

Prod. Gr. 260



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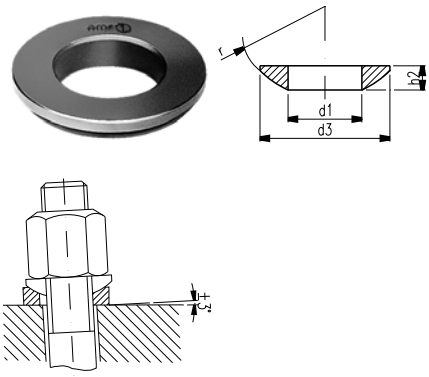
Spherical washers (DIN 6319)

Application:
For transferring clamping forces in cases where clamping elements need to adapt to uneven clamping surfaces.

Execution:
- Case-hardened and phosphatised

Suitable cheese-head screw DIN 912	d3 (mm)	d1 (mm)	max. h2 (mm)	r (mm)	26208... Ident. No.	
M8	17	8.4	3.2	12	512	●
M10	21	10.5	4	15	514	●
M12	24	13	4.6	17	516	●
M14	28	15	5	22	518	●
M16	30	17	5.3	22	520	●
M20	36	21	6.3	27	522	●

Prod. Gr. 260



Hexagon nuts

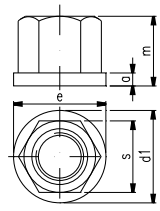
Application:
For clamping workpieces.

Execution:
- Steel, tempered and turned
- Strength class 10
- Ref. no. 008- 030 with collar, turned and milled

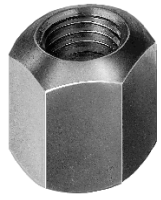
						With collar		Without collar	
Thread dimension	S	e (mm)	m (mm)	A (mm)	d1 (mm)	26206... Ident. No.		26206... Ident. No.	
M8	13 mm	14.4	12	3.5	18	008	●	080	●
M10	17 mm	18.9	15	4	22	010	●	100	●
M10	16 mm	17.8	15	4	22	011	●	101	●
M12	19 mm	21.1	18	4	25	012	●	120	●
M12	18 mm	20.03	18	4	25	013	●	121	●
M14	22 mm	24.5	21	4.5	28	014	●	140	●
M14	21 mm	23.4	21	4.5	28	015	●	-	-
M16	24 mm	26.8	24	5	31	016	●	160	●
M18	27 mm	30.1	27	5	34	018	●	180	●
M20	30 mm	33.5	30	6	37	020	●	200	●
M22	34 mm	37.7	33	6	40	023	●	220	●
M24	36 mm	40	36	6	45	024	●	240	●
M30	46 mm	51.3	45	8	58	030	●	300	●

Prod. Gr. 260

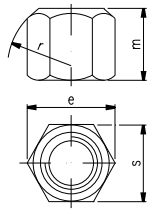
Ident. No. 008–030
With collar 008-030



Ident. No. 008–030
With collar 008-030



Ident. No. 080–300
Without collar 080-300



Ident. No. 080–300
Without collar 080-300

p. 981

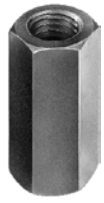
Extension nuts

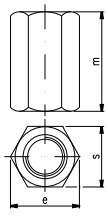
Application:
For clamping workpieces.

Execution:
- Tempered, steel
- Strength class 10
- Flat on both sides

Thread dimension	S	e (mm)	m (mm)	26207... Ident. No.	
M8	13 mm	14.4	24	080	●
M10	17 mm	18.9	30	100	●
M12	19 mm	31.1	36	120	●
M12	18 mm	20.03	36	121	●
M14	22 mm	23.36	42	140	●
M14	21 mm	34.49	42	141	●
M16	24 mm	26.75	48	160	●
M20	30 mm	33.5	60	200	●
M24	36 mm	40	72	240	●
M30	46 mm	51.3	90	300	●

Prod. Gr. 260





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Nuts for T slots

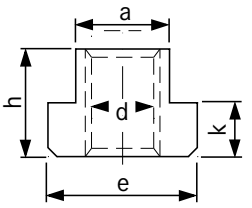
For T-grooves

Application:
For clamping in T-grooves.

Execution:
- Ref. no. 010- 130 tempered, strength class 10
- Ref. no. 220- 310 tempered, strength class 10, long form

Ident. No. 010–130
Standard

Ident. No. 220–310
Long type



Ident. No. 010–130
Ref. no. 010-310

Type	DIN	Nominal dimension of groove (mm)	Sliding block width a (mm)	Thread dimension d	Length e (mm)	Height h (mm)	Sliding block height k (mm)	26195... Ident. No.	
standard	508	6	5.7	M5	10	8	4	010	●
standard	508	8	7.7	M6	13	10	6	020	●
Long type	-	8	7.7	M6	26	10	6	220	●
standard	508	10	9.7	M8	15	12	6	030	●
Long type	-	10	9.7	M8	30	12	6	230	●
standard	508	12	11.7	M10	18	14	7	040	●
Long type	-	12	11.7	M10	36	14	7	240	●
standard	508	14	13.7	M12	22	16	8	050	●
Long type	-	14	13.7	M12	44	16	8	250	●
standard	508	16	15.7	M14	25	18	9	060	●
Long type	-	16	15.7	M14	50	18	9	260	●
standard	508	18	17.7	M16	28	20	10	070	●
Long type	-	18	17.7	M16	56	20	10	270	●
standard	508	20	19.7	M18	32	24	12	080	●
Long type	-	20	19.7	M18	64	24	12	280	○
standard	508	22	21.7	M20	35	28	14	090	●
Long type	-	22	21.7	M20	70	28	14	290	●
standard	508	24	23.7	M22	40	32	16	100	●
standard	508	28	27.7	M24	44	36	18	110	●
Long type	-	28	27.7	M24	88	36	18	310	●
standard	508	36	35.6	M30	54	44	22	130	●

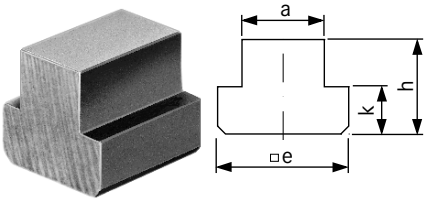
Prod. Gr. 260

Nut blanks for T slots

Application:
for clamping in T-grooves.

Execution:
- Ref. no. 010- 130 tempered, strength class 10
- Ref. no. 720- 810 nut blanks made of heat-treated steel 0.35-0.45% C, without thread, for self-manufacture of nuts with non-standard thread.

Notes:
Ref. no. 26195060 and 26195100 do not correspond to DIN 508



Nominal dimension of groove (mm)	Sliding block width a (mm)	Height h (mm)	Length e (mm)	Sliding block height k (mm)	26195... Ident. No.	
8	7.7	10	13	6	720	●
10	9.7	12	15	6	730	●
12	11.7	14	18	7	740	●
14	13.7	16	22	8	750	●
16	15.7	18	25	9	760	●
18	17.7	20	28	10	770	●
20	19.7	24	32	12	780	○
22	21.7	28	35	14	790	●
24	23.7	32	40	16	800	○
28	27.7	36	44	18	810	●

Prod. Gr. 260

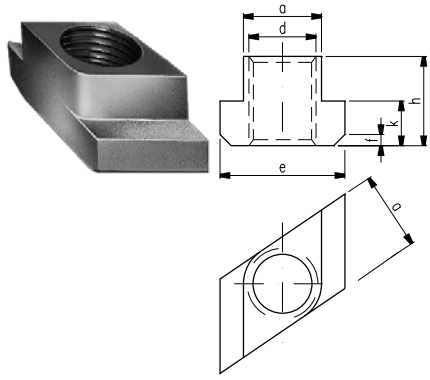
Nuts
For Rhombus T-slots

Application:
For inserting sliding block from above through the neck of the T-groove.

Execution:
- Tempered

- The reduced contact surface in the T-groove results in a lower load capacity compared with comparable DIN 508 sizes.

Notes:
Aluminium version on request.



Nominal dimension of groove (mm)	a (mm)	d	h (mm)	k (mm)	e (mm)	Property class	26194... Ident. No.	
12	11.7	M10	14	7	18	8	010	●
14	13.7	M12	16	8	22	8	020	●
16	15.7	M14	18	9	25	6	030	●
18	17.7	M16	20	10	28	6	040	●
20	19.7	M16	24	12	32	8	050	●
22	21.7	M20	28	14	35	6	070	●
28	27.7	M20	36	18	44	8	075	●
28	27.7	M24	36	18	44	6	080	●

Prod. Gr. 260

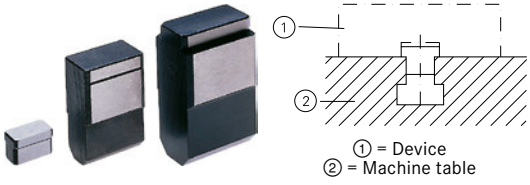
Loose sliding blocks (DIN 6323)

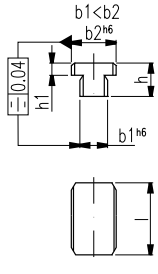
Application:
For positioning tools on jigs.

Execution:
- C 15 case-hardened and polished

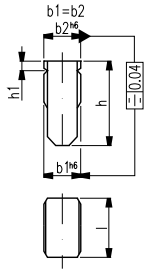
- Ref. no. 212 for small machines = jig groove 12 mm
- Ref. no. 312-322 for small machines = jig groove 20 mm

Advantage:
- When transporting the device, there are no sliding blocks protruding from underneath to cause a problem and the machine table cannot be damaged.

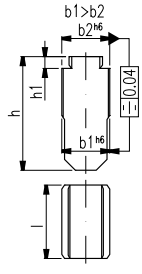




Type A



TYPE B



TYPE C

Form		B	A	A	A	A	C
b1 (mm)		12	12	14	16	18	22
b2 (mm)		12	20	20	20	20	20
h (mm)		28.6	14	14	14	14	50.5
h1 (mm)		5.5	5.5	5.5	5.5	5.5	-
l (mm)		20	32	32	32	32	40
26196...	Ident. No.	212 ●	312 ●	314 ●	316 ●	318 ●	322 ●

Prod. Gr. 260

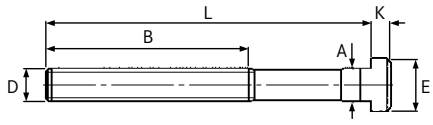
T-slot bolts (DIN 787)

Application:
For clamping workpieces on machine tables.

Execution:
- Tempered
- Rolled thread
- Forged

- With milled groove guide
- M8 to M12, strength class 10.9
- M16 to M24, strength class 8.8
- DIN 787

Notes:
Length without head in mm. Other lengths and groove widths available on request.



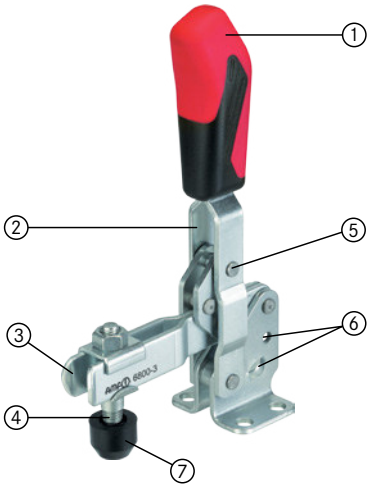
Thread dimension	Groove width (mm)	Length L (mm)	Outer Ø A (mm)	Thread length B (mm)	Head length E (mm)	Head height K (mm)	26200... Ident. No.	
M8	8	32	7.7	22	13	6	110	○
M8	8	40	7.7	-	13	6	115	●
M8	8	50	7.7	35	13	6	120	●
M8	8	63	7.7	45	13	6	125	●
M8	8	80	7.7	50	13	6	130	●
M8	8	100	7.7	60	13	6	135	●
M10	10	40	9.7	30	15	6	215	●

Thread dimension	Groove width (mm)	Length L (mm)	Outer Ø A (mm)	Thread length B (mm)	Head length E (mm)	Head height K (mm)	26200... Ident. No.	
M10	10	50	9.7	30	15	6	220	●
M10	10	63	9.7	45	15	6	225	●
M10	10	80	9.7	50	15	6	230	●
M10	10	100	9.7	60	15	6	235	●
M10	10	125	9.7	75	15	6	240	●
M10	10	160	9.7	-	15	6	245	●
M12	12	50	11.7	35	18	7	320	●
M12	12	63	11.7	40	18	7	325	●
M12	12	80	11.7	55	18	7	330	●
M12	12	100	11.7	65	18	7	335	●
M12	12	125	11.7	75	18	7	340	●
M12	12	160	11.7	100	18	7	345	●
M12	12	200	11.7	120	18	7	350	○
M12	14	50	13.7	35	22	8	420	●
M12	14	63	13.7	45	22	8	425	●
M12	14	80	13.7	55	22	8	430	●
M12	14	100	13.7	65	22	8	435	●
M12	14	125	13.7	75	22	8	440	●
M12	14	160	13.7	100	22	8	445	●
M12	14	200	13.7	120	22	8	450	●
M12	12	250	13.7	150	22	8	455	●
M16	16	63	15.7	45	25	9	525	●
M16	16	80	15.7	55	25	9	530	●
M16	16	100	15.7	65	25	9	535	●
M16	16	125	15.7	85	25	9	540	●
M16	16	160	15.7	100	25	9	545	●
M16	16	200	15.7	125	25	9	550	●
M16	16	250	15.7	150	25	9	555	●
M16	18	63	17.7	45	28	10	625	●
M16	18	80	17.7	55	28	10	630	●
M16	18	100	17.7	65	28	10	635	●
M16	18	125	17.7	85	28	10	640	●
M16	18	160	17.7	100	28	10	645	●
M16	18	200	17.7	125	28	10	650	●
M16	18	250	17.7	150	28	10	655	●
M20	20	80	19.7	55	32	12	730	●
M20	20	100	19.7	65	32	12	735	●
M20	20	125	19.7	85	32	12	740	●
M20	20	160	19.7	110	32	12	745	●
M20	20	200	19.7	125	32	12	750	●
M20	20	250	19.7	150	32	12	755	●
M20	22	80	21.7	55	35	14	830	●
M20	22	100	21.7	65	35	14	835	●
M20	22	125	21.7	85	35	14	840	●
M20	22	160	21.7	110	35	14	845	●
M20	22	200	21.7	125	35	14	850	●
M20	22	250	21.7	150	35	14	855	●
M24	24	100	23.7	70	40	16	935	○
M24	24	125	23.7	85	40	16	940	●
M24	24	160	23.7	110	40	16	945	●
M24	24	200	23.7	125	40	16	950	●
M24	24	250	23.7	150	40	16	955	●
M24	28	125	27.7	85	44	18	965	●
M24	28	160	27.7	110	44	18	970	●
M24	28	200	27.7	125	44	18	975	●
M24	28	250	27.7	150	44	18	980	●

Prod. Gr. 260

AMF quick-action clamp
The features of our quick-action clamp at a glance

- Ergonomic 2-component handle
- Safety clamping piece with finger protection
- Protection against the loss of pressure screws
- Stainless-steel rivets
- Removable rubber cap



① **Ergonomic 2-component handle** with a high degree of operating comfort due to large hand surface. The grippy surface made of soft components is connected with the hard base material sitting firmly on the clamp.

② **Safety clamp with finger protection** and integrated stop to which there is no access.

③ **Protection against the loss of pressure screws.** For subsequent insertion of pre-assembled pressure screws.

④ Pressure screw (8.8) can be quickly adjusted using the nut washer in tensioner arm.

⑤ **Stainless-steel rivets** in case-hardened bushings. All bearings greased, for durable, consistent functionality.

⑥ The opening angle can be changed by pressing in a stop pin.

⑦ Pressure screw with removable rubber cap.

Quick-action clamp with coloured handles available on request.

AMF variable quick-action clamp

infinitely adjustable clamping force with adjusting screw

advantages at a glance:
- variable clamping height
- clamping of different workpieces
- usable with small batch sizes
- adjustable clamping force
- ergonomic 2-component handle
- protection against loss on clamping arm

clamping force is adjustable with an adjusting screw: for sensitive materials, the clamping force can be reduced to avoid damaging the material, and high forces can be employed where they are wanted.

- significantly stronger internal mechanism than comparable competitive products – higher clamping forces
- high-quality design:
  - galvanised (not nickel-plated) – more durable
  - solid rivets instead of hollow ones – this results in higher forces

Vertical quick-action clamp

With open clamping arm and horizontal base

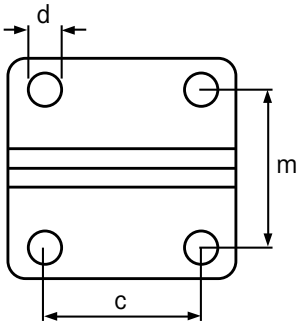
Application:
For quick clamping of workpieces.

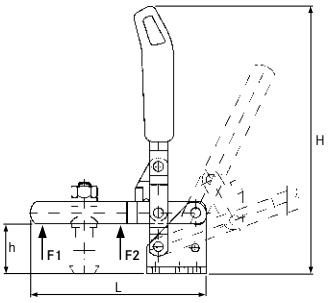
Execution:
- Galvanised and passivated
- Ergonomic, oil-resistant handle with large hand rest and soft components.
- Case-hardened and lubricated bearing bushes

Delivery:
With thrust bolt and protective cap

Notes:
Size 0-4 also available in stainless steel.

Illustration may be different





Size		0	1	2	3	4	5
min./max. c		8.5 x 13.5 mm	-	-	-	-	-
c (mm)		-	16	20	20	32	45
M (mm)		23	-	-	32.5	-	-
min./max. M		-	22.5-26 mm	23-31 mm	-	43-46.5 mm	45-50 mm
d (mm)		4.5	4.5	5.5	7.5	8.6	8.5
h (mm)		18	19	23	33	42.5	55.8
F1 (N)		500	600	800	1200	1700	3000
max. F2 (N)		700	1100	1200	2500	3000	5000
H1 (mm)		81	98	140	186	221	281
L1 (mm)		49	61	78	112	141	195
L2 (mm)		50	58	89	112	130	195
Thumbscrew size		M4 x 25 mm	M5 x 30 mm	M6 x 35 mm	M8 x 45 mm	M8 x 65 mm	M12 x 80 mm
26212...	Ident. No.	005 ●	010 ●	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 260

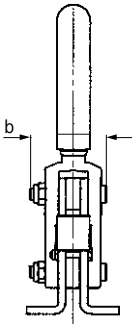
Vertical clamp

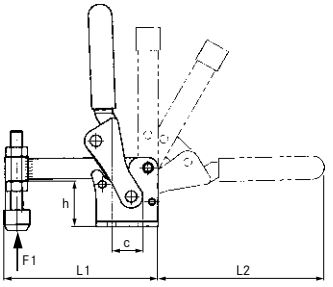
Heavy-duty

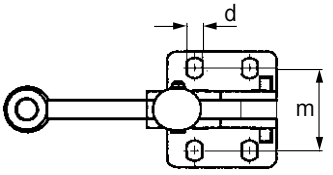
Application:
For quick clamping of workpieces.

Execution:
- With horizontal base
- Reamed and case-hardened bearing bushes
- Hardened, polished and permanently lubricated studs
- burnished steel, lever arm made of steel casting
- With red oil-resistant plastic handle

Delivery:
With tempered and galvanised thrust bolt







Size		2	4
M (mm)		32	45
d (mm)		7.1	8.5
h (mm)		25	44
F1 (kN)		2.5	5
L1 (mm)		85	146
L2 (mm)		94	160
Thumbscrew size		M6 x 50 mm	M12 x 80 mm
26212...	Ident. No.	520 ●	540 ○

Prod. Gr. 260

Vertical quick-action clamp

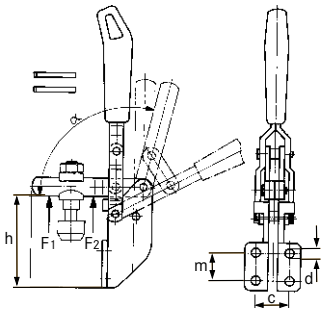
With open clamping arm and angular base

Application:
For quick clamping of workpieces.

Execution:
- Galvanised and passivated
- Stainless steel rivet
- Ergonomic, oil-resistant handle with large hand rest and soft components.

Delivery:
With tempered and galvanised thrust bolt

Notes:
Stainless steel version (size 2) on request.



Size		1	2	3
c (mm)		20	25.5	28.5
M (mm)		14	20	24
d (mm)		4.5	6.1	6.5
h (mm)		45	60	71
F1 (N)		800	1000	1400
max. F2 (N)		1100	1200	2500
Thumbscrew size		M5 x 30 mm	M6 x 35 mm	M8 x 45 mm
26213...	Ident. No.	010	020	030
		●	●	●

Prod. Gr. 260

Horizontal quick-action clamp

With open clamping arm and horizontal base

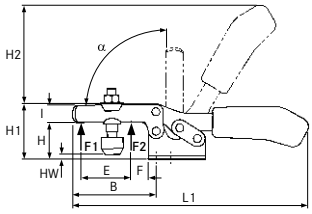
Application:
For quick clamping of workpieces.

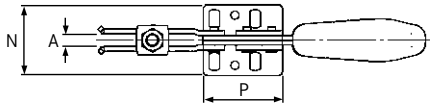
Execution:
- Galvanised and passivated
- Ergonomic, oil-resistant handle with large hand rest and soft components.
- Case-hardened and lubricated bearing bushes

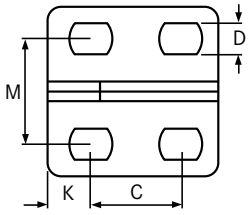
Delivery:
With thrust bolt and protective cap

Notes:
Also available with vertical base. Quotation and detailed brochure on request. Pneumatic unit for automatic operation on request. Size 0-4 also available in stainless steel.

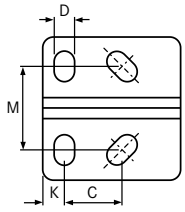
Ident. No. 010–040
Illustration may be different



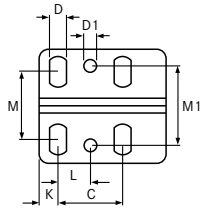




Ident. No. 005
Size 0



Ident. No. 010
Size 1



Ident. No. 020–040
Sizes 2, 3, 4

Size		0	1	2	3	4
c (mm)		-	-	26	25.7	41
min./max. c		11.5-15.5 mm	13-14.5 mm	-	-	-
min./max. m		-	18-21.5 mm	19.5-29.5 mm	22-31.8 mm	29-43 mm
m (mm)		16	-	-	-	-
d (mm)		4.6	5.2	5.6	6.5	8.5
H (mm)		14.5	19	24	32	45
F1 (N)		250	800	1000	1800	2000
max. F2 (N)		400	1100	1200	2500	3000
H1 (mm)		23	30	45	48.5	75
L1 (mm)		79	120	162	206	287
Thumbscrew size		M4 x 25 mm	M5 x 30 mm	M6 x 35 mm	M8 x 45 mm	M8 x 65 mm
26215...	Ident. No.	005	010	020	030	040
		●	●	●	●	●

Prod. Gr. 260

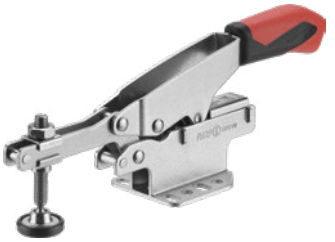
Horizontal clamp with variable clamping height

With open clamping arm and horizontal base

Application:
Quick-action clamp with infinitely adjustable balancing function for workpieces with different clamping widths.

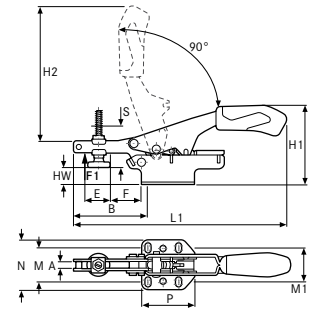
Execution:
- galvanised and passivated.
- ergonomic, oil-resistant handle with large hand rest and soft components.
- protection against the loss of the clamping screw on the end of the clamping arm. complete with zinc-plated clamping bolt
- Size 20 clamping bolt M6 x 40 mm
- Size 50 clamping bolt M8 x 39 mm
- Size 70 clamping bolt M8 x 55 mm

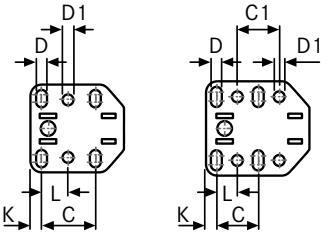
Advantage:
- variable clamping height, for clamping different workpieces
- used for small lot sizes
- infinitely adjustable clamping force
- ergonomic 2 component handle
- protection against loss on clamping arm



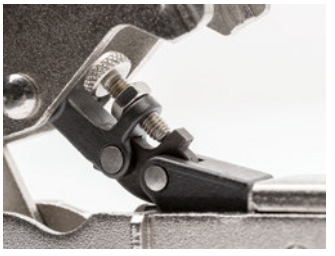
Size		20	50	70
A (mm)		6.1	6.4	8.5
B (mm)		63	104	104
C (mm)		26	25.4	25.4
C1 (mm)		-	25.4	25.4
D (mm)		5.5	6.5	6.5
D1 (mm)		5.5	6.5	6.5
E (mm)		22	35.2	35
F (mm)		26	22.2	50
H (mm)		27	23	41
H1 (mm)		70	72	90
H2 (mm)		121	174	174
HW max. (mm)		11	1.5	19.7
HW min. (mm)		-7	-8.9	-6.6
I (mm)		10	13	13
K (mm)		5.3	6.3	6.3
L (mm)		12.7	12.7	12.7
L1 (mm)		184	261	261
M min./max.		26-32 mm	32-44 mm	32-44 mm
M1 (mm)		26	25.4	25.4
N (mm)		42.5	57	57
P (mm)		45	63.5	63.5
F1 (kN)		2	3	-
S (mm)		20	35	35
h (mm)		35	40	60
26215...	Ident. No.	**015** ●	**016** ●	**017** ●

Prod. Gr. 260





Size 20, sizes 30–70



The clamping force can be infinitely adjusted using the adjusting screw

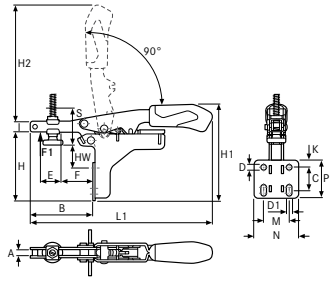
Horizontal clamp with variable clamping height

With open clamping arm and angular base

Application:
Quick-action clamp with infinitely adjustable balancing function for workpieces with different clamping widths.

Execution:
- galvanised and passivated.
- ergonomic, oil-resistant handle with large hand rest and soft components.
- protection against the loss of the clamping screw on the end of the clamping arm. complete with zinc-plated clamping bolt
- Size 20 clamping bolt M6 x 40 mm
- Size 50 clamping bolt M8 x 55 mm

Advantage:
- variable clamping height, for clamping different workpieces
- used for small lot sizes
- infinitely adjustable clamping force
- ergonomic 2 component handle
- protection against loss on clamping arm



Size		20	50
A (mm)		6	8.2
B (mm)		56	85
C		20-26 mm	20.5-30 mm
D (mm)		5.6	6.5
D1 (mm)		5.6	6.5
E (mm)		22	40
F (mm)		24	31
H (mm)		68	88
H1 (mm)		94	124
H2 (mm)		113	158
HW max. (mm)		24	30
HW min. (mm)		-3	1
I (mm)		10	13
K (mm)		7.1	10.6
L1 (mm)		173	244
N (mm)		45	57
M (mm)		25.4	38.1
P (mm)		38	51
F1 (kN)		2	3
S (mm)		8	13
26213...	Ident. No.	**110** ●	**120** ●

Prod. Gr. 260

The clamping force can be infinitely adjusted using the adjusting screw

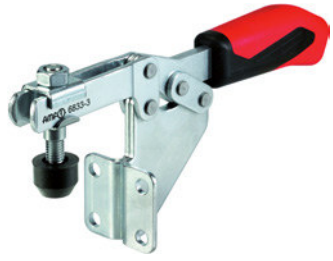
Horizontal quick-action clamp

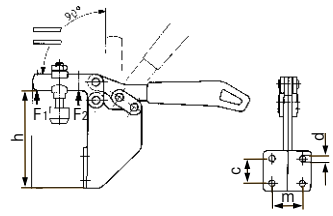
With open clamping arm and angular base

Application:
For quick and secure clamping on machine tables and appliances.

Execution:
- Galvanised and passivated
- With red oil-resistant plastic handle
- Case-hardened and lubricated bearing bushes
- Stainless steel rivet
- Ergonomic, oil-resistant handle with large hand rest and soft components
- Protection against the loss of the clamping screw on the end of the clamping arm

Delivery:
With tempered and galvanised thrust bolt





Size		2	3
c (mm)		20	24
m (mm)		25.5	28.5
d (mm)		5.6	6.8
H (mm)		73	70
F1 (N)		1000	1800
max. F2 (N)		1200	2500
H1 (mm)		94	86.5
L (mm)		162	206
Thumbscrew size		M6 x 35 mm	M8 x 45 mm
26216...	Ident. No.	**020** ●	**030** ●

Prod. Gr. 260

Push rod clamp
Small angular base

Application:
For quick and secure clamping on machine tables and appliances.

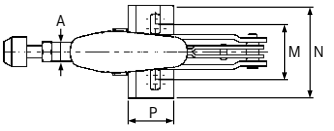
Execution:
- Compression and tension clamp with small angular base
- Individual parts galvanised
- Long push rod version
- Case-hardened and lubricated bearing bushes
- Ergonomic, oil-resistant handle with large hand rest and soft components.

Advantage:
- Handle can be adjusted at any angle to the base surface

Delivery:
With thrust bolt and protective cap

Notes:
Other models available. Detailed brochure on request.

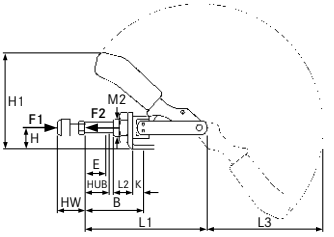
Ident. No. 005



Ident. No. 005

Size		0	1	3
min./max. m		-	16-19.5 mm	29.5-42.5 mm
m (mm)		16	-	-
d (mm)		4.5	4.5	6.5
Stroke (mm)		16	20	32
Retaining force (N)		800	1000	2500
h (mm)		12	15	25
L1 (mm)		66.5	91	140
Angled base width k (mm)		6.5	7	13
H1 (mm)		49.3	60.5	108
Thumbscrew size		M4 x 20 mm	M4 x 20 mm	M8 x 35 mm
26217...	Ident. No.	005 ●	010 ●	030 ●

Prod. Gr. 260



Ident. No. 005

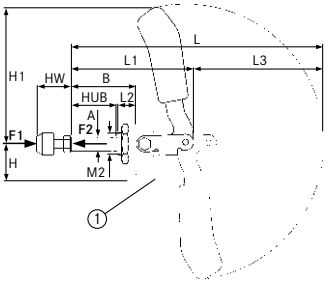
Push rod clamp
Short type

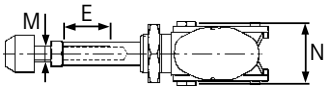
Application:
For quick and secure clamping on machine tables and appliances.

Execution:
- Compression and tension clamp - short model
- Galvanised and passivated
- Fitting screws tempered
- Long push rod version
- Case-hardened and lubricated bearing bushes
- With red oil-resistant plastic handle
- Rivet made of stainless steel
- Ergonomic, oil-resistant handle with large hand rest and soft components.

Delivery:
With tempered and galvanised thrust bolt

Notes:
Stainless steel version on request.





Size		2	3	5
Stroke (mm)		21.5	40	67
Retaining force (N)		1000	2500	4000
h (mm)		24	33	37
L1 (mm)		68.5	108	175
HW		17-25 mm	22-35 mm	30-50 mm
H1 (mm)		73	123	149
Thumbscrew size		M6 x 25 mm	M8 x 35 mm	M12 x 50 mm
26218...	Ident. No.	020 ●	030 ●	050 ●

Prod. Gr. 260

p. 989

Stable angular base

Accessories push-rod clamp

Application:
For securing the push rod clamp.

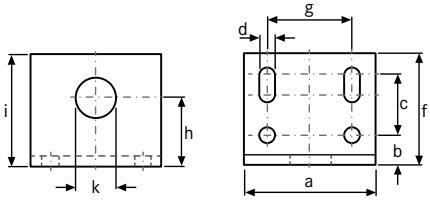
Execution:
- Enhances areas of application thanks to greater clamping height

- For installation in fixtures
- Attachment using 4 screws

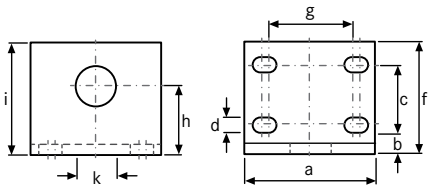
Notes:
Stainless steel version on request.

Size		2	3	5
a (mm)		60	65	70
max. f (mm)		40	41	45
K (mm)		16.2	20.2	24
h (mm)		24	33	37
b (mm)		11	14.5	17
c (mm)		18	19	32
min./max. c		11-18 mm	-	-
g (mm)		40	44	60
26218...	Ident. No.	520 ○	530 ●	550 ●

Prod. Gr. 260



Ident. No. 520
Ref. no. 26218520



Ident. No. 530–550
Ref. no. 26218530-540

Push rod clamp with variable clamping height

With angular base

Application:
Quick-action clamp with infinitely adjustable balancing function for workpieces with different clamping widths.

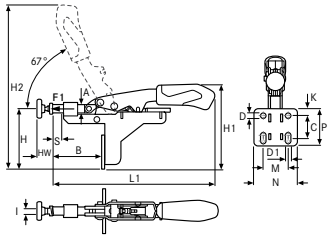
Execution:
- galvanised and passivated.
- ergonomic, oil-resistant handle with large hand rest and soft components.
- protection against the loss of the clamping screw on the end of the clamping arm. complete with zinc-plated clamping bolt

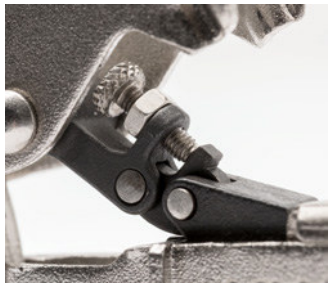
- Size 15 clamping bolt M6 x 29 mm
- Size 25 clamping bolt M8 x 38 mm

Advantage:
- variable clamping height, for clamping different workpieces
- used for small lot sizes
- infinitely adjustable clamping force
- ergonomic 2 component handle
- protection against loss on clamping arm

Size		15	25
A (mm)		8.5	11.8
B		42-59 mm	58-83 mm
C		20-26 mm	20.5-30 mm
D (mm)		5.6	6.5
D1 (mm)		5.6	6.5
E (mm)		20	27
H (mm)		66	84
H1 (mm)		91	119
Stroke (mm)		9	25
H2 (mm)		173	238
I		M6	M8
K (mm)		7.1	10.6
L1 (mm)		167	236
N (mm)		45	57
M (mm)		25.4	38.1
P (mm)		38	51
F1 (kN)		2	3
S (mm)		8	25
h (mm)		13	35
26217...	Ident. No.	115 ○	120 ○

Prod. Gr. 260





The clamping force can be infinitely adjusted using the adjusting screw

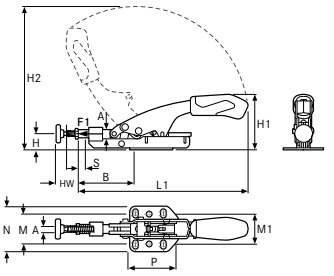
Push rod clamp with variable clamping height

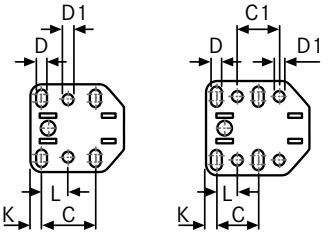
With horizontal base

Application:
Quick-action clamp with infinitely adjustable balancing function for workpieces with different clamping widths.

Execution:
- galvanised and passivated.
- ergonomic, oil-resistant handle with large hand rest and soft components.
- protection against the loss of the clamping screw on the end of the clamping arm. complete with zinc-plated clamping bolt
- Size 15 clamping bolt M6 x 37 mm
- Size 25 clamping bolt M8 x 50 mm

Advantage:
- variable clamping height, for clamping different workpieces
- used for small lot sizes
- infinitely adjustable clamping force
- ergonomic 2-component handle
- protection against loss on clamping arm





Size 20, sizes 30–70

Size		15	25
A (mm)		8.5	11.8
B		52-69 mm	72-98 mm
C (mm)		26	25.4
C1 (mm)		-	25.4
D (mm)		5.5	6.5
D1 (mm)		5.5	6.5
H (mm)		16.8	23.2
H1 (mm)		58	71
Stroke (mm)		25	35
H2 (mm)		145	207
HW max. (mm)		25	35
HW min. (mm)		13	16
I		M6	M8
K (mm)		5.3	6.3
L (mm)		12.7	12.7
L1 (mm)		177	256
M min./max.		26-32 mm	32-44 mm
M1 (mm)		28	38
N (mm)		42.5	57
P (mm)		45	63.5
F1 (kN)		2	3
26217...	Ident. No.	015 ●	016 ●

Prod. Gr. 260

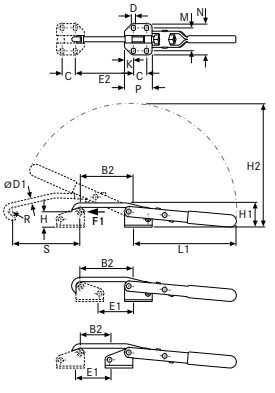
Pull clamps (under tension)

Application:
For quick and secure clamping on machine tables and appliances.

Execution:
- With elbow lever transmission
- Galvanised and passivated
- Hooks and clamping sleeve tempered
- Rivet made of stainless steel
- Case-hardened and lubricated bearing bushes
- With red oil-resistant plastic handle
- The self-locking feature in the clamped position prevents the clamp from opening as a result of machining forces.

Notes:
Stainless steel version on request.

Ident. No. 110, 150



Size		1	3	5
Max. tensile force (kN)		2	3	5
Min./max. clamping width B1		16-23 mm	32.5-44 mm	26-40 mm
min./max. B2		35-42 mm	65-77 mm	57-71 mm
C (mm)		19	19	29
D (mm)		4.5	5.6	11.2
D1 (mm)		5.3	7.1	10.75
min./max. E1		16.5-23.5 mm	39.5-50.5 mm	27.5-42 mm
min./max. E2		35-42.5 mm	72.5-84 mm	58-72 mm
H (mm)		22.7	22.7	49.1
H1 (mm)		34.5	36	69
H2 (mm)		111	179	228
K (mm)		6	13	13
L1 (mm)		88	148	228
min./max. M		25.5-30.5 mm	31-36 mm	56-63.5 mm
N (mm)		40	45	85
L5 (mm)		62.6	123.5	189.5
P (mm)		31	40	55
R (mm)		4.5	5.5	8
S (mm)		45	98	146
Max. adjustment range (mm)		8	12	14
26219...	Ident. No.	110 ●	130 ●	150 ●

Prod. Gr. 260

p. 991

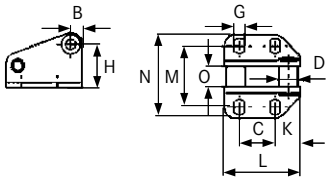
Retainer for pull clamp (under tension)

Accessories for no. 26219 110-150

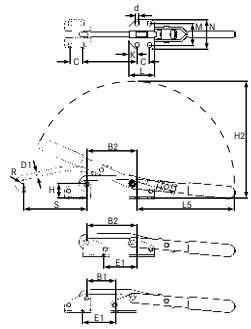
Execution:

- Stainless steel rivet

Counter holder



Counter holder



Size		1	3	5
B (mm)		6	6	12
C (mm)		19	19	29
D (mm)		8	10	15
G (mm)		4.5	5.5	11.2
H (mm)		22.7	22.7	49.1
L (mm)		31	40	55
min./max. M		26.0-30.0 mm	31.3-35.8 mm	56.5-64 mm
N (mm)		40	45	86
Slot width O (mm)		6.9	10.9	13.8
26219...	Ident. No.	**210** ●	**230** ●	**250** ●

Prod. Gr. 260

Horizontal pull clamp

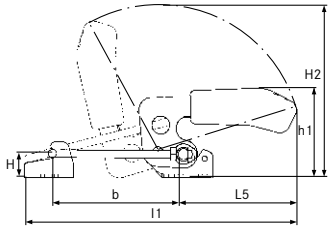
Complete with retainer

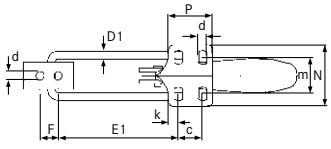
Application:

For quick and secure clamping on machine tables and appliances.

Execution:

- Galvanised and passivated
- Hook tempered
- Case-hardened and lubricated bearing bushes
- Rivet made of stainless steel
- Oil-resistant handle with large handle surface and soft components





Design		Horizontal	Horizontal	Horizontal
Size		2	3	4
Max. tensile force (kN)		1.6	3.2	7
H2 (mm)		99	136	168
Min./max. clamping width B1		42-76 mm	53.5-101 mm	66-130 mm
C (mm)		13	19	32
d (mm)		5.2	6.5	8.5
min./max. e		38-72 mm	48.5-96 mm	59-123 mm
H (mm)		12	19	26
H1 (mm)		99	136	168
k (mm)		6.4	8	9.5
min./max. m		19.5-23.5 mm	24.5-32 mm	35-46 mm
min./max. l1		125-159 mm	169-216 mm	209-273 mm
P (mm)		26	35	53.5
N (mm)		38	48	64.5
26219...	Ident. No.	**310** ●	**320** ●	**330** ●

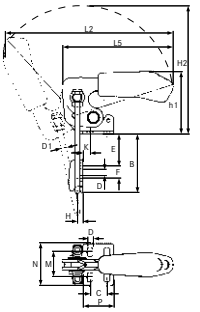
Prod. Gr. 260

Vertical pull clamp

Complete with retainer

Application:
For quick and secure clamping on machine tables and appliances.

Execution:
- Galvanised and passivated
- Hook tempered
- Case-hardened and lubricated bearing bushes
- Rivet made of stainless steel
- Oil-resistant handle with large handle surface and soft components



Design		Perpendicular	Perpendicular	Perpendicular
Size		2	3	4
Max. tensile force (kN)		1.6	3.2	7
H2 (mm)		99	137	168
Min./max. clamping width B1		24-47 mm	33-63 mm	43-81 mm
C (mm)		13	19	32
d (mm)		5.2	6.5	8.5
min./max. e		5-28 mm	6.5-36 mm	9-47 mm
H (mm)		4.5	6	8
H1 (mm)		49	70	94.5
k (mm)		6.8	8	9.5
min./max. m		19.5-23.5 mm	24.5-32.5 mm	35-46 mm
min./max. l1		91-158 mm	125-190 mm	151-239 mm
P (mm)		26	35	53.5
N (mm)		38	48	64.5
26219...	Ident. No.	410 ●	420 ●	430 ○

Prod. Gr. 260

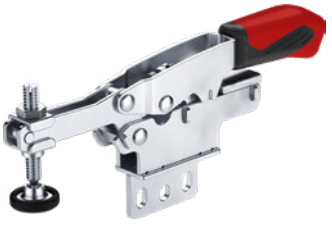
Horizontal clamp with variable clamping height

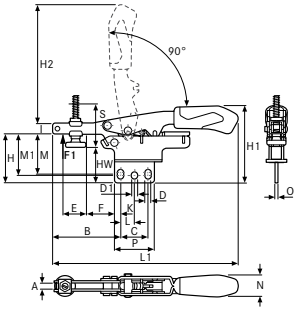
With open clamping arm and vertical base

Application:
Quick-action clamp with infinitely adjustable balancing function for workpieces with different clamping widths.

Execution:
- galvanised and passivated.
- ergonomic, oil-resistant handle with large hand rest and soft components.
- protection against the loss of the clamping screw on the end of the clamping arm. complete with zinc-plated clamping bolt
- Size 20 clamping bolt M6 x 40 mm
- Size 50 clamping bolt M8 x 39 mm

Advantage:
- variable clamping height, for clamping different workpieces
- used for small lot sizes
- infinitely adjustable clamping force
- ergonomic 2 component handle
- protection against loss on clamping arm





The clamping force can be infinitely adjusted using the adjusting screw

Size		20	50
A (mm)		6	8.4
B (mm)		64	106.5
C (mm)		25.9	38
D (mm)		5.6	6.5
D1 (mm)		5.6	6.5
E (mm)		22	35
F (mm)		26	50
H (mm)		47	59
H1 (mm)		73	94.5
H2 (mm)		113	158
HW max. (mm)		34	42
HW min. (mm)		13	27.5
I (mm)		10	13
K (mm)		6	8.5
L (mm)		12.9	19
L1 (mm)		173	243
M min./max.		37-40 mm	45-49 mm
M1 (mm)		39.8	49
N (mm)		21	21
O (mm)		3	4
P (mm)		38	55
F1 (kN)		2	3
S (mm)		20	35
26215...	Ident. No.	610 ●	620 ○

Prod. Gr. 260

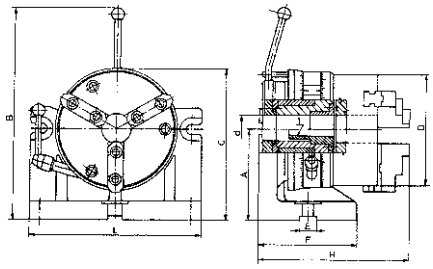
Dividers

Application:
For horizontal and vertical milling, drilling, finishing and marking.

Execution:
- Body made from cast iron, dividing disc made of steel, hardened and polished, concentricity tolerance of spindle: 0.02 mm, straightness tolerance of housing: 0.02 mm.
- Direct division: via dividing plate with 24 positions for dividing 2-3-4-6-8-12-24.
- Graduation via scale and adjustable vernier scale, scale interval: 1°.

Delivery:
1x ORION divider, direct/grad.

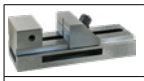
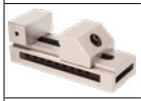
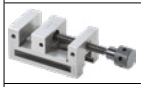
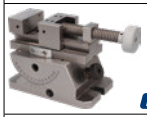
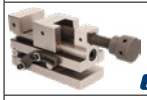
Notes:
Delivered ex-works, postage and packaging excluded.

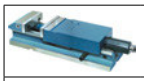


Point height (mm)		100	125	160
Dividing device height C (mm)		167.5	210	265
Locking arm height B (mm)		254	301	382
Lathe chuck Ø D (mm)		125	160	200
Through-bore d (mm)		26.5	42	55
Basic body width F (mm)		130	140	160
Width H (mm)		186	205	228
Length L (mm)		215	245	300
For groove width E (mm)		14	14	18
Morse taper size		-	MK 3	MK 4
Weight (kg)		17.6	32.2	55.3
25124...	Ident. No.	**101** ●	**126** ●+	**201** ●+

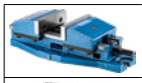
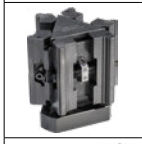
Prod. Gr. 270

selection overview – vices

	Vice type	Jaw width mm	Span 0 to mm	page
	Grinding and control vices, type OP-F	50 / 73 / 100	80/100/130	online
	grinding and control vices, type OP-S	36/50/73/88/125	40/80/100/130/160	online
	grinding and control vices, type OP-G	60 / 73 / 88	73/76/115	online
	Precision sine vices, type OPS-S	70/90	80/120	online
	Precision sine vices type OPS-Z	70	80	online
	quick-action clamping drill vices	100 / 135	130 / 160	997
	electronic drills vices	60 / 80 / 100 / 120 / 150	70 / 80 / 115 / 155 / 185	998
	electronic drills vices BOF	90 / 110 / 135 / 160	90 / 130 / 160 / 220	998
	electronic drills hand vices	63 / 80 / 100 / 120 / 140	65 / 85 / 92 / 93 / 110 / 150	998
	Machine vices RS	113 / 135 / 160 / 200	105 / 125 / 145 / 185	999
	Machine vices MSR	125 / 150	150 / 300	1000

	Selection overview of high-pressure machine vices			1001
	High pressure machine vices	90 / 125	1500 / 220	1001
	High pressure machine vices RB-K	92 / 113 / 135 / 160 / 200	100 / 170 / 220 / 310 / 350	1002
	High pressure machine vices	125 / 160	312 / 451	1003
	RKE high-pressure machine vices	92 / 125 / 160 / 200	208 / 312 / 451 / 451	online
	High-pressure clamp MH-S 125	125	445 / 893	online
	NC high pressure machine vices	100 / 125 / 160	386 / 431 / 573	1012
	High-pressure machine vices type CNC	125 / 125 / 160 / 160	301 / 402	online
	High-pressure machine vices type type NCA	90 / 125 / 160	217 / 313 / 433	online
	precision vices, mechanical	102 / 125 / 160	314.5 / 381.5 / 479	online

	Selection overview for 5-axis clamps			1021
	5-axis compact vice	125	202	1021
	5-A two-in-one multi-clamp	120	>270 / 370 / 470 / 570 expandable	online

	Selection overview for centre clamping devices			1035
	Machine vice, centric clamping	113 / 135 / 160	110 / 140 / 180	1035
	TCA 5-axis centre clamping device K / M	70	135 / 200	1031
	5-axis centre clamping device RKZ-M	50 / 70 / 92 / 125	111 / 153 / 208 / 269	1036
	Centre clamping device RS-Z	75/125	100/125/150/175/200/250/300	1036
	3-way clamping pyramid RS-P	75/125	100/150	1038
	Clamping tower RS-T	125	100	1042
	Multiple clamping rails	50/80/120	Clamping rail length >200/300/400/500/600/and expandable	1046

ORION® Grinding and inspection vices, type OP-F

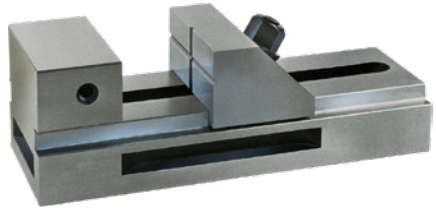
Actuation via hexagon key

Application:
For horizontal, vertical and lateral grinding, inspection and eroding tasks.

Execution:
- Made of alloyed tool steel.
- Hardened and precision-ground.
- Quick adjustment.
- Horizontally and vertically ground vee block.
- Perpendicularity tolerance 0.005 mm/100 mm (base surface to fixed jaw clamping surfaces).
- Parallelism tolerance 0.005 mm/100 mm (base surface to upper guide plate).
- Ref. no. 210-230, parallelism tolerance 0.005 mm/100 mm (base surface to upper guide plate).

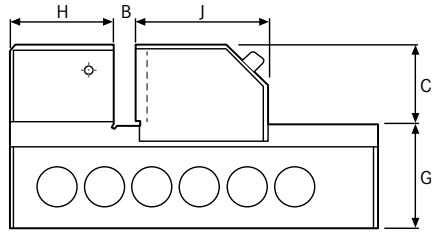
Delivery:
1x grinding and control vice OP-F; incl. Hexagon socket wrench

Notes:
Type OP-F with clamping screw on the upper side



Prism countersunk horizontally and vertically		Yes	Yes	Yes
Jaws width (mm)		50	73	100
Jaws height (mm)		25	35	45
Clamping width (mm)		80	100	130
Height (mm)		53	70	90
Base body length (mm)		150	190	245
Base body width (mm)		50	73	100
Base body height (mm)		28	35	45
28600...	Ident. No.	210 ●	220 ●	230 ●

Prod. Gr. 282



ORION® Grinding and inspection vices, type OP-S

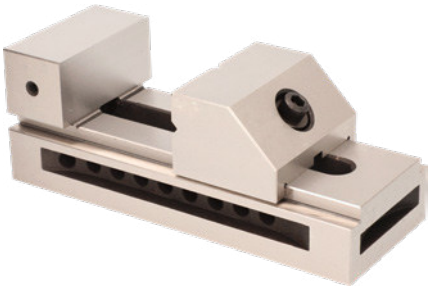
Actuation via hexagon key

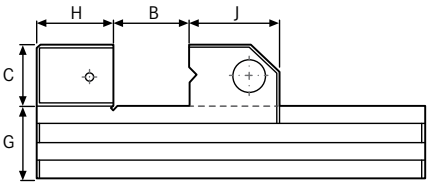
Application:
For horizontal, vertical and lateral grinding, inspection and eroding tasks.

Execution:
- Made of alloyed tool steel.
- Hardened and precision-ground.
- Quick adjustment.
- Horizontally ground vee block.
- Perpendicularity tolerance 0.005 mm/100 mm (base surface to fixed jaw clamping surfaces).
- Parallelism tolerance 0.005 mm/100 mm (base surface to upper guide plate).

Delivery:
1x grinding and control vice OP-S; incl. Hexagon socket wrench

Notes:
Type OP-S with clamping screw on upper side





Prism countersunk horizontally		Yes	Yes	-	-	Yes
Prism countersunk horizontally and vertically		-	-	Yes	Yes	-
Jaws width (mm)		36	50	73	88	125
Jaws height (mm)		20	25	35	40	45
Clamping width (mm)		40	80	100	130	160
Height (mm)		48	53	70	80	100
Base body length (mm)		105	150	190	235	285
Base body width (mm)		36	50	73	88	125
Base body height (mm)		28	28	35	40	45
28600...	Ident. No.	310 ●	320 ●	330 ●	340 ●	350 ●

Prod. Gr. 282

ORION® Grinding and inspection vices, type OP-G

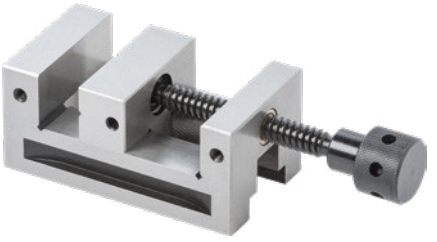
Actuation via trapezoidal spindle

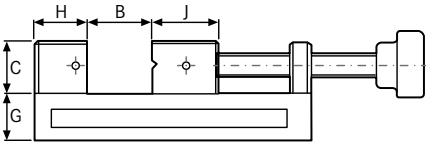
Application:
For horizontal, vertical and lateral grinding, inspection and eroding tasks.

Execution:
- Made of alloyed tool steel.
- Hardened and precision-ground.
- Adjustment via trapezoidal spindle.
- Horizontally ground vee block.
- Perpendicularity tolerance 0.005 mm/100 mm (base surface to fixed jaw clamping surfaces).
- Parallelism tolerance 0.005 mm/100 mm (base surface to upper guide plate).

Delivery:
1x grinding and control vice OP-G

Notes:
Type OP-G with actuation via trapezoidal spindle





Prism countersunk horizontally		Yes	Yes	Yes
Jaws width (mm)		63	73	88
Jaws height (mm)		30	35	42
Clamping width (mm)		73	76	115
Height (mm)		63	73	80
Base body length (mm)		176	190	250
Base body width (mm)		63	73	88
Base body height (mm)		33	38	38
28604...	Ident. No.	160 ●	173 ●	188 ●

Prod. Gr. 282

ORION® Precision sine vices, type OPS-S

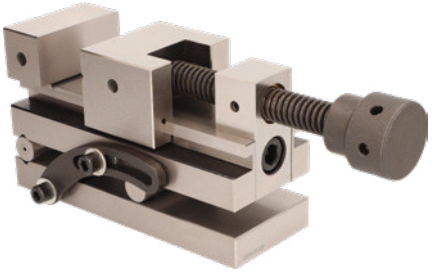
Actuation via trapezoidal spindle

Application:
For grinding and inspection tasks.

Execution:
- Made of alloyed tool steel.
- Hardened and precision-ground.
- Adjustment via trapezoidal spindle.
- Horizontally ground vee block.
- Perpendicularity tolerance 0.005 mm/100 mm (base surface to fixed jaw clamping surfaces).
- Parallelism tolerance 0.005 mm/100 mm (base surface to upper guide plate).
- Precise angular adjustment achieved using gauge blocks.
- Angular deviation at 45° +/- 15 arc seconds.
- Hardened and polished bearing and mounting bolts with a tolerance of 0.001 mm.
- The clamp can be positively locked at any angle.

Delivery:
1x precision sine bar vices OPS-S

Notes:
Type OPS-S with actuation via trapezoidal spindle



Prism countersunk horizontally		Yes	Yes
Jaws width (mm)		70	90
Jaws height (mm)		30	40
Clamping width (mm)		80	120
Height (mm)		93	113
Base body length (mm)		160	210
Base body height (mm)		63	73
Min./max. angle scale		0-46 Degree	0-46 Degree
28620...	Ident. No.	110 ●	120 ●

Prod. Gr. 282

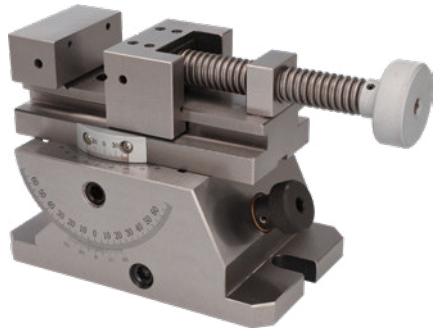
ORION® Precision sine vices OPS-Z

Actuation via trapezoidal spindle

Application:
For grinding and inspection tasks.

Execution:
- Made of alloyed tool steel.
- Hardened and precision-ground.
- Adjustment via trapezoidal spindle.
- Horizontally ground vee block.
- Perpendicularity tolerance 0.005 mm/100 mm (base surface to fixed jaw clamping surfaces).
- Parallelism tolerance 0.005 mm/100 mm (base surface to upper guide plate).
- Precise angular adjustment achieved using gauge blocks.
- Angular deviation at 45° +/- 15 arc seconds.
- Hardened and polished bearing and mounting bolts with a tolerance of 0.001 mm.
- The clamp can be positively locked at any angle.

Delivery:
1 x precision sine bar vice OPS-Z



Prism countersunk horizontally		Yes
Jaws width (mm)		70
Jaws height (mm)		30
Clamping width (mm)		80
Height (mm)		62
Base body length (mm)		160
Base body width (mm)		110
Base body height (mm)		32
Min./max. angle scale		0-120 Degree
28620...	Ident. No.	**200** ●

Prod. Gr. 282

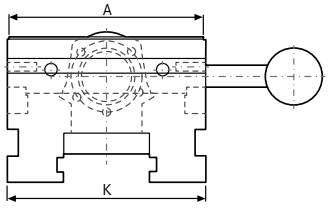
ATORN Quick-action clamping drill vices

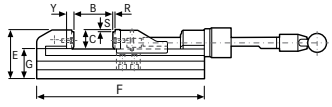
Application:
For quick and safe clamping, in particular for workpiece series machining; can be used with guide rails; clamping on base and side; also suited for light milling tasks.

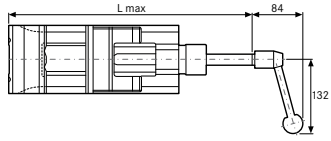
Execution:
- Special cast iron body
- Flat and sturdy version
- Max. clamping force 10 kN
- Positive locking engagement

Advantage:
- Quick jaw adjustment and clamping with just one lever
- One-hand operation
- Large clamping range

Delivery:
1x quick-action clamping drill vice including fasteners

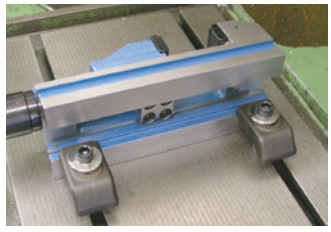






Clamping with guide rail

Clamping with clamping brackets



Clamping with clamping brackets, laterally

Jaws width (mm)	Clamping width (mm)	Jaws height (mm)	Jaws thickness (mm)	Body length (mm)	Body width (mm)	Max. length (mm)	Height (mm)	Clamp in height (mm)	Weight (kg)	**28671...** Ident. No.	
110	130	32	12	280	112	465	82	50	12.5	**110**	●
135	160	40	16	328	137	545	90	50	19	**135**	●

Prod. Gr. 280

ORION® Drill vices

Application:
For light machining work on drill presses and pillar drills.

Execution:
- Made from grey cast iron
- Precise clamping thanks to long flat rail guide
- Clamping jaws with steps and vee blocks
- Operate by hand or by toggle lever

Delivery:
1 pc. Drill vice

Jaws width (mm)	Clamping width (mm)	Jaws height (mm)	Jaws thickness (mm)	Body length (mm)	Body height (mm)	Body width (mm)	Max. length (mm)	Height (mm)	Max. flute spacing (mm)	Min. flute spacing (mm)	Chip flute width (mm)	28665... Ident. No.	
65	70	25	12	160	47	133	252	-	106	92	9	060	●
84	80	25	12	185	52	153	285	-	124	111	9	080	●
105	110	30	12	240	65	200	345	65	163	145	13	100	●
124	150	40	12	300	82	230	420	-	193	175	13	120	●
153	180	45	15	350	96	260	490	-	215	200	14.5	150	●+

Prod. Gr. 282

Note: You can find suitable T-groove screws in the mechanical clamping elements area.

Drill vices BOF

Application:
Secure clamping and fixing of workpieces on drills and measuring machines

Execution:
- Made from grey cast iron
- Means of attachment on side and front face
- Long guide for the moving jaws also in outer clamping range
- Both jaws have a support surface for clamping flat workpieces
- Clamping jaws are reversible, one side is smooth or has longitudinal and lateral vee blocks, and the other side is knurled and polished on both sides

Delivery:
1 pc. Drill vice BOF

Jaws width (mm)	Clamping width (mm)	Jaws height (mm)	Body length (mm)	Height (mm)	Chip flute width (mm)	Weight (kg)	28681... Ident. No.	
90	90	25	195	60	14	5.5	090	●
110	130	32	315	72.5	17	9.5	110	●
135	160	40	365	80.5	17	13.5	135	●
160	220	50	445	95.5	17	25	160	●

Prod. Gr. 203

Note: You can find suitable T-groove screws in the mechanical clamping elements area.

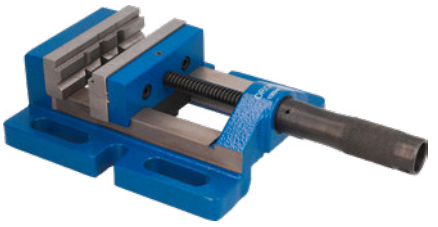
Manual vices for drills

Application:
Secure clamping and fixing of workpieces on drills and measuring machines

Execution:
- Basic body made of grey cast iron
- Universal means of attachment thanks to clamping slots and slotted holes
- Fixed clamping jaws with vee blocks
- Both jaws with step for clamping flat workpieces
- Black oxide-coated jaws and spindle

Delivery:
1 pc. Handheld drill vice

Notes:
Ref. no. 200 with 3 clamping options: horizontal, vertical and lateral.



Ident. No. 063–140

Ident. No. 200

Jaws width (mm)	Clamping width (mm)	Jaws height (mm)	Body length (mm)	Body width (mm)	Max. length (mm)	Height (mm)	Chip flute width (mm)	Weight (kg)	28660... Ident. No.	
63	65	25	105	105	125	43	12.5	1.35	063	●
80	85	30	142	142	-	64	14	2.95	085	●
100	92	30	150	150	170	65	14	4.6	100	●
120	110	30	176	176	-	63	14	6.2	120	●
140	150	40	220	220	300	85	14	12.5	140	●
100	93	30	155	155	185	63	15	-	200	●

Prod. Gr. 282

Note: You can find suitable T-groove screws in the mechanical clamping elements area.

Flott (felix) 2.0 drill vice

[felix] 2.0

Application:
- Easy and safe drilling thanks to the innovative Felix Röwekämper drill vice
- The ideal drill vice for freely adjustable workpiece clamping
- Easy, fast, safe and better to use
- The vice can be clamped to the workbench in just two operations, leaving it precisely adjusted and secure.

Version:
- Patented clamping mechanism requires only one operation to clamp the vice
- Hardened and precision-ground clamping jaws
- Vee block jaws with shoulder, horizontal and vertical recesses
- Increased travel and larger clamping width

Advantage:
- No additional clamping equipment is required
- The vice cannot be twisted or knocked out of place thanks to the comprehensive occupational safety measures (anti-rotation lock)
- Vice can be positioned freely and is fully movable
- Short setup time thanks to fast clamping (up to 95 % quicker)
- For a wide range of workpieces

Scope of delivery:
One Flott (felix) 2.0 drill vice; includes fastening material.

Ident. No. 010–020

Type	Jaws width (mm)	Clamping width (mm)	Jaws height (mm)	Body length (mm)	Body height (mm)	Body width (mm)	Weight (kg)	28680... Ident. No.	
(felix) 80 2.0	80	120	28	280	78	95	11.6	010	●
(felix) 100 2.0	100	135	32	340	85	122	12.8	020	●
(felix) 120 2.0	120	168	40	400	102	140	20.3	030	●+
(felix) 150 2.0	150	200	40	451	103	170	32.4	040	●+

Prod. Gr. 286

RS machine vices

Manual mechanical clamping system without power intensifier

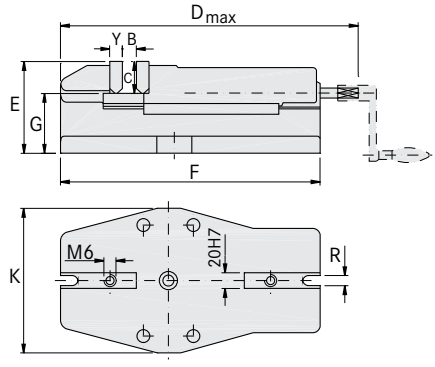
Application:
For drilling and milling.

Execution:
- Made of special cast iron for a wide range of applications.
- Long guide for the movable jaw.
- Power transmission via the threaded spindle.
- Reversible hardened clamping jaws: one side is smooth and the other side is grooved.
- Can be used on graduated swivel plates.
- For matching swivel bases, see no. 28881.
- Vice body and swivel base have 20H7 longitudinal slots for precision alignment.

Advantage:
- Entire clamping range can be bridged by turning the hand crank.
- Spindle is protected against dirt and swarf.
- Extensive range of jaws.

Delivery:
1x RS machine vice; including SGN standard jaws and hand crank

Notes:
Transverse grooves on request.



Jaws width (mm)		113	135	160	200
Clamping width (mm)		105	125	145	185
Jaws height (mm)		31.6	39.6	49.6	62.6
Jaws thickness (mm)		12	16	16	20
Body length (mm)		300	365	410	460
Body width (mm)		160	200	240	280
Max. length (mm)		423	510	575	675
Clamp in height (mm)		58	64	70	82
Height (mm)		90	104	120	145
Slot width (mm)		14	14	18	22
28710...	Ident. No.	110 ●	135 ●	160 ○+	200 ○+

Prod. Gr. 203

Note: Suitable T-sliding blocks can be found in the mechanical clamping elements section.

p. 1002 p. 1007 p. 1053 p. 1058

MSR machine vices

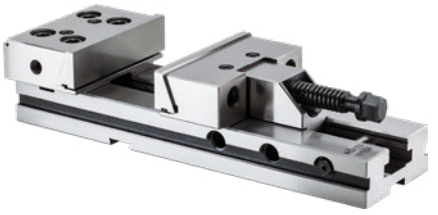
Manual mechanical clamping system without power intensifier

Application:
For universal use on milling machines and machining centres.

Execution:
- Body made of hardened steel (60 HRC).
- Hardened (60 HRC) and polished guides.
- Repeat clamping accuracy: 0.02.
- Aligned on the machine table via longitudinal and transverse grooves 20H7.
- Can be used on graduated swivel plates.

Advantage:
- Bolt system for rapid clamping range adjustment.

Delivery:
1x MSR machine vice, including spanner, stop, pull-down jaws and 4x adjustable clamps



p. 1000 p. 1053 p. 1058

Jaws width (mm)		125	150
Clamping width (mm)		150	300
Jaws height (mm)		32	40
Body length (mm)		345	520
Body width (mm)		95	125
Clamp in height (mm)		40	50
Height (mm)		80	100
Max. tension force (kN)		30	50
Clamping repeatability (mm)		0.02	0.02
Weight (kg)		12.7	29.5
28720...	Ident. No.	**120** ●	**150** ●+

Prod. Gr. 203

Note: Suitable T-sliding blocks can be found in the mechanical clamping elements section.

Adjustable clamps

For MSR machine vices

Application:
For milling machines and machining centres.

Execution:
- Made of alloyed steel.
- 4 adjustable clamps are required for optimal clamping.

Delivery:
1 pc. Adjustable clamp, incl. sliding block and screw

Jaws width (mm)		125	125	125	125
For slot width (mm)		12	14	16	18
28722...	Ident. No.	**112** ●	**114** ●	**116** ○	**118** ○

Jaws width (mm)		150	150	150	150
For slot width (mm)		12	14	16	18
28722...	Ident. No.	**212** ○	**214** ○	**216** ○	**218** ○

Prod. Gr. 203

Information block: high-pressure machine vices

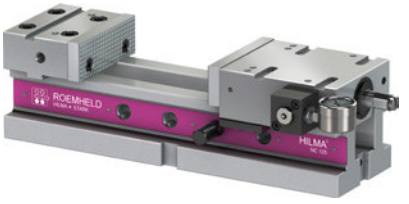
the right companion for every application

We offer the following range of high-pressure machine vices:
- Mechanical/mechanical; mechanical/hydraulic
- With and without clamping force booster
- Jaw widths of 90-200 mm
- Clamping widths of 0-893 mm
- Clamping force of 20-60 kN
- With and without quick adjustment

We also offer a wide range of accessories:
- Screw-in jaws/screw-on jaws/pull-down jaws etc.
- Stops
- Angled drives
- Adjustable clamps

ATORN

HILMA



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ORION® ROHM

ATORN High-pressure machine vices

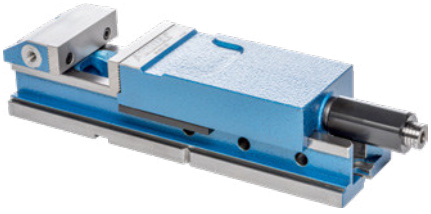
Mechanical/hydraulic

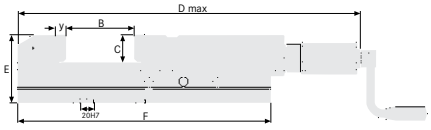
Application:
For individual and series production on drills and milling machines.

Execution:
- Mechanical-hydraulic clamping system with mechanical pretensioning via hand crank
- Forged steel body
- Hardened and polished guideways
- Encapsulated stainless steel spindle
- With power transmission/preset clamping force in stages
- Alignment on the machine table via slots and T-slot nuts
- Aligned on the machine table via grooves and sliding blocks, art. no. 26196

Advantage:
- Easy and fast adjustment of the clamping range using the bolt system
- Pretensioning for elastic parts (stacked mounting)

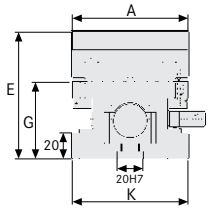
Delivery:
1x vice; including 1 set of standard jaws (1 side smooth, 1 side grooved) and hand crank





Jaws width (mm)		90	125
Jaws height (mm)		39.6	39.6
Body length (mm)		370	460
Max. length (mm)		551	683
Min./max. clamping width		0-150 mm	0-220 mm
Tension force (kN)		25	40
28832...	Ident. No.	**092** ●	**127** ●

Prod. Gr. 281



Product video: YouTube ID: Eo_RmnTBP8Q

p. 1002 p. 1007 p. 1053 p. 1058

ATORN Reversible jaws type WB-S

Accessories for high-pressure machine vices, art. no.: 28832

Application:
Reversible jaws for universal use according to requirements. Jaws are screwed directly into the screw-on jaws.

Execution:
- One side with longitudinal grooves and one smooth side
- Hardened and polished
- Suitable for art. no.: 28832

Advantage:
- Reversible

Delivery:
1 set of reversible jaws type WB-S; incl. fastening screws

Type		Reversible jaw	Reversible jaw
Jaw design		Longitudinal grooves | Smooth	Longitudinal grooves | Smooth
Jaws width (mm)		90	125
Jaws thickness (mm)		15.6	15.6
Jaws height (mm)		39.6	39.6
Hole distance (mm)		60	80
Hole distance (vertical) (mm)		15	15
28885...	Ident. No.	**201** ●	**202** ●

Prod. Gr. 281

RB-K high-pressure machine vices

Mechanical/hydraulic

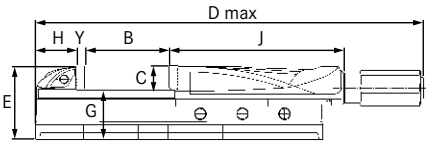
Application:
For individual and series production on drilling and milling machines.

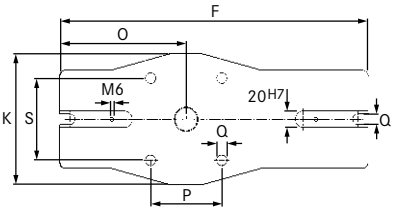
Execution:
- Mechanical-hydraulic clamping system with mechanical pretensioning via hand crank.
- Clamping force can be preset via limit stop.
- Steel body.
- Bolt system for rapid clamping range adjustment.
- Clamping repeatability with identical clamping force: 0.01 mm.
- Hardened and ground guideways.
- Width of forged jaws 113, 135 and 160 mm, width of nodular cast iron jaws 200 mm.
- Used on graduated swivel plates.
- Encapsulated spindle.

Advantage:
- Clamping force preset in increments.
- High wear resistance thanks to hardened jaw guides.
- Optimum coolant and chip flow.
- Can be used without power boosting for delicate clamping tasks.

Delivery:
1 x high-pressure machine vice RB-K; incl. 1 set of standard jaws/1x hand crank

Notes:
Vices with jaw width 250 and 315 on request.





p. 1002 p. 1007 p. 1053 p. 1058

Jaws width (mm)		92	113	135	160	200
Jaws height (mm)		31.6	31.6	39.6	49.6	66.6
Body length (mm)		310	390	468	574	685
Max. length (mm)		420	586	686	860	1015
Min./max. clamping width		0-100 mm	0-170 mm	0-220 mm	0-310 mm	0-350 mm
Tension force (kN)		25	30	40	50	100
28880...	Ident. No.	**301** ○	**302** ○	**303** ○+	**304** ○+	**305** ○+

Prod. Gr. 203

Note: Suitable T-sliding blocks can be found in the mechanical clamping elements section.

SGN standard jaw

Jaws, screw-on type

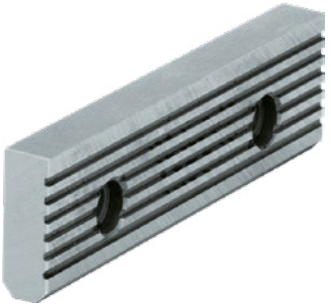
Application:
Reversible jaws for universal use according to requirements.

Execution:
- One side grooved and one side smooth.
- Hardened and ground.

Advantage:
- Reversible.

Delivery:
1x standard jaw SGN; incl. fastening screws

Notes:
Accessories for high-pressure machine vices, no.: 28880; 28832



Jaws width (mm)		113	135	160
Jaws thickness (mm)		18	18	18
Jaws height (mm)		31.6	39.6	49.6
Jaw design		Standard jaw | Grooved | Smooth	Standard jaw | Grooved | Smooth	Standard jaw | Grooved | Smooth
28885...	Ident. No.	**010** ○	**035** ●	**060** ○

Prod. Gr. 203

Caution: The drilling pattern for ATORN is identical, although the jaws slightly protrude to the side!

SPR vee block jaw

Jaws, screw-on type

Application:
Reversible jaws for universal use according to requirements. Cylindrical components can be clamped without any problems.

Execution:
- Hardened and ground.
- With vertically and horizontally ground vee blocks.

Advantage:
- Reversible.

Delivery:
1x prism jaw SPR; incl. fastening screws

Notes:
Accessories for high-pressure machine vices, no.: 28880; 28832

Jaws width (mm)		113	135	160
Jaws thickness (mm)		18	18	18
Jaws height (mm)		31.6	39.6	49.6
Jaw design		With prism | Grooved	With prism | Grooved	With prism | Grooved
28886...	Ident. No.	**110** ○	**135** ●	**160** ○

Prod. Gr. 203

Caution: The drilling pattern for ATORN is identical, although the jaws slightly protrude to the side!

ATORN High-pressure machine vices

Mechanical/mechanical clamping system with power intensifier

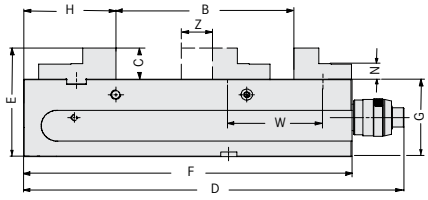
Application:
For NC machines, machining centres, tool manufacture, mould making, fixture construction and series production.

Execution:
- With reversible stepped jaws
- Robust cast steel basic body
- Hardened and polished guideways
- Preset clamping force on the drive spindle
- Rough adjustment of the clamping range by offsetting the jaws on the clamping slide
- Mechanical/mechanical clamping system, with power transmission via toggle joint
- Includes clamping nipple borehole for ATORN K10.2 zero-point clamping system (gauge 200 mm)

Advantage:
- Chip guard prevents swarf penetrating inside the body
- Largely maintenance-free
- Clamping repeatability with identical clamping force: 0.01 mm

Delivery:
1x MM-G high-pressure machine vice; including stepped jaws and hand crank

Notes:
Angled gear on request.



p. 1007 p. 1058 p. 1006 p. 1007

Jaws width (mm)		125	160
Jaws height (mm)		40	50
Body length (mm)		400	530
Max. length (mm)		463	618
Min./max. clamping width		0-216 mm	0-320 mm
Min./max. clamping width for reversible step jaws		97-312 mm	131-451 mm
Tension force (kN)		40	60
Weight (kg)		41	79
Travel stroke of gate valve (mm)		109	117
Offset range 2		1 x 108 mm	2 x 102.5 mm
28874...	Ident. No.	**125** ●	**160** ●

Prod. Gr. 280

ATORN Reversible jaws set type WB-S and WB-K

Accessories for ATORN MMG and RÖHM RKE vices

Application:
Reversible jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

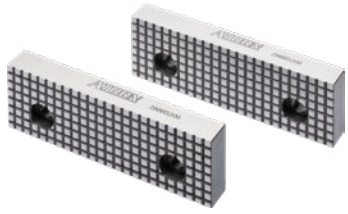
Execution:
- Hardened and polished
- Suitable for art. no.: 28874 and 28878

- **Ident. No. 203–204:** One side with longitudinal grooves and one smooth side
- **Ident. No. 206–207:** One side with cross-grooves and one smooth side

Advantage:
- Reversible
- Easy and quick changing

Delivery:
Ident. No. 203–204: 1 set of reversible jaws type WB-S including fastening screws
Ident. No. 206–207: 1 set of reversible jaws type WB-K including fastening screws

Ident. No. 203–204



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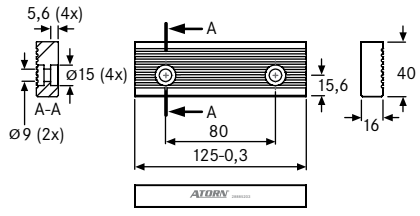

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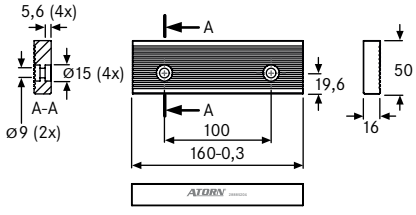

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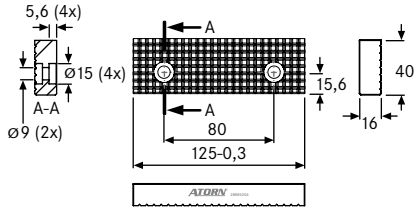

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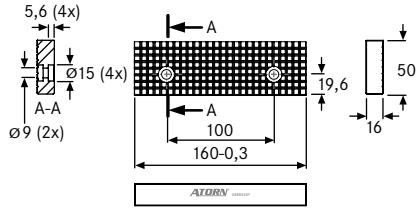


Ident. No. 207

Type		Reversible jaws WB-S	Reversible jaws WB-S	Reversible jaws WB-K	Reversible jaws WB-K
Jaw design		Longitudinal grooves | Smooth	Longitudinal grooves | Smooth	Longitudinal grooves | Cross-grooved	Longitudinal grooves | Cross-grooved
Jaws width (mm)		125	160	125	160
Jaws thickness (mm)		16	16	16	16
Jaws height (mm)		40	50	40	50
Hole distance (mm)		80	100	80	100
Hole distance (vertical) (mm)		15.6	19.6	15.6	19.6
28885...	Ident. No.	**203** ●	**204** ●	**206** ●	**207** ●

Prod. Gr. 281

Stepped jaw set type SB-K and SB-G

Accessories for ATORN MMG and RÖHM RKE vices

Application:
Stepped jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

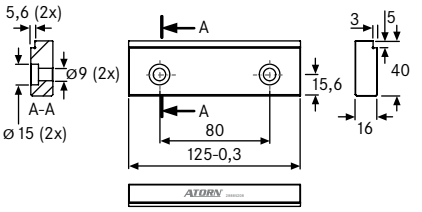
Execution:
- With smooth jaw steps
- Hardened and polished
- Suitable for art. no.: 28874 and 28878

Advantage:
- Not reversible
- Easy and quick changing

Delivery:
Ident. No. 208–209: 1 set of stepped jaws type SB-K including fastening screws
Ident. No. 210–211: 1 set of stepped jaws type SB-G including fastening screws

Ident. No. 208–209

Ident. No. 210–211



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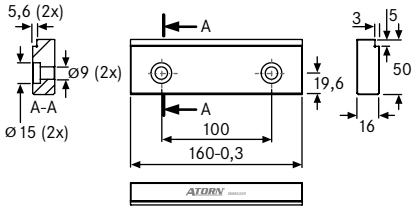
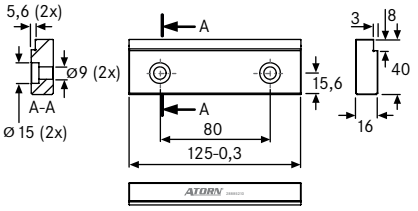


Ident. No. 209



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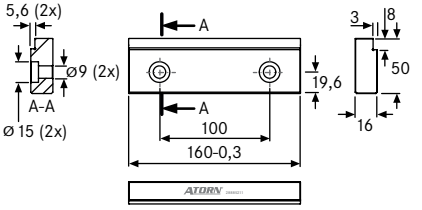


Ident. No. 211

Type		Stepped jaw SB-K	Stepped jaw SB-K	Stepped jaw SB-G	Stepped jaw SB-G
Jaw design		Smooth	Smooth	Smooth	Smooth
Jaws width (mm)		125	160	125	160
Jaws thickness (mm)		16	16	16	16
Jaws height (mm)		40	50	40	50
Hole distance (mm)		80	100	80	100
Hole distance (vertical) (mm)		15.6	19.6	15.6	19.6
Step width (mm)		3	3	5	5
Step height (mm)		5	5	8	8
Step length (mm)		125	160	125	160
28885...	Ident. No.	**208** ●	**209** ●	**210** ●	**211** ●

Prod. Gr. 281

Claw jaw set type KB-K; KB-G and KB-O

Accessories for ATORN MMG and RÖHM RKE vices

Application:
Claw jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

Execution:
- Hardened and polished
- Suitable for art. no.: 28874 and 28878
- **Ident. No. 212–215:** With claws and jaw steps
- **Ident. No. 216–217:** With claws without jaw steps

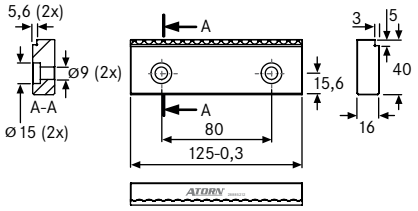
Advantage:
- Not reversible
- Easy and quick changing

Delivery:
Ident. No. 212–213: 1 set of stepped jaws type KB-K including fastening screws
Ident. No. 214–215: 1 set of stepped jaws type KB-G including fastening screws
Ident. No. 216–217: 1 set of stepped jaws type KB-O including fastening screws

Ident. No. 212–213

Ident. No. 214–215

Ident. No. 216–217



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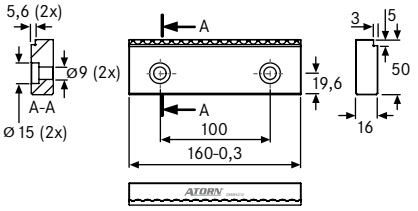

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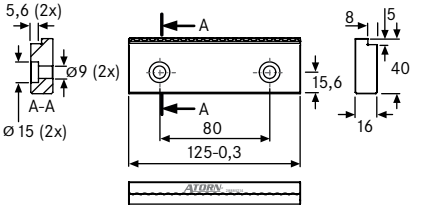

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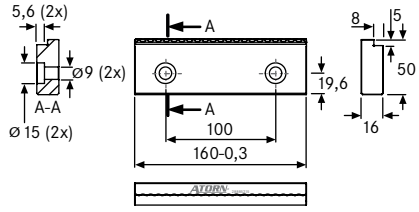

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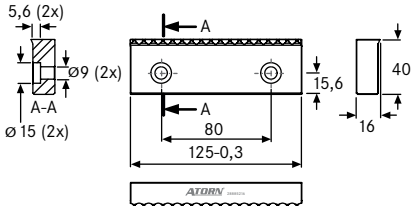
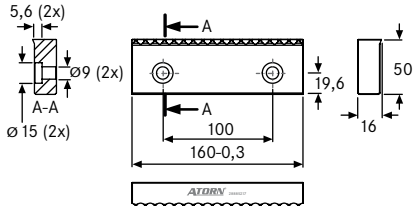


Ident. No. 216



Ident. No. 217

Type		Claw jaw KB-K	Claw jaw KB-K	Claw jaw KB-G	Claw jaw KB-G	Claw jaw KB-O	Claw jaw KB-O
Jaw design		With claws	With claws	With claws	With claws	With claws | Without steps	With claws | Without steps
Jaws width (mm)		125	160	125	160	125	160
Jaws thickness (mm)		16	16	16	16	16	16
Jaws height (mm)		40	50	40	50	40	50
Hole distance (mm)		80	100	80	100	80	100
Hole distance (vertical) (mm)		15.6	19.6	15.6	19.6	15.6	19.6
Step width (mm)		3	3	8	8	-	-
Step height (mm)		5	5	5	5	-	-
Step length (mm)		125	160	125	160	-	-
28885...	Ident. No.	**212** ●	**213** ●	**214** ●	**215** ●	**216** ●	**217** ●

Prod. Gr. 281

ATORN Clamping jaw set, soft steel, type SBW-S and SBW-A

Accessories for ATORN MMG and RÖHM RKE vices

Application:

Clamping jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

Execution:

- Designed for the insertion of special variants
- Suitable for art. no.: 28874 and 28878
- **Ident. No. 218–219:**
  - Steel version, suitable for case hardening and nitride hardening
  - Not hardened and ground
- **Ident. No. 220–221:**
  - Aluminium version
  - Not hardened and polished

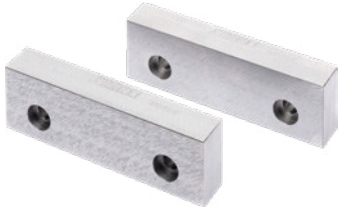
Advantage:

- **Ident. No. 218–219:**
  - For custom adaptation according to machining requirements
  - Easy and quick to change
- **Ident. No. 220–221:**
  - Reversible
  - For individual adaptation according to machining requirements
  - Easy and quick changing

Delivery:

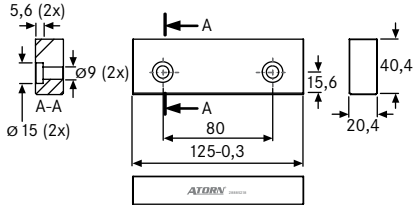
Ident. No. 218–219: 1 set of clamping jaws soft type SBW-S including fastening screws

Ident. No. 220–221: 1 set of clamping jaws soft type SBW-A including fastening screws



Ident. No. 218–219

Ident. No. 220–221



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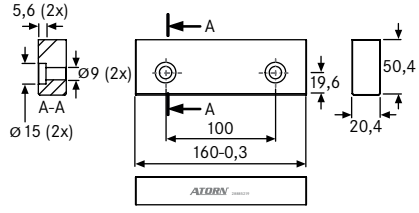

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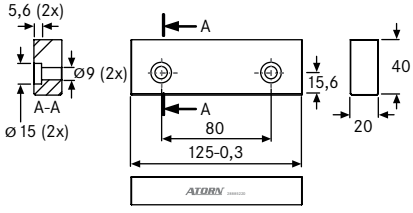
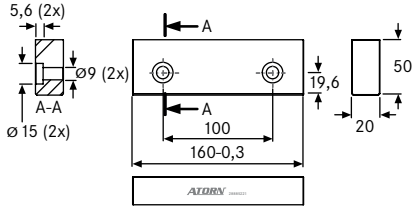


Ident. No. 220



Ident. No. 221

Type		Clamping jaws soft steel	Clamping jaws soft steel	Clamping jaws soft aluminium	Clamping jaws soft aluminium
Jaw design		Smooth	Smooth	Smooth	Smooth
Jaws width (mm)		125	160	125	160
Jaws thickness (mm)		20	20	20	20
Jaws height (mm)		40	50	40	50
Hole distance (mm)		80	100	80	100
Hole distance (vertical) (mm)		15.6	19.6	15.6	19.6
28885...	Ident. No.	**218** ●	**219** ●	**220** ●	**221** ●

Prod. Gr. 281

V-block jaw type PB

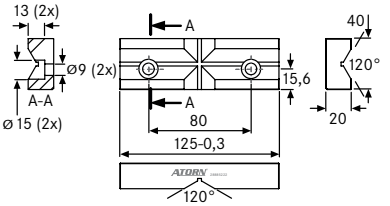
Accessories for ATORN MMG and RÖHM RKE vices

Application:
V-block jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

Execution:
- With horizontal and vertical V-block
- Hardened and polished
- Suitable for art. no.: 28874 and 28878

Advantage:
- Not reversible
- For clamping round components
- Easy and quick changing

Delivery:
1x vee block jaw type PB including fastening screws



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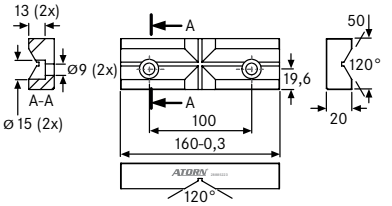


Ident. No. 223

Type		PB vee block jaw	PB vee block jaw
Jaw design		Smooth | With prism	Smooth | With prism
Jaws width (mm)		125	160
Jaws thickness (mm)		20	20
Jaws height (mm)		40	50
Hole distance (mm)		80	100
Hole distance (vertical) (mm)		15.6	19.6
Step length (mm)		125	160
28885...	Ident. No.	**222** ●	**223** ●

Prod. Gr. 281

Support jaws with movable, oscillating jaw

Accessories for art. no.: 28874125 and 28878125

Application:
For clamping non-parallel workpieces, cast parts and moulded workpieces.

Execution:
- For flexible clamping of unmachined parts
- Claw inserts can be positioned anywhere on the support jaws
- Accessories for art. no.: 28874125 and 28878125

Delivery:
1 set of support jaws; incl. Fastening screws; without claw inserts

Type		Carrier jaw
Jaws width (mm)		160
Jaws thickness (mm)		80
Jaws height (mm)		20
Height (mm)		20
28874...	Ident. No.	**228** ○

Prod. Gr. 280

Claw insert

Accessories for art. no.: 28874228

Application:
For clamping non-parallel workpieces, cast parts and moulded workpieces.

Execution:
- For flexible clamping of unmachined parts
- Claw inserts can be rotated and swivelled using the pendulum jaw
- Accessories for MM-G high-pressure machine vices
- Accessories for art. no.: 28874228

Delivery:
1x claw insert; incl. fastening screw

Type		Claw insert
Ø (mm)		28
28874...	Ident. No.	**230** ○

Prod. Gr. 280

ATORN Stepped jaws, raised

Accessories for art. no.: 28874125 and 28878125

Application:
For special machining applications. In case of insufficient access to the component or the component needs to be machined from the underside.

Execution:
- For difficult machining conditions and components that are difficult to access
- Components can be moved closer to the spindle if spindle travel is limited
- Accessories for MM-G high-pressure machine vices
- Accessories for art. no.: 28874125 and 28878125

Advantage:
- Improves the accessibility of components

Delivery:
1 set of raised stepped jaws, incl. fastening screws

Type		Stepped jaw | raised
Jaws width (mm)		125
Jaws thickness (mm)		60
Jaws height (mm)		60
28874...	Ident. No.	**250** ○

Prod. Gr. 280

RÖHM Simple adjustable clamps for T-grooves

Suitable for high pressure machine vices no. 28874 and 28878

Application:
For front and side fixing.

Delivery:
1x adjustable clamp; including sliding block and fastening screw

Thread dimension		M10	M12	M12	M16
T-slot width (mm)		12	14	16	18
28873...	Ident. No.	**212** ●	**214** ●	**216** ●	**218** ●

Prod. Gr. 203

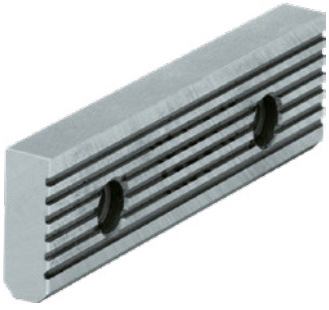
RÖHM Reversible and interchangeable jaws

For Röhm RKE, RKZ-M, RZM

Execution:
- **Ident. No. 300:**
  - SGN normal jaws, one side smooth and one side grooved.
  - Hardened and ground.
- **Ident. No. 301:**
  - SGNf standard reversible jaws.
  - One side with fine grooves and one side with longitudinal grooves.
- **Ident. No. 302–304:** SKB claw jaws with fine step, 2.5 mm clamping depth.
- **Ident. No. 302–307:** Hardened claw tips.
- **Ident. No. 305–307:**
  - SKB claw jaws without step.
  - Universal for clamping depth.

Advantage:
- **Ident. No. 301:** For increasing specific surface pressure (higher retention forces).

Delivery:
Ident. No. 300–301: 1 set of standard jaws; including fastening screws
Ident. No. 302–307: 1 set of claw jaws; including fastening screws



Ident. No. 300

Ident. No. 301

Ident. No. 302–304

Ident. No. 305–307

Jaw design		Standard jaw	Fine grooves | Longitudinal grooves	With precision steps	With precision steps	With precision steps	Without steps	Without steps	Without steps
Jaw width A (mm)		125	125	92	125	160	92	125	160
Jaw thickness Y (mm)		16	16	14	16	18	14	16	18
Jaw height C (mm)		40	40	32	40	50	32	40	50
28762...	Ident. No.	**300** ○	**301** ○	**302** ○	**303** ○	**304** ○	**305** ○	**306** ○	**307** ○

Prod. Gr. 284

High-pressure clamp MH-S 125

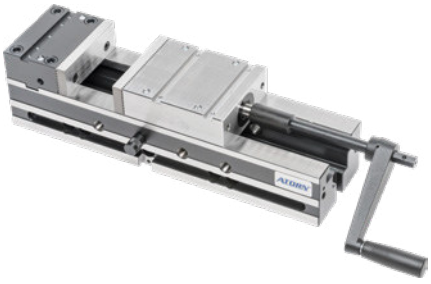
Mechanical/hydraulic

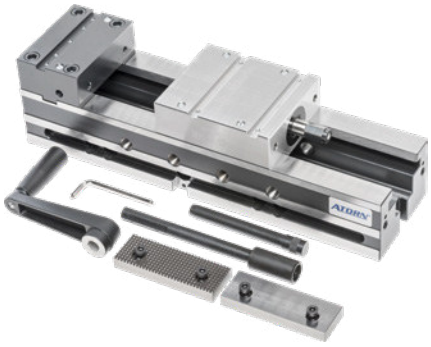
Application:
For NC machines, machining centres, tool manufacture, mould making, fixture construction and series production.

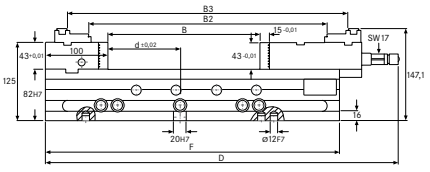
Execution:
- Spindle made of high-strength special steel
- Basic body, fixed jaw, moving jaw made of case-hardening steel, hardened on all sides
- Hardened and polished guideways
- Transverse grooves and fastening threads on top of the fixed and movable jaw are used for mounting add-on stepped jaws and grip inserts
- Pull-down quick-change jaws can also be used
- Lateral thread for workpiece stop
- Can be used with rhomboid T-slot nuts and interchangeable slides for multiple clamping - installation without tools
- Bed length up to 1,200 mm and hydraulic actuation available on request
- Side mounting holes for bed length 470 mm

Advantage:
- The pre-selected clamping forces enable a workpiece positioning repeat accuracy of ≤ 0.01 mm
- The clamping force can be preselected by the number of spindle rotations
- Spindle mechanically locking for purely mechanical clamping
- Rigging pins can be used for quick presetting
- 20H7 longitudinal and transverse grooves as standard for quick positioning

Delivery:
1x MH-S high-pressure clamp; including reversible screw-in jaws (1 side grooved longitudinally and transversely, 1 side smooth) and hand crank (two-part)







p. 1009 p. 1010 p. 1011

Jaws width (mm)		125	125	125	125
Body height (mm)		82.5	82.5	82.5	82.5
Body length (mm)		470	534	598	662
Max. length (mm)		564	628	692	756
Overall height (mm)		125	125	125	125
Max. height (mm)		147.1	147.1	147.1	147.1
Min./max. clamping width		0-239 mm	0-303 mm	0-367 mm	0-431 mm
Clamping width of attachment step jaws 2 (mm)		445	509	573	637
Tension force (kN)		40	40	40	40
Weight (kg)		37.6	41.7	45.1	48.5
Width across flats		17 mm	17 mm	17 mm	17 mm
28858...	Ident. No.	001 ●	002 ○	003 ○	004 ●

Prod. Gr. 280

Attention: You can find suitable T-sliding blocks in the mechanical clamping elements area

Screw-in jaws for MH-S

accessories for MH-S125 28858001-008

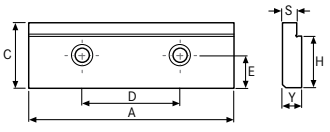
Application:
Screw-in jaws for universal use according to requirements. The right type of jaws for every clamping situation.

Execution:
- Jaws hardened and polished on all sides
- Suitable for art. no.: 28858001-008

Advantage:
- Easy and quick changing

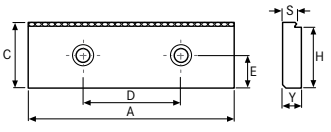
Delivery:
1x screw-in jaw for MH-S; incl. fastening screws

Ident. No. 011
Stepped jaw

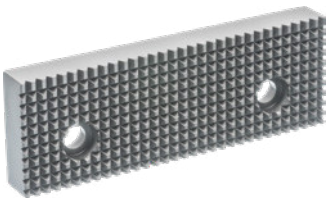


Ident. No. 011

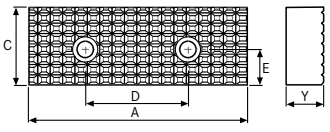
Ident. No. 012
Grip stepped jaw



Ident. No. 012

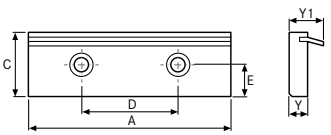


Ident. No. 020
Replacement screw-in jaw, one side with longitudinal and transverse grooves, one side smooth



Ident. No. 020

Ident. No. 021
Pull-down jaw with spring plate



Ident. No. 021

Type		Stepped jaw	Stepped jaw	Screw-in jaw	Pull-down jaw with spring insert
Jaw design		Smooth	With claws	Cross-grooved	-
Jaws width (mm)		125	125	125	125
Jaws thickness (mm)		11.5	11.5	15	11.5
Max. thickness (mm)		-	-	-	21.5
Jaws height (mm)		43	43	43	43
Section, width (mm)		8.5	8.5	-	-
Section, height (mm)		35	40	-	-
Hole distance (mm)		80	80	80	-
Hole distance (vertical) (mm)		16	16	16	-
28858...	Ident. No.	**011** ●	**012** ○	**020** ●	**021** ○

Prod. Gr. 280

ATORN Prism jaws for MH-S

accessories for MH-S125 28858001-008

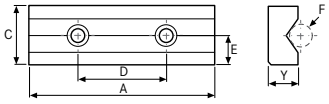
Application:
Screw-in jaws for universal use according to requirements. The right type of jaws for every clamping situation.

Execution:
- Jaws hardened and polished on all sides
- Suitable for art. no.: 28858001-008

Advantage:
- Easy and quick changing
- For clamping round components

Delivery:
1x vee block jaw for MH-S; incl. fastening screws

Ident. No. 013
Horizontal prism jaw



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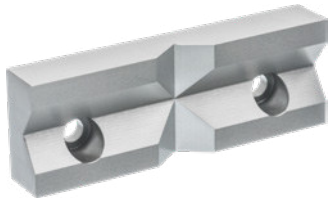
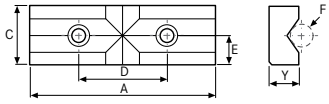


Ident. No. 014
Prism jaw horizontal and vertical



Ident. No. 014

Type			V-block jaw	V-block jaw
Jaw design			Horizontal	Horizontal | With prism
Jaws width (mm)			125	125
Jaws thickness (mm)			20	20
Jaws height (mm)			43	43
Hole distance (mm)			80	80
Hole distance (vertical) (mm)			16	16
28858...	Horizontal	Ident. No.	**013** ○	-
28858...	vertical/horizontal	Ident. No.	-	**014** ●

Prod. Gr. 280

ATORN Stepped jaws attachment for MH-S

Accessories for the 28858001-008

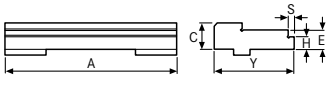
Application:
Larger clamping ranges are achieved by attaching them to the movable and fixed jaws.

Execution:
- Different versions available to suit a range of applications
- Jaws hardened and polished
- Accessories for MH-S art. no.: 28858001-008

Advantage:
- Increase the clamping range by mounting on the movable and fixed jaws
- Two clamping stages can be used

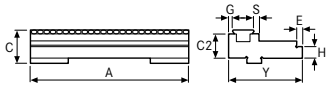
Delivery:
1x stepped jaw attachment for MH-S; incl. fastening screws

Ident. No. 030
Additional stepped jaw



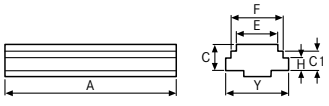
Ident. No. 030

Ident. No. 031
Stepped jaw attachment with grip insert



Ident. No. 031

Ident. No. 040
Additional stepped jaw for interchangeable slide



Ident. No. 040

Jaws width (mm)		125	125	124.9
Jaws thickness (mm)		58	58	-
Jaws height (mm)		19	26.1	-
28858...	Ident. No.	**030** ●	**031** ○	**040** ○

Prod. Gr. 280

ATORN Hardened and ground pull-down quick-change jaws

accessories for MH-S125 28858001-008

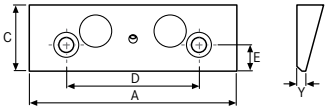
Application:
A plain jaw with permanent magnets forms the basic jaw for the pull-down quick-change jaws.

Execution:
- Jaws hardened and polished on all sides
- Suitable for art. no.: 28858001-008

Advantage:
- Easy and quick changing
- The right quick-change jaw for every application
- For clamping unmachined and finished parts

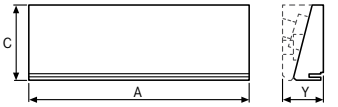
Delivery:
1x interchangeable jaw for MH-S; incl. fastening screws

Ident. No. 042
Plain jaw with two permanent magnets

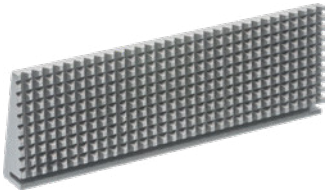


Ident. No. 042

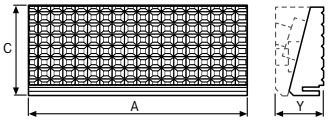
Ident. No. 043
Smooth pull-down quick-change jaw for machined workpieces



Ident. No. 043

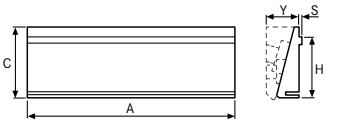


Ident. No. 044
Grooved pull-down quick-change jaw for rough workpieces



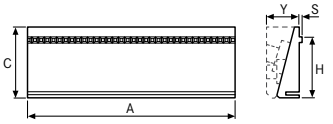
Ident. No. 044

Ident. No. 045
Line interchangeable jaw for non-square machine workpieces



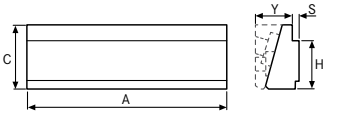
Ident. No. 045

Ident. No. 046
Interchangeable jaw with grooves for rough, non-square workpieces



Ident. No. 046

Ident. No. 047
Stepped replacement jaw with pull-down



Ident. No. 047

Type		Plain jaw	Insert jaw	Insert jaw	Insert jaw	Insert jaw	Insert jaw
Jaw design		-	Smooth	Cross-grooved	With steps | Smooth	With steps | With claws	Discontinued | Smooth | With steps
Jaws width (mm)		125	125	125	125	125	125
Jaws thickness (mm)		6	21.5	21.5	21.5	21.5	26.9
Jaws height (mm)		43	43	43	43	43	43
Hole distance (mm)		80	-	-	-	-	-
Hole distance (vertical) (mm)		16	-	-	-	-	-
28858...	Ident. No.	**042** ○	**043** ○	**044** ○	**045** ○	**046** ○	**047** ○

Prod. Gr. 280

ATORN Rhombus T-sliding blocks

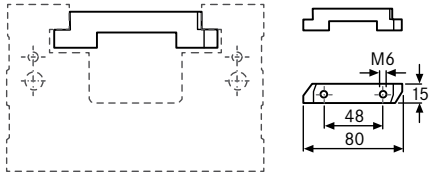
accessories for MH-S125 28858001-008

Application:
For the secure mounting of workpiece rests.

Execution:
- Hardened and polished
- Accessories for MH-S art. no.: 28858001-008

Advantage:
- A carbide pin can be inserted for simultaneous use as a workpiece stop

Delivery:
1x rhombic T-sliding block



Type		rhombic T-slot nut
Thread dimension		M6
Jaws width (mm)		125
Width (mm)		80
Height (mm)		15
Hole distance (mm)		48
28858...	Ident. No.	050 ○

Prod. Gr. 280

ATORN interchangeable slide for MH-S

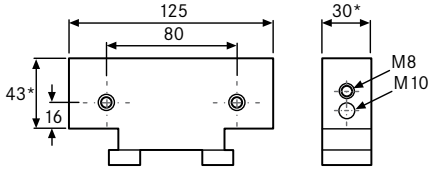
accessories for MH-S125 28858001-008

Application:
The interchangeable slide allows several workpieces to be clamped. Tool-free installation.

Execution:
- Hardened and polished
- Without screw-in jaws
- Accessories for MH-S art. no.: 28858001-008

Advantage:
- Interchangeable slide allows for clamping of several workpieces
- Installed without tools

Delivery:
1x interchangeable slide for MH-S



Jaws width (mm)		125
Jaws thickness (mm)		30
Jaws height (mm)		43
28858...	Ident. No.	041 ●

Prod. Gr. 280

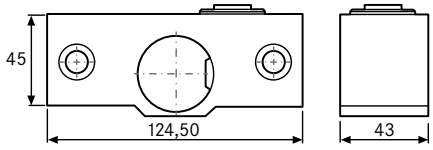
ATORN angle drive for MH-S

accessories for MH-S125 28858001-008

Application:
Facilitates operation by changing the position of the hand crank.

Execution:
- Protrudes beyond the lower part at max. clamping range
- Accessories for MH-S art. no.: 28858001-008
- Hand crank not included in scope of delivery.

Delivery:
1x angle drive; incl. short spindle and fastening screws



Width (mm)		43
Height (mm)		45
Length (mm)		124.5
28858...	Ident. No.	055 ○

Prod. Gr. 280

ROEMHELD HILMA ▪ STARK NC high pressure machine vices

Mechanical/hydraulic

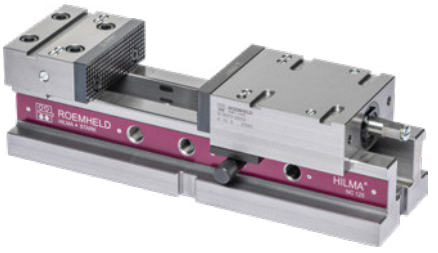
Application:
Particularly suitable for use on vertical machining centres, in tool manufacture, mould making and jig manufacturing, and in production.

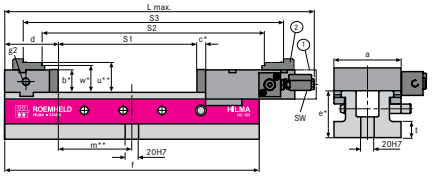
Execution:
- Mechanical-hydraulic clamping system.
- Version with clamping force display allows continuous, precise clamping force application.
- Steel body.
- Rigging pins can be used for rough adjustment, hand crank can be used for fine adjustment.
- Clamping repeatability with identical clamping force: 0.01 mm.
- Hardened and ground guideways.

Advantage:
- Spindle and power transmission integrated into carriage for protection.
- Threaded holes on both sides on the fixed jaw for mounting precision limit stops.
- Longitudinal or transverse groove for quick positioning 20 H7.

Delivery:
1x NC vice, including interchangeable hardened jaws (1 side smooth, 1 side grooved) and hand crank. Without clamping force display.

Notes:
On request: Version with clamping force display (actual value display). hydraulic/hydraulic clamping system, actuated via hydraulic unit available on request.





*Tolerance +/- 0.01 mm
**Tolerance +/- 0.02 mm

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p. 1018

Jaws width (mm)		100	125	160
Jaws height (mm)		34	45	54
Body length (mm)		380	430	550
Max. length (mm)		464	526	684
Min./max. clamping width		0-205 mm	0-225 mm	0-309 mm
Clamping width of attachment step jaws 2 (mm)		386	431	573
Tension force (kN)		25	40	50
Weight (kg)		18.5	31.5	58.5
Width across flats		14 mm	17 mm	19 mm
28848...	Ident. No.	101 ○	126 ●+	161 ●+

Prod. Gr. 283

➥ Pressure display not included in delivery!!!
Note: Suitable T-sliding blocks can be found in the mechanical clamping elements section.

ATORN WB-S reversible jaws set

Accessories for Hilma high-pressure machine vices

Application:
Reversible jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

Execution:
- One side with longitudinal grooves and one smooth side
- Hardened and ground
- Suitable for art. no.: 28874 and 28878

Advantage:
- Reversible
- Easy and quick changing

Delivery:
1 set of reversible jaws type WB-S including fastening screws

Notes:
Suitable for Hilma-Roemheld NC125; NC160; KNC125; KNC160; EL125 and EL160

Type		WB-S reversible jaw	WB-S reversible jaw
Jaw design		Longitudinal grooves | Smooth	Longitudinal grooves | Smooth
Jaws width (mm)		125	160
Jaws thickness (mm)		16	16
Jaws height (mm)		45	54
Hole distance (mm)		80	100
Hole distance (vertical) (mm)		14	17
28885...	Ident. No.	255 ●	256 ●

Prod. Gr. 281

SB-K stepped jaws set

Accessories for Hilma high-pressure machine vices

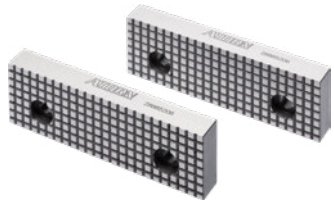
Application:
Reversible jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

Execution:
- One cross-grooved side and one smooth side
- Hardened and ground
- Suitable for art. no.: 28874 and 28878

Advantage:
- Reversible
- Easy and quick changing

Delivery:
1 set of reversible jaws type WB-K including fastening screws

Notes:
Suitable for Hilma-Roemheld NC125; NC160; KNC125; KNC160; EL125 and EL160



Type		WB-K reversible jaw	WB-K reversible jaw
Jaw design		Longitudinal grooves | Cross-grooved	Longitudinal grooves | Cross-grooved
Jaws width (mm)		125	160
Jaws thickness (mm)		16	16
Jaws height (mm)		45	54
Hole distance (mm)		80	100
Hole distance (vertical) (mm)		14	17
28885...	Ident. No.	257 ●	258 ●

Prod. Gr. 281

SB-K stepped jaws set

Accessories for Hilma high-pressure machine vices

Application:
Stepped jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

Execution:
- With smooth jaw steps
- Hardened and ground
- Suitable for art. no.: 28874 and 28878

Advantage:
- Not reversible
- Easy and quick changing

Delivery:
1 set of stepped jaws type SB-K including fastening screws

Notes:
Suitable for Hilma-Roemheld NC125; NC160; KNC125; KNC160; EL125 and EL160

Type		SB-K stepped jaw	SB-K stepped jaw
Jaw design		Smooth	Smooth
Jaws width (mm)		125	160
Jaws thickness (mm)		16	16
Jaws height (mm)		45	54
Hole distance (mm)		80	100
Hole distance (vertical) (mm)		14	17
Step width (mm)		3	3
Step height (mm)		5	5
Step length (mm)		125	160
28885...	Ident. No.	259 ●	260 ●

Prod. Gr. 281

SB-G stepped jaws set

Accessories for Hilma high-pressure machine vices

Application:
Stepped jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

Execution:
- With smooth jaw steps
- Hardened and ground
- Suitable for art. no.: 28874 and 28878

Advantage:
- Not reversible
- Easy and quick changing

Delivery:
1 set of stepped jaws type SB-G including fastening screws

Notes:
Suitable for Hilma-Roemheld NC125; NC160; KNC125; KNC160; EL125 and EL160

Type		SB-G stepped jaw	SB-G stepped jaw
Jaw design		Smooth	Smooth
Jaws width (mm)		125	160
Jaws thickness (mm)		16	16
Jaws height (mm)		45	54
Hole distance (mm)		80	100
Hole distance (vertical) (mm)		14	17
Step width (mm)		5	5
Step height (mm)		8	8
Step length (mm)		125	160
28885...	Ident. No.	261 ●	262 ●

Prod. Gr. 281

KB-K claw jaws set

Accessories for Hilma high-pressure machine vices

Application:
Claw jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

Execution:
- With claws and jaw steps
- Hardened and ground
- Suitable for art. no.: 28874 and 28878

Advantage:
- Not reversible
- Easy and quick changing

Delivery:
1 set of stepped jaws type KB-K including fastening screws

Notes:
Suitable for Hilma-Roemheld NC125; NC160; KNC125; KNC160; EL125 and EL160

Type		KB-K claw jaw	KB-K claw jaw
Jaw design		With claws	With claws
Jaws width (mm)		125	160
Jaws thickness (mm)		16	16
Jaws height (mm)		45	54
Hole distance (mm)		80	100
Hole distance (vertical) (mm)		14	17
Step width (mm)		3	3
Step height (mm)		5	5
Step length (mm)		125	160
28885...	Ident. No.	263 ●	264 ●

Prod. Gr. 281

KB-G claw jaws set

Accessories for Hilma high-pressure machine vices

Application:
Claw jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

Execution:
- With claws and jaw steps
- Hardened and ground
- Suitable for art. no.: 28874 and 28878

Advantage:
- Not reversible
- Easy and quick changing

Delivery:
1 set of stepped jaws type KB-G including fastening screws

Notes:
Suitable for Hilma-Roemheld NC125; NC160; KNC125; KNC160; EL125 and EL160

Type		KB-G claw jaw	KB-G claw jaw
Jaw design		With claws	With claws
Jaws width (mm)		125	160
Jaws thickness (mm)		16	16
Jaws height (mm)		45	54
Hole distance (mm)		80	100
Hole distance (vertical) (mm)		14	17
Step width (mm)		8	8
Step height (mm)		5	5
Step length (mm)		125	160
28885...	Ident. No.	265 ●	266 ●

Prod. Gr. 281

KB-O claw jaws set

Accessories for Hilma high-pressure machine vices

Application:
Claw jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

Execution:
- With claws without jaw steps
- Hardened and ground
- Suitable for art. no.: 28874 and 28878

Advantage:
- Not reversible
- Easy and quick changing

Delivery:
1 set of stepped jaws type KB-O including fastening screws

Notes:
Suitable for Hilma-Roemheld NC125; NC160; KNC125; KNC160; EL125 and EL160

Type		KB-O claw jaw	KB-O claw jaw
Jaw design		With claws | Without steps	With claws | Without steps
Jaws width (mm)		125	160
Jaws thickness (mm)		16	16
Jaws height (mm)		45	54
Hole distance (mm)		80	100
Hole distance (vertical) (mm)		14	17
28885...	Ident. No.	267 ●	268 ●

Prod. Gr. 281

SBW-S soft steel clamping jaws set

Accessories for Hilma high-pressure machine vices

Application:
Clamping jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

Execution:
- Steel version
- Not hardened and ground
- Designed for the insertion of special variants
- Suitable for art. no.: 28874 and 28878

Advantage:
- Reversible
- For custom adaptation according to machining requirements
- Easy and quick changing

Delivery:
1 set of soft clamping jaws type SBW-S including fastening screws

Notes:
Suitable for Hilma-Roemheld NC125; NC160; KNC125; KNC160; EL125 and EL160

Type		Soft clamping jaws made of steel	Soft clamping jaws made of steel
Jaw design		Smooth	Smooth
Jaws width (mm)		125	160
Jaws thickness (mm)		20	20
Jaws height (mm)		45	54
Hole distance (mm)		80	100
Hole distance (vertical) (mm)		14	17
28885...	Ident. No.	**269** ●	**270** ●

Prod. Gr. 281

SBW-A soft steel clamping jaws set

Accessories for Hilma high-pressure machine vices

Application:
Clamping jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

Execution:
- Aluminium version
- Not hardened and ground
- Designed for the insertion of special designs
- Suitable for art. no.: 28874 and 28878

Advantage:
- Reversible
- For custom adaptation according to machining requirements
- Easy and quick changing

Delivery:
1 set of soft clamping jaws type SBW-A including fastening screws

Notes:
Suitable for Hilma-Roemheld NC125; NC160; KNC125; KNC160; EL125 and EL160

Type		Soft clamping jaws made of aluminium	Soft clamping jaws made of aluminium
Jaw design		Smooth	Smooth
Jaws width (mm)		125	160
Jaws thickness (mm)		20	20
Jaws height (mm)		45	54
Hole distance (mm)		80	100
Hole distance (vertical) (mm)		14	17
28885...	Ident. No.	**271** ●	**272** ●

Prod. Gr. 281

PB vee block jaw

Accessories for Hilma high-pressure machine vices

Application:
V-block jaws for universal use according to requirements. The jaws are screwed directly into the screw-on jaws.

Execution:
- With horizontal and vertical vee block
- Hardened and ground
- Suitable for art. no.: 28874 and 28878

Advantage:
- Not reversible
- For clamping round components
- Easy and quick changing

Delivery:
1 vee block jaw type PB including fastening screws

Notes:
Suitable for Hilma-Roemheld NC125; NC160; KNC125; KNC160; EL125 and EL160

Type		PB vee block jaw	PB vee block jaw
Jaw design		Smooth | With prism	Smooth | With prism
Jaws width (mm)		125	160
Jaws thickness (mm)		20	20
Jaws height (mm)		45	54
Hole distance (mm)		80	100
Hole distance (vertical) (mm)		14	17
Step length (mm)		125	160
28885...	Ident. No.	**273** ●	**274** ●

Prod. Gr. 281

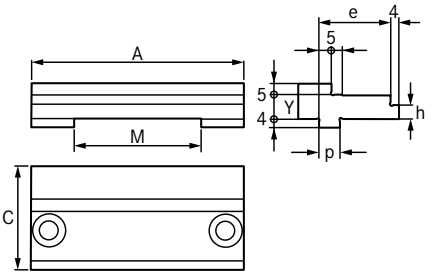
ROEMHELD HILMA • STARK Interchangeable stepped jaws

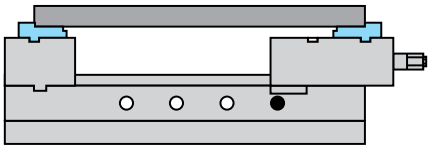
Accessories for no. 28848

Application:
To achieve greater clamping ranges by mounting on movable and fixed jaws.

Execution:
- Small step: 4 mm clamping depth.
- Large step: 5 mm clamping depth.

Delivery:
1x stepped jaw attachment; including fastening screws





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Jaws width (mm)		100	125	160
Jaws thickness (mm)		11.5	14	17
Jaws height (mm)		48	58	64
Height (mm)		6.5	9	12
28848...	Ident. No.	310 ○ 311 ○	320 ● 321 ●	330 ● 331 ●

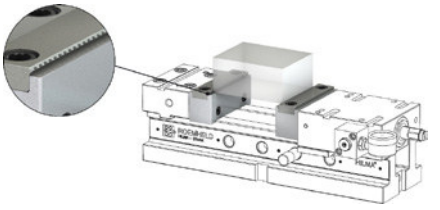
Prod. Gr. 283

ROEMHELD HILMA • STARK Clamping strip with interchangeable insert, grip

Accessories for Hilma NC ref. no. 28848

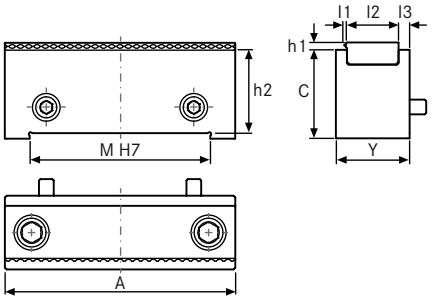
Application:
The use of gripper teeth means workpieces can be securely clamped with significantly increased retaining forces. Preferably used in machine vice no. 28848 with clamping force display.

Delivery:
1x clamping strip with interchangeable grip insert



Jaws width (mm)		100	125	160
Jaws thickness (mm)		34	40	46
Jaws height (mm)		37	48	57
28848...	Ident. No.	501 ○	502 ○	503 ○

Prod. Gr. 283



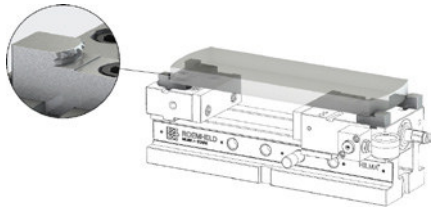
ROEMHELD HILMA ▪ STARK Interchangeable insert for fixed jaw and slide

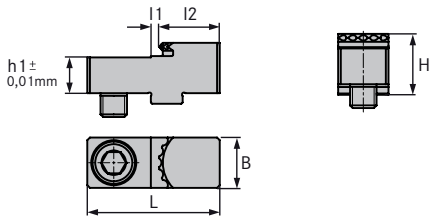
Accessories for Hilma NC ref. no. 28848

Application:
The retention force on the workpiece can be significantly increased by using normal or carbide attached interchangeable gripper inserts.

Execution:
- Interchangeable gripper inserts for slides and fixed jaw.
- Steel version with gripper teeth.
- Carbide version without gripper teeth.

Delivery:
1x interchangeable gripper jaw attachment; including fastening screws





No. 521-523 grip

Type		grip	grip	grip
Suitable for jaw width (mm)		100	125	160
Width (mm)		15	19	28
Height (mm)		16.5	19	22
Height 2 (mm)		11.5	14	17
Length (mm)		40	50	60
Length 2 (mm)		18	23	22
Section, length (mm)		3	3	6
28848...	Ident. No.	**521** ○	**522** ○	**523** ○

Prod. Gr. 283

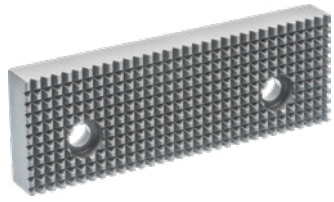
ROEMHELD HILMA ▪ STARK Screw-in jaw

For NC and EL vices

Application:
For screwing onto fixed and moving jaws.
Different versions available - the right jaw for every application.

Version:
- **Ref. no. 410-460: 1 side smooth and 1 side cross-grooved**
- **Ref. no. 200-202:** 1 side smooth and 1 side grooved
- **Ref. no. 210-217:** hardened and ground
- **Ref. no. 215-217:** V-block horizontal and vertical at 120°
  - Reversible jaws can be used on both sides
  - Hardened and ground

Delivery:
1x screw-in jaw for each incl. fastening material; except ref. no. 410-460, delivered as 1 set



Ident. No. 410–460
Replacement screw-in jaw, one side with longitudinal and transverse grooves, one side smooth

Type	Jaw design	Jaws width (mm)	Jaws thickness (mm)	Jaws height (mm)	Section, width (mm)	Section, height (mm)	**28848...** Ident. No.	
Reversible jaw	Smooth | Cross-grooved	100	13	34	-	-	**410**	○
Reversible jaw	Smooth | Cross-grooved	125	15	45	-	-	**425**	●
Reversible jaw	Smooth | Cross-grooved	160	18	54	-	-	**460**	●
Standard	Smooth | Fine grooves	100	13	34	-	-	**200**	○
Standard	Smooth | Fine grooves	125	15	45	-	-	**201**	○
Standard	Smooth | Fine grooves	160	18	54	-	-	**202**	○
Soft jaws	Smooth	100	20	36	-	-	**205**	○
Soft jaws	Smooth	125	25	47	-	-	**206**	○
Soft jaws	Smooth	160	30	56	-	-	**207**	○
Stepped jaw	With steps	100	19	35	4	29	**210**	○
Stepped jaw	With steps	125	25	45	5	39	**211**	○
Stepped jaw	With steps	160	25	54	5	45	**212**	○
Vee block jaw	With prism | Smooth	100	17	34	-	-	**215**	○
Vee block jaw	With prism | Smooth	160	21	54	-	-	**217**	○

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ROEMHELD HILMA ▪ STARK Q.I.S plain jaws

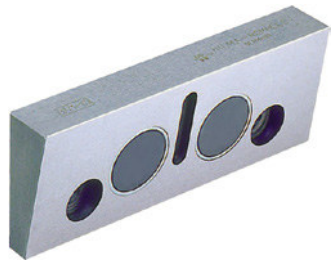
With permanent magnets for no. 28848 and 28862

Application:
For mounting quick-change pull-down replacement jaws.

Execution:
- Plain jaw with permanent magnets.

Delivery:
1x Q.I.S pull-down plain jaw including fastening screws

Notes:
Only usable in conjunction with Q.I.S. replacement jaw art. no.: 28850100-160 / 28853100-160.



Jaws width (mm)		100	125	160
Jaws height (mm)		34	45	54
28849...	Ident. No.	**100** ○	**125** ●	**160** ●

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ROEMHELD Q.I.S. replacement jaw

Accessories for plain jaws no. 28849

Application:
No. 28850: For clamping workpieces whose surfaces are to be protected from damage.
No. 28853: For clamping workpieces without underlay.

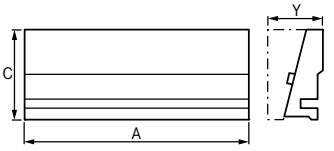
Execution:
- Interchangeable jaw with pull-down principle.
- **No. 28850:**
  - Interchangeable jaw in smooth version.
  - Without step.
- **No. 28853:**
  - Interchangeable jaw with step.
  - Smooth clamping jaw.

Delivery:
1x Q.I.S interchangeable jaw

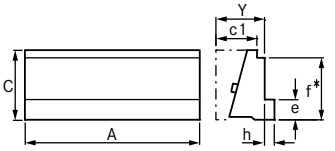
Notes:
Additional interchangeable jaws on request.

No. 28850
No. 28850

No. 28853
No. 28853



No. 28850



No. 28853

Jaw design		Smooth	Smooth	Smooth	With steps	With steps	With steps
Jaws width (mm)		100	125	160	100	125	160
Jaws thickness (mm)		-	-	-	21	26	31
Jaws height (mm)		34	45	54	34	45	54
28850...	Ident. No.	**100** ○	**125** ●	**160** ●	-	-	-
28853...	Ident. No.	-	-	-	**100** ○	**125** ●	**160** ●

Prod. Gr. 283

ROEMHELD Adjustable clamps

For no. 28848, 28862

Application:
For mechanically fixing different vice basic bodies.

Notes:
Without T-sliding blocks.

Delivery:
4x in set, including fastening screw

Jaws width (mm)		100	125	160
Height (mm)		24	27	27
Suitable cheese-head screw DIN 912		M12 x 45 mm	M12 x 45 mm	M16 x 50 mm
28857...	Ident. No.	**010** ○	**025** ●	**060** ●

Prod. Gr. 283

ATORN Reversible jaws set type WB-S and WB-K

Accessories for Allmatic vices

Application:
Reversible jaws for universal use according to requirements. Jaws are screwed directly into the screw-on jaws.

Version:
- Hardened and ground
- **Ref. no. 230-231:** One side with longitudinal grooves and one smooth side
- **Ref. no. 232-233:** One cross-grooved side and one smooth side

Advantage:
- Reversible
- Easy and quick to exchange

Scope of delivery:
1 set of reversible jaws including fastening screws

Ident. No. 230–231

Ident. No. 232–233

Type		WB-S reversible jaw	WB-S reversible jaw	WB-K reversible jaw	WB-K reversible jaw
Jaw design		Longitudinal grooves | Smooth	Longitudinal grooves | Smooth	Longitudinal grooves | Cross-grooved	Longitudinal grooves | Cross-grooved
Jaws width (mm)		125	160	125	160
Jaws thickness (mm)		20	20	20	20
Jaws height (mm)		40	50	40	50
Hole distance (mm)		62.5	80	62.5	80
Hole distance (vertical) (mm)		18	20	18	20
28885...	Ident. No.	**230** ○	**231** ●	**232** ●	**233** ●

Prod. Gr. 281

Stepped jaw set type SB-K and SB-G

Accessories for Allmatic vices

Application:
Stepped jaws for universal use according to requirements. Jaws are screwed directly into the screw-on jaws.

Version:
- With smooth jaw steps
- Hardened and ground

Advantage:
- Not reversible
- Easy and quick to exchange

Scope of delivery:
1 set of stepped jaws including fastening screws

Ident. No. 234–235

Ident. No. 236–237

Type		SB-K stepped jaw	SB-K stepped jaw	SB-G stepped jaw	SB-G stepped jaw
Jaw design		Smooth	Smooth	Smooth	Smooth
Jaws width (mm)		125	160	125	160
Jaws thickness (mm)		20	20	20	20
Jaws height (mm)		40	50	40	50
Hole distance (mm)		62.5	80	62.5	80
Hole distance (vertical) (mm)		18	20	18	20
Step width (mm)		3	3	5	5
Step height (mm)		5	5	8	8
Step length (mm)		125	160	125	160
28885...	Ident. No.	**234** ●	**235** ●	**236** ●	**237** ●

Prod. Gr. 281

Claw jaw set type KB-K, KB-G and KB-O

Accessories for Allmatic vices

Application:
Claw jaws for universal use according to requirements. Jaws are screwed directly into the screw-on jaws.

Version:
- Hardened and ground
- **Ref. no. 238-241:** With claws and jaw steps
- **Ref. no. 242-243:** With claws, without jaw steps

Advantage:
- Not reversible
- Easy and quick to exchange

Scope of delivery:
1 set of claw jaws including fastening screws

Ident. No. 238–239

Ident. No. 240–241

Ident. No. 242–243

Type		KB-K claw jaw	KB-K claw jaw	KB-G claw jaw	KB-G claw jaw	KB-O claw jaw	KB-O claw jaw
Jaw design		With claws	With claws	With claws	With claws	With claws | Without steps	With claws | Without steps
Jaws width (mm)		125	160	125	160	125	160
Jaws thickness (mm)		20	20	20	20	20	20
Jaws height (mm)		40	50	40	50	40	50
Hole distance (mm)		62.5	80	62.5	80	62.5	80
Hole distance (vertical) (mm)		18	20	18	20	18	20
Step width (mm)		3	3	8	8	-	-
Step height (mm)		5	5	5	5	-	-
Step length (mm)		125	160	125	160	-	-
28885...	Ident. No.	**238** ●	**239** ●	**240** ●	**241** ●	**242** ●	**243** ●

Prod. Gr. 281

Soft clamping jaws set type SBW-S and SBW-A

Accessories for Allmatic vices

Application:
Soft clamping jaws for universal use according to requirements. Jaws are screwed directly into the screw-on jaws.

Version:
- Not hardened and ground
- Designed to accommodate special designs
- **Ref. no. 244-245:** Steel version
- **Ref. no. 246-247:** Aluminium version

Advantage:
- Reversible
- For custom adaptation according to machining requirements
- Easy and quick to exchange

Scope of delivery:
1 set of soft clamping jaws, including fastening screws

Ident. No. 244–245

Ident. No. 246–247

Type		Soft clamping jaws made of steel	Soft clamping jaws made of steel	Soft clamping jaws made of aluminium	Soft clamping jaws made of aluminium
Jaw design		Smooth	Smooth	Smooth	Smooth
Jaws width (mm)		125	160	125	160
Jaws thickness (mm)		20	20	20	20
Jaws height (mm)		40	50	40	50
Hole distance (mm)		62.5	80	62.5	80
Hole distance (vertical) (mm)		18	20	18	20
28885...	Ident. No.	244 ●	245 ●	246 ●	247 ●

Prod. Gr. 281

PB vee block jaw

Accessories for Allmatic vices

Application:
Vee block jaws for universal use according to requirements. Jaws are screwed directly into the screw-on jaws.

Version:
- With horizontal and vertical vee block
- Hardened and ground

Advantage:
- Not reversible
- For clamping round components
- Easy and quick to exchange

Scope of delivery:
1x vee block jaw including fastening screws

Type		Vee block jaw	Vee block jaw
Jaw design		Smooth | With prism	Smooth | With prism
Jaws width (mm)		125	160
Jaws thickness (mm)		20	20
Jaws height (mm)		40	50
Hole distance (mm)		62.5	80
Hole distance (vertical) (mm)		18	20
Step length (mm)		125	160
28885...	Ident. No.	248 ●	249 ●

Prod. Gr. 281

5-axis machine vices
The right companion for every application

We offer the following range of 5-axis machine vices:
- Mechanical/mechanical
- with and without voltage amplifier
- Jaw widths of 100–125 mm
- Clamping width of 0-1000 mm
- Clamping force of 20–40 kN

We also offer a wide range of accessories:
- Screw-in jaws/screw-on jaws/pull-down jaws, etc.
- Stops
- Swing / grip jaws
- Adjustable clamps

ATORN

"The compact one"
ATORN compact clamp
no. 28741 125

"The all-rounder"
ATORN 5-axis multi-tensioner two in one
no. 28759 701-704 / 710-713

"The power pack"
ATORN 5-axis centre clamping device AZS-100
no. 28763 010

ATORN Compact 5-axis machine vice
Mechanical/mechanical clamping system

Application:
The compact design ensures a maximum degree of freedom and enables optimum accessibility for 3 and 5 axis machining. Suitable for milling machines and machining centres.

Execution:
- Sturdy basic body made of GJS-600 spheroidal graphite iron
- Patented quick adjustment of the clamping width
- Large clamping width due to the use of stepped jaws
- Re-clamping Belleville washer package
- Stepped jaws with snap-in device for snap-in rails
- Clamping width can be extended on request

Advantage:
- Very low loss of clamping force and secure retention forces
- Encapsulated spindle means it is not affected by dirt
- No thread in clamping range
- Easy to operate with a torque wrench (½ inch square drive)

Delivery:
1x compact clamp; including stepped jaws and 4x adjustable clamps

Notes:
Clamp can be operated with the square drive of a standard ratchet tool or torque wrench.

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Type		Compact clamp
Jaws width (mm)		125
Body height (mm)		100
Body width (mm)		126
Body length (mm)		250
Min./max. clamping width		0-90 mm
Min./max. clamping width for reversible step jaws		0-178 mm
Tension force (kN)		40
Weight (kg)		23.2
Travel stroke of gate valve (mm)		18
Groove width (mm)		20
Width across flats		13 mm
28741...	Ident. No.	**126** O+

Prod. Gr. 280

Attention: You can find suitable T-sliding blocks in the mechanical clamping elements area

ATORN Stepped jaws

Accessories for 28741125 and 28730 125 and 225

Application:
For clamping parallel workpieces. Reversible for increasing the clamping distance.

Execution:
- Stepped jaw hardened and polished
- With clip-in device for stepped rail
- Accessories for art. no.: 28741125 and 28730125/225

Delivery:
1 set of stepped jaws incl. fastening screws

Type		Stepped jaws
Jaws width (mm)		125
Jaws thickness (mm)		78/78
Jaws height (mm)		39.5
Min./max. clamping width		0-90 mm
Min./max. clamping width 2		0-178 mm
28741...	Ident. No.	215 ●

Prod. Gr. 280

p. 1023

ATORN Grip jaws

Accessories for 28741125 and 28730 125 and 225

Application:
For flexible workpiece clamping for a wide range of machining processes.

Execution:
- Multi jaws with grip inserts, hardened and polished
- Grip inserts with smooth and ribbed sides
- Ideal for clamping uneven components
- Accessories for art. no.: 28741125 and 28730125/225

Delivery:
1 set of multi jaws including 4x grip inserts and 4x contact sleeves and screws

Type		Multi jaws with gripper inserts
Jaws width (mm)		160
Jaws thickness (mm)		78/105
Jaws height (mm)		25
Min./max. clamping width		10-202 mm
28741...	Ident. No.	235 ○

Prod. Gr. 280

ATORN Grip jaws, pendulum jaws

Accessories for 28741125 and 28730 125 and 225

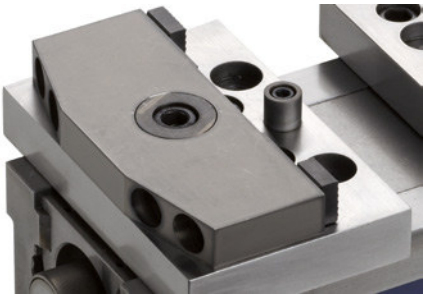
Application:
For clamping non-parallel workpieces, cast parts and moulded workpieces.

Execution:
- Hardened and polished pendulum jaw with grip inserts
- With two fixed carbide grip inserts
- Accessories for art. no.: 28741125 and 28730125/225

Advantage:
- Compensation of saw cuts; moulded and cast parts without two parallel sides

Delivery:
1x pendulum jaw with 2x carbide grip inserts

Notes:
For mounting on movable multi jaw



Type		Pendulum jaw with gripper inserts
Jaws width (mm)		156
Jaws thickness (mm)		62
Jaws height (mm)		20
Min./max. clamping width		6-168 mm
28741...	Ident. No.	245 ○

Prod. Gr. 280

ATORN Clamping jaws/accessories

Accessories for 28741125 and 28730 125 and 225

Application:

Ident. No. 250: For expanding the clamping width up to max. 240.0 mm. Simply screwed onto the stepped jaws, modifying the range of applications of the clamp.

Ident. No. 251: For reducing the clamping width. Simply screwed onto the stepped jaws, modifying the range of applications of the clamp.

Ident. No. 252–253: Grip serration of jaws improves workpiece retention. The integrated step allows for the proper positioning of workpieces.

Ident. No. 254–255: The stepped bars are not screwed, but simply clipped in. This nevertheless guarantees a secure and sturdy hold. In addition, there is no slipping; even when using compressed air and coolant.

Execution:

- **Ident. No. 250:**
  - For screwing onto the stepped jaws for 5-axis compact machine
  - Smooth clamping jaws
  - Clamping width extension +62.0 mm
- **Ident. No. 250–253:** Accessories for art. no.: 28741125 and 28730125/225
- **Ident. No. 251:**
  - For slim and small components
  - Clamping width reduction -8.0 mm
- **Ident. No. 251–255:** For mounting on stepped jaws on a 5-axis compact machine vice
- **Ident. No. 252–253:** Clamping step with serrated toothing
- **Ident. No. 254–255:**
  - Hardened and polished stepped rails
  - Stepped rails are “clipped in” by hand without tools

Advantage:

- **Ident. No. 254–255:** Prevents chips from entering underneath the stepped rail

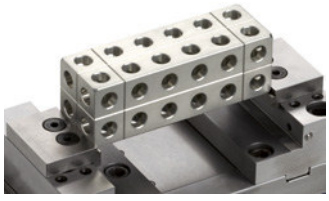
Delivery:

Ident. No. 250–251: 1x set of screw-on jaws, including fastening screws

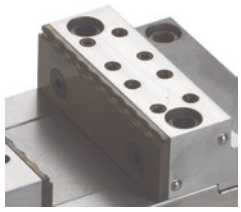
Ident. No. 252–253: 1x set of grip jaws; including fastening screws

Ident. No. 254–255: 1 set of stepped rails

Ident. No. 250



Ident. No. 251



Ident. No. 252–253

Ident. No. 254–255

Type		Screw-on jaw | large clamping width	Screw-on jaw for slim workpieces	Screw-on gripper strips	Screw-on gripper strips	Stepped bars for clipping on	Stepped bars for clipping on
Jaws width (mm)		125	60	125	125	125	125
Jaws thickness (mm)		45	45	6.4	5	-	-
Jaws height (mm)		15	15	39.5	19.5	35	15
Min./max. clamping width		75-240 mm	7-156 mm	5-70 mm	39-160 mm	10-166 mm	10-166 mm
28741...	Ident. No.	250 ○	251 ○	252 ●	253 ○	254 ○	255 ○

Prod. Gr. 280

ATORN AVM 5-axis clamp

Mechanical/mechanical clamping system.

Application:

The AVM is a manually mechanically actuated component clamp without power transmission for clamping all conventional materials. It features a technically optimised quick-change jaw system that allows replacement in seconds.

Execution:

- Jaw quick-change system
- For all conventional materials
- For workpieces of various sizes and geometries
- For machining series and individual parts
- Operation requires one single wrench size only - the same wrench size is also used for modifications
- The clamping centre can be positioned freely
- Clamping is possible on conventional zero-point clamping systems with a 200 mm pitch

Advantage:

- A high level of accuracy is transferred from the machine to the workpiece
- Good accessibility (minimal interference contour)
- Easy to use
- Easy to clean
- Large clamping range

Delivery:

AVM 5-axis clamp without jaws, 1 pc

Type	Jaws width (mm)	Body height (mm)	Body width (mm)	Body length (mm)	Min./max. clamping width	Tension force (kN)	Groove width (mm)	Width across flats	28765... Ident. No.	
AVM 5-axis clamp	125	152	125	345	13-182 mm	40	20	12 mm	000	●+

Prod. Gr. 280

AVM interchangeable jaw grips

Accessories for AVM 5-axis clamp

Version:
- Jaws for jaw quick-change system
- Hardened and polished; stepped jaws side 1 step with grip toothing; stepped jaws side 2 with steps, top with grip toothing and bottom with smooth finish
- **Ref. no. 022:** Unhardened and roughly machined; freeforms can be freely accommodated according to user requirements

Advantage:
- Basic system for quick jaw change
- **Ref. no. 020-021:** With dimension grid for better clamping distribution

Scope of delivery:
1 set of clamping jaws for AVM 5-axis clamp

Ident. No. 020

Ident. No. 021

Ident. No. 022

Type	Jaw type	Jaws width (mm)	Jaws length (mm)	Jaws height (mm)	28765... Ident. No.	
Stepped jaw 3 mm	Movable | Solid	125	62	26	020	●
Stepped jaw 5 mm	Movable | Solid	125	62	28	021	●
Steel block jaw	-	125	62	32	022	●

Prod. Gr. 280

Adjustable clamp

Accessories for AVM 5-axis clamp

Application:
The adjustable clamps are used to mount the 5-axis clamp onto a T-groove table.

Delivery:
1 adjustable clamp set, including sliding block and fastening screw

Type	Slot size on machine (mm)	28765... Ident. No.	
Adjustable clamp for T-groove 12 mm	12	070	●
Adjustable clamp for T-groove 14 mm	14	071	●
Adjustable clamp for T-groove 16 mm	16	072	●
Adjustable clamp for T-groove 18 mm	18	073	●
Adjustable clamp for T-groove 20 mm	20	074	●

Prod. Gr. 280

Sliding blocks

Accessories for AVM 5-axis clamp

Application:
The slot nuts are used for the precise indexing of the 5-axis clamp on the machine table. Additional adjustable clamps make unintentional loosening or twisting of the clamp virtually impossible.

Delivery:
1 sliding block set, including fastening screws

Ident. No. 080–083, 085

Ident. No. 084

Type	Slot nut width (mm)	Slot size on machine (mm)	28765... Ident. No.	
Sliding blocks for T-groove 12 mm	20	12	080	●
Sliding blocks for T-groove 14 mm	20	14	081	●
Sliding blocks for T-groove 16 mm	20	16	082	●
Sliding blocks for T-groove 18 mm	20	18	083	●
Sliding blocks for T-groove 20 mm	20	20	084	●
Sliding blocks for T-groove 22 mm	20	22	085	●

Prod. Gr. 280

Workpiece rest set

Accessories for AVM 5-axis clamp

Application:
The rest set provides the user with the option of fastening workpieces in the clamp at different clamping heights.

Execution:
- Support strips in different heights
- Fastening with the aid of supplied clamping brackets for quick clipping in

Advantage:
- Fasten quickly and securely
- Clip fastening
- Can be changed in a few seconds

Delivery:
1 set of workpiece rests in wooden box, 5 different heights and 4 clamping brackets

28765...	Ident. No.	090 ●

Prod. Gr. 280

Direct fastening screw

Accessories for AVM 5-axis clamp

Application:
The direct fastening screw is used to directly fasten the clamp through the basic body on the machine table or on a zero-point clamping system. Holes in the clamp can be subsequently sealed by means of a sealing cap.

Execution:
- The set consists of two screws with washers and one sliding block

Advantage:
- No interference contour due to adjustable clamps

Delivery:
One set of direct fastening screws, incl. accessories

28765...	Ident. No.	091 ●

Prod. Gr. 280

5-A two-in-one multi-clamp set

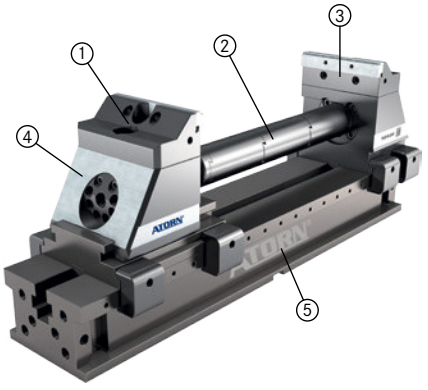
Incl. 2 standard jaws

Application:
Unique innovative system design that combines two basic applications in one product. Two-in-one for use as a 5-axis or multi-clamping system. Highly flexible, modular jaw range, positive-locking jaw connection.

Execution:
- The position of the fixed and movable jaws on the rail can be altered so that large and small parts are always accommodated centrally relative to the table
- System is infinitely extendable using the adapter set (available on request)
- When clamping with an increased clamping width, the clamping distance is only 30 mm less than rail length. Example: With a rail length of 400 mm, the clamping width can be 370 mm. Only using the large part jaw
- Positive-locking jaw interface
- Easy to clean: If necessary, the entire system can be disassembled, cleaned and reassembled in just a few minutes
- 100 mm clamping range without adjustment
- 40 kN clamping force at a tightening torque of 85 Nm
- Torque wrench 20-120 Nm ref. no. 52240120; screwdriver bit AF 12 hex 1/2 drive ref. no. 58688320

Advantage:
- Extremely stiff for low vibration
- Two in one: The system can be used as a 5-axis and multi-clamping system. This is a unique feature. The base is an ATORN clamping rail from the 120 series
- Tool-free spindle extension - mounting and removal in one click. Smart clamping solution at a great price
- Simple and straightforward to use. The system can be changed over very quickly
- Optimised interfering edge design

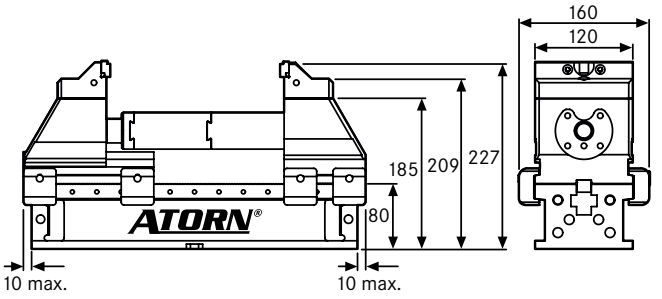
Delivery:
1x clamping rail, 1x complete 5-axis system, 2x standard jaws, 2x screw-in jaws, spindle extensions (number of pieces dependent on version and rail length)



Ident. No. 701
① Stable, low-vibration machining, ② Spindle can be extended without tools, ③ Comprehensive, sophisticated accessories
④ 2-in-1: Clamping rail also for use as a multiple clamping rail

Example configuration: 1,200 mm, 2x 600 mm clamping rails. The ATORN adapter set is required to extend or adapt clamping rails.

Example configuration: increased clamping width with large-part jaw



p. 1053 p. 1028 p. 1029 p. 1028

Type		Two in One 300 mm	Two in One 400 mm	Two in One 500 mm	Two in One 600 mm
Jaws width (mm)		120	120	120	120
Body height (mm)		228	228	228	228
Body width (mm)		160	160	160	160
Body length (mm)		300	400	500	600
Clamping rail length (mm)		300	400	500	600
Clamping rail width (mm)		120	120	120	120
Clamping rail height (mm)		80	80	80	80
Min./max. clamping width		0-270 mm	0-370 mm	0-470 mm	0-570 mm
Tension force (kN)		40	40	40	40
Weight (kg)		40.3	47.3	54.2	60.8
Groove width (mm)		20	20	20	20
Width across flats		12 mm	12 mm	12 mm	12 mm
28759...	Ident. No.	701 ○+	702 ○+	703 ○+	704 ○+

Prod. Gr. 2AZ

The ATORN adapter set is required to extend or adapt clamping rails.
Attention: You can find suitable T-sliding blocks in the mechanical clamping elements section

5-A two-in-one multi-clamp set

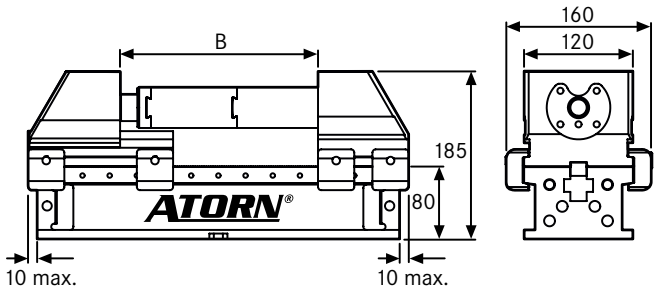
Without jaws

Application:
Unique innovative system design that combines two basic applications in one product. Two-in-one for use as a 5-axis or multi-clamping system. Highly flexible, modular jaw range, positive-locking jaw connection.

Execution:
- The position of the fixed and movable jaws on the rail can be altered so that large and small parts are always accommodated centrally relative to the table
- System is infinitely extendable using the adapter set (available on request)
- When clamping with an increased clamping width, the clamping distance is only 30 mm less than rail length. Example: With a rail length of 400 mm, the clamping width can be 370 mm. Only using the large part jaw
- Positive-locking jaw interface
- Easy to clean: If necessary, the entire system can be disassembled, cleaned and reassembled in just a few minutes
- 100 mm clamping range without adjustment
- 40 kN clamping force at a tightening torque of 85 Nm
- Scope of delivery is as pictured, without jaws. Coordinated, comprehensive range of accessories, see ref. no. 28759 720-774; torque wrench 20-120 Nm art. no.: 52240120; screwdriver bit AF12 hex-1/2 drive art. no.: 58688320

Advantage:
- Extremely stiff for low vibration
- Two in one: The system can be used as a 5-axis and multi-clamping system. This is a unique feature. The base is an ATORN clamping rail from the 120 series
- Tool-free spindle extension - mounting and removal in one click. Smart clamping solution at a great price
- Simple and straightforward to use. The system can be changed over very quickly
- Optimised interfering edge design

Delivery:
1x clamping rail, 1x complete 5-axis system, spindle extensions (number of pieces dependent on version and rail length)



p. 1053 p. 1028 p. 1029 p. 1028

Type		Two in One 300 mm	Two in One 400 mm	Two in One 500 mm	Two in One 600 mm
Jaws width (mm)		120	120	120	120
Body height (mm)		228	228	228	228
Body width (mm)		160	160	160	160
Body length (mm)		300	400	500	600
Clamping rail length (mm)		300	400	500	600
Clamping rail width (mm)		120	120	120	120
Clamping rail height (mm)		80	80	80	80
Min./max. clamping width		0-270 mm	0-370 mm	0-470 mm	0-570 mm
Tension force (kN)		40	40	40	40
Weight (kg)		26.5	33.5	40.8	47
Groove width (mm)		20	20	20	20
Width across flats		12 mm	12 mm	12 mm	12 mm
28759...	Ident. No.	710 ○	711 ○+	712 ○+	713 ○+

Prod. Gr. 2AZ

The ATORN adapter set is required to extend or adapt clamping rails.
Attention: You can find suitable T-sliding blocks in the mechanical clamping elements section

5-axis multi-clamp screw-on jaws

Accessories for 5-A two-in-one multi-clamp

Application:
Ident. No. 720–721: The standard screw-on jaw is mounted onto the 5-axis structure of the multi-clamp. It can only be used in one mounting direction as it has been designed for ideal accessibility.
Ident. No. 722: The large-part screw-on jaw is mounted onto the 5-axis structure of the multi-clamp. It is used for larger components requiring an enlarged contact surface. Required for the VS clamping variant.
Ident. No. 723: The soft screw-on jaw is mounted onto the 5-axis structure of the multi-clamp. Free-form surfaces can be inserted freely into the jaws for machining finished parts.
Ident. No. 724–725: The smooth screw-on jaw is mounted onto the 5-axis structure of the multi-clamp. This jaw does not feature any clamping steps, but offers several mounting holes that enable workpieces to be attached.
Ident. No. 727–728: The large-part screw-on jaw with turntable is mounted onto the 5-axis structure of the multi-clamp. It is used for larger components requiring an enlarged contact surface. The jaw features an integrated turntable. This is used to compensate for raw parts that have not been sawed parallel. Required for the VS clamping variant.

Execution:
- Accessories for 5-axis multi-clamp art. no.: 28759 701-704/710-713
- **Ident. No. 720–721:** For 120 system
- **Ident. No. 720–722:** To accommodate screw-in jaws
- **Ident. No. 722:** For 120 mm system
- **Ident. No. 723:**
  - Can be adapted to requirements
  - For free machining
- **Ident. No. 724–725:**
  - Without step
  - With mounting holes for screw-in jaws

Advantage:
- **Ident. No. 722:** Expands the clamping width of the clamping system

Delivery:
Ident. No. 720–721: 1x standard jaw
Ident. No. 722: 1x jaw for clamping large parts, incl. fasteners
Ident. No. 723: 1x soft standard jaw
Ident. No. 724–725: 1x smooth jaw without step
Ident. No. 727–728: 1x clamping jaw with turntable

Ident. No. 720

Ident. No. 721

Ident. No. 722

Ident. No. 723

Ident. No. 724

Ident. No. 725

Ident. No. 727
Swivel jaw for large parts with turntable

Ident. No. 728
Standard swivel jaw with turntable

Type		Standard jaw	Standard jaw	Jaw for clamping large parts	Soft jaw	Smooth jaw without step	Smooth jaw without step	Swivel jaw for large parts + turntable	Standard swivel jaw
Jaws width (mm)		120	60	120	120	120	60	120	120
Jaws length (mm)		60	60	60	60	56	56	68	68
Jaws height (mm)		44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4
28759...	Ident. No.	**720** ○	**721** ○	**722** ○	**723** ○	**724** ○	**725** ○	**727** ○	**728** ○

Prod. Gr. 2AZ

ATORN 5-axis multi-clamp screw-in jaws

Accessories for 5-A two-in-one multi-clamp

Application:

Ident. No. 750–751: The soft screw-in jaws are integrated into screw-on jaws for the 5-axis multi-clamp. Freeform surfaces can be inserted freely into the jaws for machining finished parts.

Ident. No. 752–753: The screw-in jaws with grip steps are integrated into the screw-on jaws of the 5-axis multi-clamp. Both sides of the jaw feature grip serration with claws. This provides the perfect hold for any component.

Ident. No. 754–755: The screw-in jaws with smooth steps are integrated into the screw-on jaws for the 5-axis multi-clamp. Both sides of the jaw feature a smooth clamping surface. This is mainly intended for components with delicate surfaces and finished parts.

Ident. No. 756–757: The combination screw-in jaws are integrated into the screw-on jaws of the 5-axis multi-clamp. One side features grip serration and the other is smooth, allowing for the integration of raw and finished part clamping in one set of jaws.

Execution:

- Accessories for 5-axis multi-clamp art. no.: 28759 701-704/710-713
- **Ident. No. 750–755:** For screwing into screw-on jaws for 5-axis multi-clamp
- **Ident. No. 756–757:**
  - Smooth step on one side
  - Step and claw on one side

Delivery:

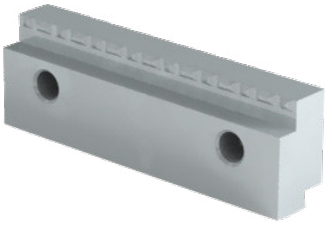
Ident. No. 750–751: 1x soft screw-in jaw

Ident. No. 752–753: 1x screw-in jaw with claws and steps

Ident. No. 754–755: 1x screw-in jaw with steps

Ident. No. 756–757: 1x combination screw-in jaw

Ident. No. 752



Ident. No. 753

Ident. No. 754

Ident. No. 755

Type		Screw-in jaw soft	Screw-in jaw soft	Screw-in jaw with step and claw	Screw-in jaw with step and claw	Screw-in jaw with smooth steps	Screw-in jaw with smooth steps	Combination screw-in jaw | 1 step smooth | 1 step with claws	Combination screw-in jaw | 1 step smooth | 1 step with claws
Jaws width (mm)		120	60	120	60	120	60	120	60
Jaws length (mm)		11	11	11	11	11	11	11	11
Jaws height (mm)		19	19	19	19	19	19	19	19
28759...	Ident. No.	**750** ○	**751** ○	**752** ○	**753** ○	**754** ○	**755** ○	**756** ○	**757** ○

Prod. Gr. 2AZ

ATORN 5-axis multi-clamp Flex Mov plain jaw set

Accessories for 5-A two-in-one multi-clamp

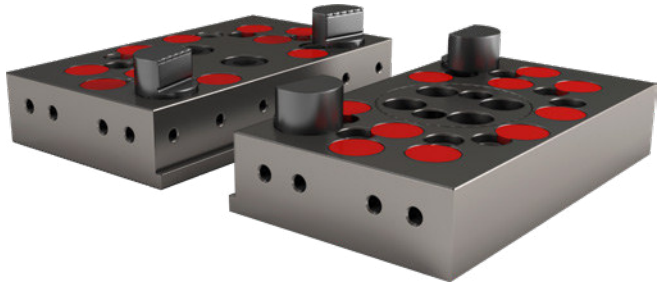
Application:
The Flex Mov clamping jaw serves as a plain jaw for unrestricted positioning of Flex clamping pins, depending on the user's requirements. Positions that are not required are sealed by cover caps, so that there is no contamination from coolant and chips.

Execution:
- Accessories for 5-axis multi-clamp art. no.: 28759 701-704/710-713

Delivery:
1 set of Flex Mov clamping jaws without Flex clamping jaw

Type		Flex Mov for 5-A attachment 120/150 mm
Jaws width (mm)		150
Jaws length (mm)		90
Jaws height (mm)		30
28759...	Ident. No.	726 ○

Prod. Gr. 2AZ



120 mm design with a clamping width of 150 mm, without clamping jaws

ATORN 5-axis multi-clamp Flex clamping jaw

Accessories for Flex Mov plain jaw

Application:
Flex clamping jaw can be used freely in Flex Mov clamping jaw, depending on the application.

Execution:
- For use in Flex Mov clamping jaw
- Different versions available - smooth, with claws and carbide grip

Delivery:
1x Flex clamping jaw

Type		Smooth design	Claw design	HM grip design
Ø (mm)		18	18	18
Clamping height (mm)		15	15	15
28759...	Ident. No.	730 ○	731 ○	732 ○

Prod. Gr. 2AZ

Ident. No. 730 | Ident. No. 731 | Ident. No. 732

ATORN Accessories for 5-A two-in-one multi-clamp

Spare parts

Application:
Ident. No. 811: This 5-axis design is offered as an accessory for operators already using a multiple clamping rail. The system, however, can only be used on a 120 series rail.
Ident. No. 812: The spindle extensions are required to extend the 5-axis multi clamp. Using this extension, each of these systems can be extended by up to 100 mm.
Ident. No. 813: The fixed base block is securely attached to the multiple clamping rail and forms the system's fixed jaw. The system can only be used on a 120 series rail.
Ident. No. 814: The clamping unit features a slide plate, which is securely attached to the multiple clamping rail. The base block is then pushed onto the fixed slide plate, allowing the clamping area to be adjusted using the spindle.
Ident. No. 815: Spare spindle package in case the spindle or spindle components become damaged.

Execution:
- **Ident. No. 811:** The set contains all components required for 5-axis machining
- **Ident. No. 811, 813–814:** Including adjustable clamps for pull-down mounting on the rail
- **Ident. No. 812:**
  - Spindle extension with through-bore
  - Serrated pin connection on one side
  - Serrated groove connection on one side
- **Ident. No. 813:** Fixed base block
- **Ident. No. 814:**
  - Movable base block
  - Slide plate
- **Ident. No. 815:**
  - Spindle retention plates
  - Brass sliding rings for good spindle mobility
  - Threaded spindle
  - Spindle extension

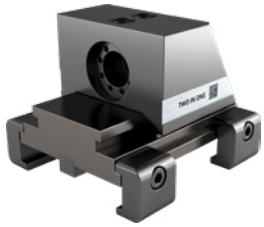
Delivery:
Ident. No. 811: 1x Complete 5-axis design, incl. fasteners
Ident. No. 812: 1x spindle extension
Ident. No. 813: 1x fixed base block, incl. fasteners
Ident. No. 814: 1x sliding base block, incl. guide rail
Ident. No. 815: 1x complete spindle, incl. retention plate

Notes:
Ident. No. 812: Each 5-axis multi clamp variant comes with a certain number of extensions.

Ident. No. 811

Ident. No. 812

Ident. No. 813



Ident. No. 814

Ident. No. 815

Type		Complete 5-axis design.	Spindle extension.	Fixed base block.	Sliding base block with guide rail.	Spindle | complete with retaining plate.
28759...	Ident. No.	811 ○	812 ○	813 ○	814 ○	815 ○

Prod. Gr. 2AZ

Sliding blocks/fixed T-nuts

Accessories for 5-A two-in-one multi-clamp

Application:
The sliding blocks are used to directly mount the 5-axis multi-clamp or multiple clamping rails onto the machine table, without the need for adjustable clamps.

Execution:
- For mounting the 5-axis multi-clamp onto the machine table
- With M8 thread
- Short version

Delivery:
1x T-slot nut

Type		M8 sliding block	M12 sliding block	M12 sliding block
Slot size on machine (mm)		14	14	14
Length (mm)		22	22	44
Thread dimension		M8	M12	M12
28759...	Ident. No.	818 ○	819 ○	821 ●

Prod. Gr. 2AZ

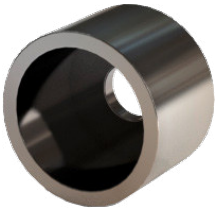
Screw bushing

Accessories for 5-A two-in-one multi-clamp

Application:
As the name suggests, the screw reducer is used to reduce the diameter of mounts.

Execution:
- For reducing from M16 to M12

Delivery:
1x screw bushing



Type		Screw bushing to adapt from M16 to M12
28759...	Ident. No.	822 ○

Prod. Gr. 2AZ

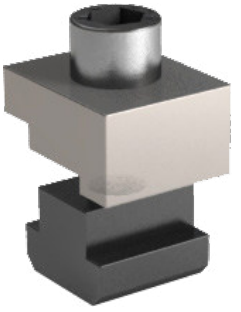
Adjustable clamps set

Accessories for 5-A two-in-one multi-clamp

Application:
The adjustable clamps are used to secure the 5-axis multi-clamp or multi-clamping rails on a T-groove table.

Execution:
- For mounting the 5-axis multi-clamp or multiple clamping rails onto the machine table
- 30 mm adjustable clamp
- M12 fastening screw
- Sliding block with groove size of 14 mm

Delivery:
1x adjustable clamp set (4 pieces) including sliding block and fastening screws



Type		Adjustable clamp set 30 mm for M12 screw	Adjustable clamp set 40 mm for M16 screw
Slot nut width (mm)		14	18
Slot size on machine (mm)		14	18
Length (mm)		22	18
Thread dimension		M12	M16
28891...	Ident. No.	403 ○	404 ○

Prod. Gr. 2AZ

5-axis centre clamping devices
The right companion for every application

We offer the following range of 5-axis centre clamps:
- Mechanical with power intensifier/mechanical without power intensifier
- with and without voltage amplifier
- Jaw widths of 50–160 mm
- Clamping widths of 0–269 mm
- Clamping force of 10–50 kN

We also offer a wide range of accessories:
- Screw-in jaws / screw-on jaws / etc.
- Quick change systems
- Stops
- Swing jaws / grip jaws
- Adjustable clamps

ATORN

"The Little One"
ATORN TCA 5-axis centre clamp with quick change system
Nos. 28761 001-002

ROHM

ATORN TCA 5-axis centre clamping devices K and M

Application:
Ideal for use on 5-axis machining centres Conventional clamping and grip clamping possible.

Version:
- Centric, simple programming without zero offset.
- Support height of the workpiece 192 mm.
- Jaw quick-change system, quick-action tool-free jaw replacement within 10 seconds per pair of jaws.
- Reversible jaws: for min./max. clamping widths with one pair of jaws.
- Constant clamping force via low-maintenance telescopic spindle.
- Fitted as standard with location holes for zero point clamping system gauge 200.
- Can also be mounted on a machine table using through bolts/shoulder screws in 50/63 mm grid or adjustable clamps.
- Integrated scale ring for fine adjustment of the centre position.
- Operation with torque wrench.

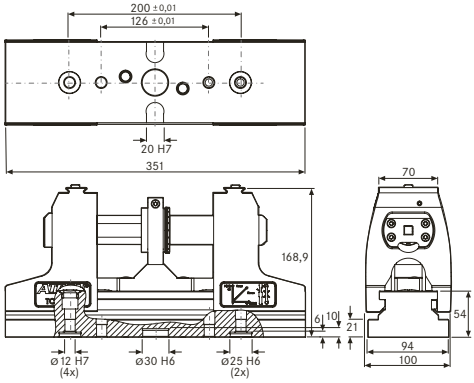
Advantage:
- Telescopic spindle, interference contour remains unchanged.
- Centric, simple programming without zero offset.
- Material dimensions are symmetrically distributed.
- Workpiece accessibility does not depend on clamping width.
- Symmetrical design = workpiece remains centred and parallel. Linear clamping force of 30 kN at 45 Nm.

Scope of delivery:
1x ATORN TCA without jaws, 1x support plate for transport, 1x L-shaped TX key, 1x hand crank for pre-setting (please order clamping jaws separately).

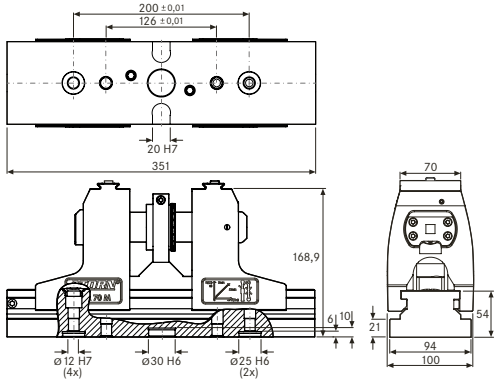
Note:
Torque wrench 20-120 Nm ref. no. 55240120, screwdriver bit AF 14 hex 1/2 ref. no. 58682140.

Ident. No. 001
TCA 70 K

Ident. No. 002
TCA 70 M



Ident. No. 001



Ident. No. 002

Product video: YouTube-ID av-1OqBT3CE

Product video: YouTube-ID W96WhZuLDRI

p. 1032 p. 1033 p. 1034

Jaw width A (mm)		70	70
Min./max. clamping width		9-135 mm	42-200 mm
Min./max. clamping width 2		9-134 mm	49-139 mm
Clamping height (mm)		192	192
Tightening torque (Nm)		45	45
Tension force (kN)		30	30
Weight (kg)		17.5	19.5
28761...	Ident. No.	001 ●	002 ●

Prod. Gr. 280

ATORN TC-coated movable stepped jaws

Accessories for ref. no. 28761001-002

Application:
For clamping parallel pre-processed workpieces.

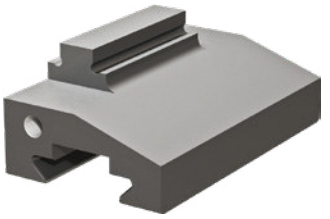
Version:
- Material: Hardened steel.
- Jaw quick-change system, no more screwing.
- Jaws can be clamped in two positions.

Advantage:
- Clamping surfaces (steps) are also carbide-coated to ensure secure clamping - retention force increased by a min. factor of two compared with smooth clamping surfaces.

Scope of delivery:
1x TC-coated movable stepped jaw.

Type		Stepped jaw | smooth	Stepped jaw | smooth	Stepped jaw | smooth
Jaws width (mm)		38	70	100
Jaws height (mm)		27	27	27
Min./max. clamping width		9-85 mm	9-85 mm	9-85 mm
Min./max. clamping width 2		59-135 mm	59-135 mm	59-135 mm
28761...	Ident. No.	010 ○	011 ●	012 ○

Prod. Gr. 280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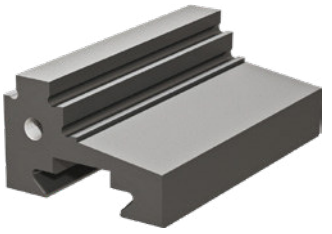
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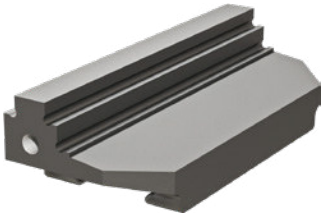
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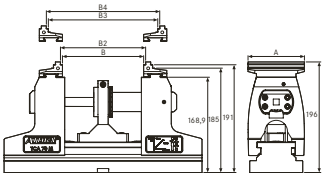


ATORN TC-coated movable grip jaw

Accessories for ref. no. 28761001-002

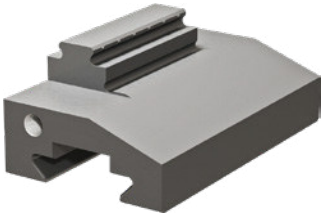
Application:
For ensuring excellent accessibility to the workpiece during 5-sided machining.

Version:
- For rectangular workpieces (saw cut) //≤ 0.5 mm.
- Minimal lost clamping edge of 3 mm.
- Mechanical interlock due to tips that penetrate the material without the need for preliminary shaping.
- Integrated row of grippers ensures a rigid design that protects against vibrations, especially in parts clamped upright.
- Additional clamping surfaces, ground on both sides.
- Suitable for a material strength of up to 1,000 N/mm².

Scope of delivery:
1x TC-coated movable grip jaw.

Type		Stepped jaw | grip	Stepped jaw | grip	Stepped jaw | grip
Jaws width (mm)		38	70	100
Jaws height (mm)		27	27	27
Min./max. clamping width		9-84 mm	9-84 mm	9-84 mm
Min./max. clamping width 2		59-134 mm	59-134 mm	59-134 mm
28761...	Ident. No.	020 ○	021 ●	022 ●

Prod. Gr. 280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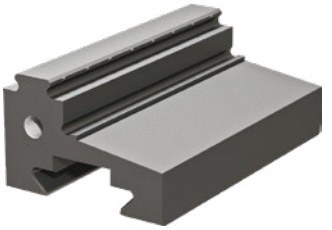
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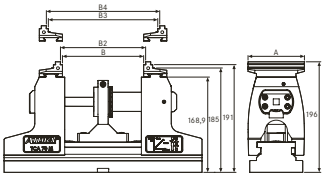


ATORN 70 mm movable prism jaw

Accessories for ref. no. 28761001-002

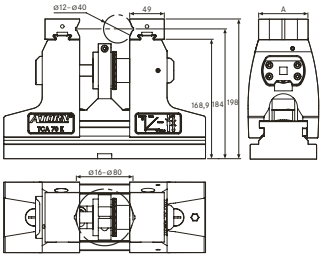
Application:
For horizontal and vertical clamping of round and flat workpieces.

Version:
- Clamping width B 70 K: horizontal dia. 10-40 mm.
- Clamping width B2 70 K: vertical dia. 16-80 mm.
- Clamping width B 70 M: horizontal dia. 10-40 mm.
- Clamping width B2 70 M: vertical dia. 47-110 mm.

Scope of delivery:
1x V-shaped jaw.

Type		Prism jaw with horizontal and vertical prism
Jaws width (mm)		70
Jaws height (mm)		29
28761...	Ident. No.	025 ●

Prod. Gr. 280



ATORN 120 movable soft jaw

Accessories for ref. no. 28761001-002

Application:
For the in-house production of special jaws.

Version:
- Material: Aluminium AlZn5.5MgCu.
- Material: Case-hardening steel, 21MnCr5G, workpiece no.: 1.2162 (jaws can be case-hardened).
- Maximum machining depth 15 mm.
- Clamping width 70 K: 0-70 mm.
- Clamping width 70 M: 34-135 mm.

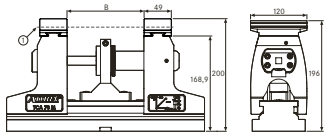
Scope of delivery:
1x 120 movable soft jaw.

Ident. No. 030

Ident. No. 031

Type		Soft steel block jaw	Soft aluminium block jaw
Jaws width (mm)		120	120
28761...	Ident. No.	030 ○	031 ●

Prod. Gr. 280



1. Maximum machining depth 15 mm

ATORN Zero jaw: 70 mm

Accessories for ref. no. 28761001-002

Version:
- Hardened steel.
- Case-hardened and tempered 720+50 HV10.

Advantage:
- For clamping parallel pre-processed workpieces.
- Cylindrical pins act as a contact surface; height can be set at 176 mm or 191 mm.
- Minimum clamping edge: 20 mm at a height of 176 mm/5 mm at a height of 191 mm.

Scope of delivery:
1x zero jaw, 4x parallel pins DIN EN ISO 8734.

Type		Zero jaw
Jaws width (mm)		70
Min./max. clamping width		0-69 mm
28761...	Ident. No.	032 ●

Prod. Gr. 280

ATORN Carrier jaw: 120 mm

Accessories for ref. no. 28761001-002

Version:
- Hardened steel.
- Case-hardened and tempered 720+50 HV10.
- Square workpiece width min./max. 55-180 mm.
- Square workpiece width min./max. 55-180 mm.
- Round workpieces min./max. dia. 50-165 mm.
- Round workpieces min./max. dia. 64-225 mm.

Advantage:
- For clamping unmachined parts, bulky or round workpieces.
- Suitable for holding different types of gripper studs (pointed/smooth)

Scope of delivery:
1x support jaw.

Type		Carrier jaw
Jaws width (mm)		120
Min./max. clamping width		58-184 mm
Min./max. clamping width 2		118-244 mm
28761...	Ident. No.	033 ●

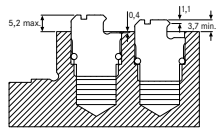
Prod. Gr. 280

ATORN Grip insert with 4x fine tips

Accessories for carrier jaw art. no. 28761033

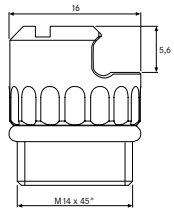
Advantage:
- Also holds soft materials securely using less clamping force.
- Gripping height: Can be set anywhere between 2.6 mm and 4.1 mm.
- Gripper inserts suitable for materials with a strength of up to approx. 1,000 N/mm².
- For workpieces with parallelism // <0.2 mm/100 mm.

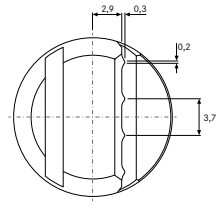
Scope of delivery:
1x grip insert.



28761...	Ident. No.	034 ●

Prod. Gr. 280





ATORN Complete workpiece stop

Accessories for ref. no. 28761001-002

Execution:
- Accessories for ref. no. 28761001-002

Delivery:
1x workpiece stop

Type		mechanical	magnetic
28761...	Ident. No.	040 ●	042 ●

Prod. Gr. 280

Ident. No. 040 Ident. No. 042

ATORN Adjustable clamps (pair)

Accessories for ref. no. 28761001-002

Application:
For attaching a TCA clamp on the machine table.

Scope of delivery:
2x adjustable clamps.

Type		Adjustable clamps
28761...	Ident. No.	045 ●

Prod. Gr. 280

ATORN Alignment and fixation kit for T-groove and base mounting

Accessories for ref. no. 28761001-002

Application:
For aligning (positioning) and securing the clamp onto pallets and machine tables.

Version:
- Size based on T-groove or thread in the machine table.

Scope of delivery:
1x alignment and fixation set

Suitable for groove width (mm)		14	16	18
Thread dimension		M12	M12	M12
28761...	Ident. No.	053 ●	054 ●	055 ●

Prod. Gr. 280

ATORN T-groove alignment and fixation set

Accessories for ref. no. 28761001-002

Application:
For aligning (positioning) and securing the clamp onto pallets and machine tables.

Version:
- Size based on T-groove or thread in the machine table.

Scope of delivery:
1x alignment and fixation set.

Suitable for groove width (mm)		12	14	16	18	22
Thread dimension		M10	M12	M14	M16	M16
28761...	Ident. No.	060 ○	061 ●	062 ○	063 ○	064 ●

Prod. Gr. 280

ATORN D12/M12 shoulder screw

Accessories for ref. no. 28761001-002

Application:
For fixing a TCA clamp directly on the machine table, without interfering adjustable clamps.

Scope of delivery:
1x shoulder screw.

Ø (mm)		12
Thread dimension		M12
28761...	Ident. No.	065 ●

Prod. Gr. 280

ROHM Machine vice, centric clamping

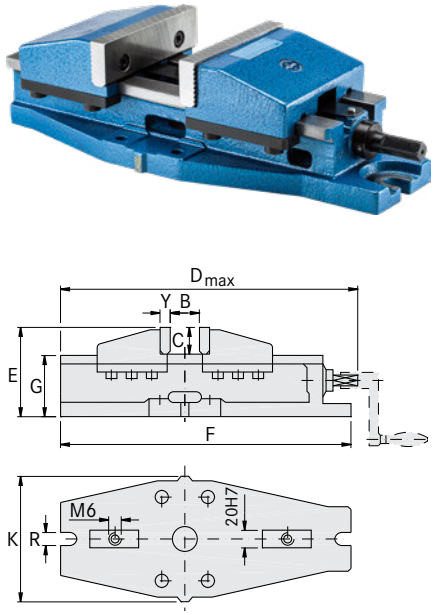
Application:
Particularly suitable for use on conventional machine tools.

Execution:
- Manual mechanical clamping system without power booster.
- Centre clamping due to left-hand and right-hand spindle threads.
- Made of special cast iron for a wide range of applications.
- Can be used on graduated swivel plates.
- Hardened clamping jaws.

Advantage:
- Extensive range of jaws.
- Spindle covered in working area.
- Low-profile design.
- Lateral jaw guides for easy and accurate vice alignment.

Delivery:
1x UZ machine vice; including SGN standard jaws and hand crank

Notes:
For additional jaws, see no. 28882-28889. No. 28717 swivel plates available on request.



Jaws width (mm)		113	135	160
Clamping width (mm)		110	140	180
Jaws height (mm)		31.6	39.6	49.6
Jaws thickness (mm)		12	16	16
Body length (mm)		344	394	480
Body width (mm)		132	152	180
Max. length (mm)		358	408	495
Clamp in height (mm)		61	65.5	74
Height (mm)		93.5	106	124.5
Slot width (mm)		13	13	17
28750...	Ident. No.	110 ○	135 ○	160 ○+

Prod. Gr. 203

Note: Suitable T-sliding blocks can be found in the mechanical clamping elements section.

ROHM RKZ-M 5-axis machine centre clamping device

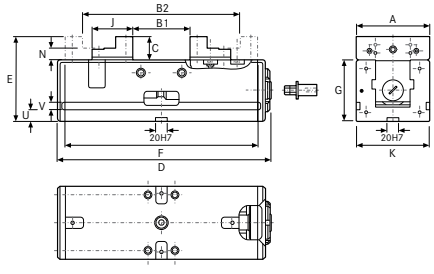
For 5-sided machining, centric clamping

Application:
For use on NC machines, particularly for 5-side machining.

Execution:
- Centre clamping with two movable jaws.
- Mechanical clamping system without power booster.
- Manually actuated.
- Steel base body is hardened and ground on all sides, can be clamped on 3 sides.
- Dimension G-0.02 mm.

Advantage:
- Compact design.
- Mid-clamp accuracy: ± 0.02 mm - Repeat clamping accuracy: 0.01 mm.
- Constant clamping force for each clamping operation and high repeatability when using a torque wrench.
- Large clamping range.

Delivery:
1x RKZ-M vice; including stepped jaws



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Jaw width A (mm)		50	70	92	125
Min./max. clamping width		0-39 mm	0-58 mm	0-78 mm	0-97 mm
B1		36-75 mm	48-106 mm	70-146 mm	81-177 mm
Spannweite Nut B2		72-111 mm	95-153 mm	132-208 mm	172-269 mm
Jaw height C (mm)		20	25	32	40
Body length F (mm)		140	190	260	330
Max. length D (mm)		167	219	295	366
Nutbreite V (mm)		12	12	12	12
Max. height E (mm)		75	95	117	145
Länge 2 U (mm)		15	20	20	20
Body width K (mm)		52	72	94	126
Höhe N -0,01 mm (mm)		10	12	16	20
Body height G (mm)		55	70	85	105
Tension force (kN)		10	15	20	25
Tightening torque (Nm)		-	150	150	150
28760...	Ident. No.	**051** ○	**071** ○	**093** ○	**127** ○+

Prod. Gr. 284

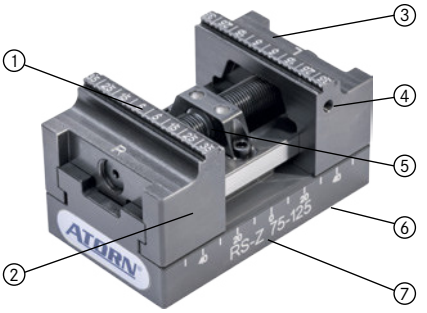
Note: Suitable T-sliding blocks can be found in the mechanical clamping elements section.

ATORN centre clamping device RS-Z
Designed for use in automation and process optimisation

The ATORN centre clamping devices set new standards in the field of workpiece clamping technology.
Due to their special external guide surfaces, the deep-seated spindle and the stable basic body, no distortion occurs during the clamping process. Pushing up the component is virtually impossible. The compact construction compared to the possible workpiece size offers ideal accessibility and therefore enables the use of short tools for reduced vibrations and improved cutting conditions.

Advantages:
- **Quick and simple operation**
- **Flexible in any application** - suitable for machine table, pallets or zero-point clamping systems
- **Jaw width 75 mm:** Clamping widths: 100/125/150/175 mm
- **Jaw width 125 mm:** Clamping widths: 150/200/250/300 mm
- **Always securely clamped** - Jaws with grip toothing and a clamping force of up to 30 kN
- **Rugged and durable** - maintenance-free construction of spindle, basic body and jaws

① Clamping jaws with grip toothing on both sides (same toothing for all clamps)
② Clamping jaws made of solid material for maximum stability during clamping
③ Connecting thread for the use of workpiece stops
④ The clamping jaws are turned in the shortest possible time in order to achieve a higher clamping range and eliminate interference contours
⑤ Spindle centring accuracy +/-0.02 mm
⑥ The base of the clamp has connecting threads for zero-point clamping bolts; the joint dimensions of the holes form the basic dimensions from some well-known manufacturers
⑦ Stable and rugged basic body made of case-hardened steel for high durability



ATORN RS-Z 75 centric clamping device
Basic body with spindle without jaws

Application:
For NC machines and machining centres; increases profitability through fewer tool changes and shorter run times per workpiece; suitable for use on pallet and with robot changing systems.

Execution:
- Robust steel basic body
- Functional surfaces hardened and polished
- Centre clamping through left-hand and right-hand spindle threads
- High repeat accuracy
- Easy to use

Advantage:
- Stable clamping for high cutting performance
- Prepared for ATORN ZPS K20 and Lang Quick Point 52; other adaptations for your machine table available on request

Delivery:
1x RS-Z centre clamping device basic body with spindle.

Notes:
Jaws not included in scope of delivery. These must be procured separately as accessories.

Type	Jaws width (mm)	Body width (mm)	Body length (mm)	Max. length (mm)	Step height (mm)	Tension force (kN)	Width across flats	**28793...** Ident. No.	
RS-Z 75-125	75	75	125	128	22	30	12 mm	**110**	●
RS-Z 75-150	75	75	150	153	22	30	12 mm	**120**	●
RS-Z 75-175	75	75	175	178	22	30	12 mm	**130**	●
RS-Z 75-200	75	75	200	203	22	30	12 mm	**140**	●

Prod. Gr. 2BA

RS-Z 125 centric clamping device

Basic body with spindle without jaws

Application:
For NC machines and machining centres; increases profitability through fewer tool changes and shorter run times per workpiece; suitable for use on pallet and with robot changing systems.

Execution:
- Robust steel basic body
- Functional surfaces hardened and polished
- Centre clamping through left-hand and right-hand spindle threads
- High repeat accuracy
- Easy to use

Advantage:
- Stable clamping for high cutting performance
- Prepared for ATORN ZPS K20, Lang Quick Point 96 and Quick Point 52; other adaptations for your machine table available on request

Delivery:
1x RS-Z centre clamping device basic body with spindle.

Notes:
Jaws not included in scope of delivery. These must be procured separately as accessories.

Type	Jaws width (mm)	Body width (mm)	Body length (mm)	Max. length (mm)	Step height (mm)	Tension force (kN)	Width across flats	28793... Ident. No.	
RS-Z 125-180	125	125	180	183	30	30	12 mm	150	●
RS-Z 125-230	125	125	230	233	30	30	12 mm	160	●
RS-Z 125-280	125	125	280	283	30	30	12 mm	170	○
RS-Z 125-330	125	125	330	333	30	30	12 mm	180	○+

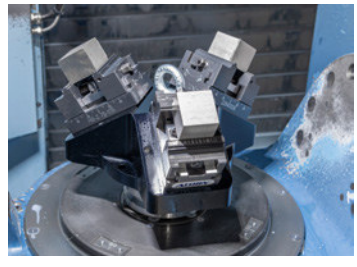
Prod. Gr. 2BA

ATORN 3-way clamping pyramids

Eliminate downtime and boost productivity!
The basic principle is simple: One or, ideally, several workpieces can be clamped on each side of the pyramid. These workpieces are then immediately processed one after the other.
Whether without or with the help of modern CAD/CAM systems, the production of even the smallest batch sizes down to individual parts can be highly efficient and automated.
Ideally, the machine is set up outside the machine room at its own or external setup stations.
The machine is loaded with the clamping pyramid via the machine's own transfer systems. Alternatively, it can be loaded by crane or robot.
Unproductive downtimes, such as reclamping, alignment or determining the zero point, are therefore consistently becoming a thing of the past for machines using pyramids.

Economical!
- Multiple clamping on 5-axis machines = boosting productivity!
- Multiple clamping for fewer tool changes and longer spindle run times on 5-axis machines
- Increase machine runtimes and reduce downtimes
- The combination of swivel table with and without zero-point clamping system enables efficient production, even with the smallest batch sizes on 5-axis machining centres

Simple!
- Optimum accessibility even for short tools
- Adapted interference and cutting circle diameter
- Whether large batch, small batch or individual part production: all of this is no longer a problem thanks to the new ATORN 3-way pyramids
- Depending on the situation, the vices can also be rotated by 90° without hindering accessibility. We are talking about a multi-clamping system and benefiting from multi-sided machining.



The combination of swivel table, with and without zero-point clamping system, and clamping pyramid enables efficient production of even the smallest batch sizes on this 5-axis machine.

RS-P 310 3-way clamping pyramid, 123.5°

Includes RS-Z centric clamping device without jaws

Application:
For NC machines and machining centres; increases profitability through fewer tool changes and shorter run times per workpiece.

Execution:
- Centre clamping device with sturdy steel basic body, pyramid basic body made of high-strength aluminium
- Functional surfaces hardened and polished
- Centre clamping through left-hand and right-hand spindle threads
- High repeat accuracy
- Easy to use
- Reliable machining process with maximum stability thanks to tried and tested RS-Z centre clamping devices
- Optionally with ATORN integrated clamping module K20 (zero-point clamping system); on request

Advantage:
- Space-saving and compact, excellent accessibility for 5-axis machining
- Fewer tool changes due to multiple clamping
- Shorter runtimes due to optimisation of cycle times

Delivery:
1x basic body including 3x RS-Z centre clamping devices without jaws, includes packaging and transport

Notes:
Example:
Matsuura MAM 72-35V with 40-pallet memory: original load = 40 workpieces.
The RS20.3P-310 allows for the clamping and machining of 120 workpieces without the need for any operators.

Type	Jaws width (mm)	Base body Ø (mm)	Body height (mm)	Body length (mm)	Max. Ø (mm)	Max. length (mm)	Overall height (mm)	Min./max. clamping width	Tension force (kN)	Width across flats	28793... Ident. No.	
RS-P 310	75	305	68	125	310	128	146	8-100 mm	30	12 mm	300	○+

Prod. Gr. 2BA

RS-P 310 3-way clamping pyramid, 110°

Includes RS-Z centric clamping device without jaws

Application:
For NC machines and machining centres; increases profitability through fewer tool changes and shorter run times per workpiece.

Version:
- Centre clamping device with sturdy steel basic body, pyramid basic body made of high-strength aluminium.
- Hardened and ground functional surfaces.
- Centric clamping due to left-hand and right-hand spindle threads.
- High repeat accuracy.
- Easy to use.
- Reliable machining process with maximum stability due to tried and tested RS-Z centre clamping devices.
- Optional: with ATORN K20 integrated clamping module (zero-point clamping system), available on request.
- Basic body with 110° angle for machines with small swivel range.

Advantage:
- Space-saving and compact, excellent accessibility for 5-axis machining.
- Fewer tool changes due to multiple clamping.
- Shorter run times due to optimisation of cycle times.

Delivery:
1x basic body including 3x RS-Z centric clamping devices without jaws, includes packaging and transport.

Note:
Example:
Matsuura MAM 72-35V with 40-pallet memory: original load = 40 workpieces.
The RS20.3P-310 allows for the clamping and machining of 120 workpieces without the need for any operators.

Type	Jaws width (mm)	Base body Ø (mm)	Body height (mm)	Body length (mm)	Max. Ø (mm)	Max. length (mm)	Overall height (mm)	Min./max. clamping width	Tension force (kN)	Width across flats	28793... Ident. No.	
RS-P 310 DMU 110°	75	305	68	125	310	128	146	8-100 mm	30	12 mm	310	○+

Prod. Gr. 2BA

RS-P 310 Matsuura 3-way clamping pyramid

Includes RS-Z centric clamping device without jaws

Application:
For NC machines and machining centres; increases profitability through fewer tool changes and shorter run times per workpiece.

Execution:
- Centre clamping device with sturdy steel basic body, pyramid basic body made of high-strength aluminium
- Functional surfaces hardened and polished
- Centre clamping through left-hand and right-hand spindle threads
- High repeat accuracy
- Easy to use
- Reliable machining process with maximum stability thanks to tried and tested RS-Z centre clamping devices
- Optionally with ATORN integrated clamping module K20 (zero-point clamping system); on request

Advantage:
- Space-saving and compact, excellent accessibility for 5-axis machining
- Fewer tool changes due to multiple clamping
- Shorter runtimes due to optimisation of cycle times

Delivery:
1x basic body including 3x RS-Z centre clamping devices without jaws, includes packaging and transport

Notes:
Example:
Matsuura MAM 72-35V with 40-pallet memory: original load = 40 workpieces.
The RS20.3P-310 allows for the clamping and machining of 120 workpieces without the need for any operators.

Type	Jaws width (mm)	Base body Ø (mm)	Body height (mm)	Body length (mm)	Max. Ø (mm)	Max. length (mm)	Overall height (mm)	Min./max. clamping width	Tension force (kN)	Width across flats	28793... Ident. No.	
RS-P 310 Matsuura	75	305	68	125	310	128	146	8-100 mm	30	12 mm	320	○+

Prod. Gr. 2BA

RS-P 310 3-way clamping pyramid, 123.5°

Includes Easy Point system and RS-Z centric clamping device without jaws

Application:
For NC machines and machining centres; increases profitability through fewer tool changes and shorter run times per workpiece.

Execution:
- Centre clamping device with sturdy steel basic body, pyramid basic body made of high-strength aluminium
- The ATORN Easy Point zero point clamping system incorporated in the basic body provides maximum flexibility and ensures that the clamping equipment can be changed quickly
- Functional surfaces hardened and polished
- Centre clamping through left-hand and right-hand spindle threads
- High repeat accuracy
- Easy to use
- Reliable machining process with maximum stability thanks to tried-and-tested RS-Z centre clamping devices

Advantage:
- Space-saving and compact, excellent accessibility for 5-axis machining
- Fewer tool changes due to multiple clamping
- Shorter runtimes due to optimisation of cycle times
- Clamping equipment can be quickly changed using ATORN Easy Point

Delivery:
1x basic body including ATORN Easy Point module; 3x RS-Z centre clamping devices without jaws, includes packaging and transport

Notes:
Example:
Matsuura MAM 72-35V with 40-pallet memory: original load = 40 workpieces.
The RS20.3P-310 allows for the clamping and machining of 120 workpieces without the need for any operators.

Type	Jaws width (mm)	Body height (mm)	Body length (mm)	Max. length (mm)	Overall height (mm)	Min./max. clamping width	Tension force (kN)	Width across flats	28793... Ident. No.	
RS-P 310/Easy Point	75	68	125	128	146	8-100 mm	30	12 mm	340	○+

Prod. Gr. 2BA

RS-P 310 3-way clamping pyramid, 123.5°

Includes Easy Point system

Application:
For NC machines and machining centres; increases profitability through fewer tool changes and shorter run times per workpiece.

Execution:
- Centre clamping device with sturdy steel basic body, pyramid basic body made of high-strength aluminium
- The ATORN Easy Point zero point clamping system incorporated in the basic body provides maximum flexibility and ensures that the clamping equipment can be changed quickly
- Functional surfaces hardened and polished
- Easy to use

Advantage:
- Space-saving and compact, excellent accessibility for 5-axis machining.
- Fewer tool changes due to multiple clamping
- Shorter runtimes due to optimisation of cycle times
- Clamping equipment can be quickly changed using ATORN Easy Point

Delivery:
1x basic body including ATORN Easy Point module, includes packaging and transport

Type	Body height (mm)	Overall height (mm)	28793... Ident. No.	
RS-P 310/Easy Point	68	146	400	○+

Prod. Gr. 2BA

Basic body for 310 clamping pyramid

Without accessories

Application:
Basic body of an RS-P clamping pyramid for free configuration. Clamping systems can be attached as desired here depending on needs and requirements. For example, small jaw chucks or similar can be attached easily.

Execution:
- Pyramid basic body made of high-strength aluminium

Delivery:
1x 310 clamping pyramid basic body without accessories

Type	28795... Ident. No.	
Basic body 310	600	○
Basic body 310 110°	620	○

Prod. Gr. 2BA

RS-P 465 3-way clamping pyramid, 123.5°

Includes RS-Z centric clamping device without jaws

Application:
For NC machines and machining centres; increases profitability through fewer tool changes and shorter run times per workpiece.

Execution:
- Centre clamping device with sturdy steel basic body, pyramid basic body made of high-strength aluminium
- Functional surfaces hardened and polished
- Centre clamping through left-hand and right-hand spindle threads
- High repeat accuracy
- Easy to use
- Reliable machining process with maximum stability thanks to tried and tested RS-Z centre clamping devices
- Optionally with ATORN integrated clamping module K20 (zero-point clamping system); on request

Advantage:
- Space-saving and compact, excellent accessibility for 5-axis machining.
- Fewer tool changes due to multiple clamping
- Shorter runtimes due to optimisation of cycle times

Delivery:
1x basic body including 3x RS-Z centre clamping devices without jaws, includes packaging and transport

Notes:
Example:
Matsuura MAM 72-35V with 40-pallet memory: original load = 40 workpieces.
The RS20.3P-310 allows for the clamping and machining of 120 workpieces without the need for any operators.

Type	Jaws width (mm)	Base body Ø (mm)	Body height (mm)	Body length (mm)	Max. Ø (mm)	Max. length (mm)	Overall height (mm)	Min./max. clamping width	Tension force (kN)	Width across flats	28793... Ident. No.	
RS-P 465	125	345	92	180	465	183	184	8-150 mm	30	12 mm	330	●+

Prod. Gr. 2BA

RS-P 465 3-way clamping pyramid, 123.5°

Includes Easy Point system and RS-Z centric clamping device without jaws

Application:
For NC machines and machining centres; increases profitability through fewer tool changes and shorter run times per workpiece.

Execution:
- Centre clamping device with sturdy steel basic body, pyramid basic body made of high-strength aluminium
- The ATORN Easy Point zero point clamping system incorporated in the basic body provides maximum flexibility and ensures that the clamping equipment can be changed quickly
- Functional surfaces hardened and polished
- Centre clamping through left-hand and right-hand spindle threads
- High repeat accuracy
- Easy to use
- Reliable machining process with maximum stability thanks to tried-and-tested RS-Z centre clamping devices

Advantage:
- Space-saving and compact, excellent accessibility for 5-axis machining
- Fewer tool changes due to multiple clamping
- Shorter run times due to optimisation of cycle times.
- Clamping equipment can be quickly changed using ATORN Easy Point

Delivery:
1x basic body including ATORN Easy Point module; 3x RS-Z centre clamping devices without jaws, includes packaging and transport

Notes:
Example:
Matsuura MAM 72-35V with 40-pallet memory: original load = 40 workpieces.
The RS20.3P-310 allows for the clamping and machining of 120 workpieces without the need for any operators.

Type	Jaws width (mm)	Body height (mm)	Body length (mm)	Max. length (mm)	Overall height (mm)	Min./max. clamping width	Tension force (kN)	Width across flats	28793... Ident. No.	
RS-P 465/Easy Point	125	92	180	183	184	8-150 mm	30	12 mm	350	○+

Prod. Gr. 2BA

RS-P 465 3-way clamping pyramid, 123.5°

Includes Easy Point system

Application:
For NC machines and machining centres; increases profitability through fewer tool changes and shorter run times per workpiece.

Execution:
- Centre clamping device with sturdy steel basic body, pyramid basic body made of high-strength aluminium
- The ATORN Easy Point zero point clamping system incorporated in the basic body provides maximum flexibility and ensures that the clamping equipment can be changed quickly
- Functional surfaces hardened and polished
- Easy to use

Advantage:
- Space-saving and compact, excellent accessibility for 5-axis machining
- Fewer tool changes due to multiple clamping
- Shorter runtimes due to optimisation of cycle times
- Clamping equipment can be quickly changed using ATORN Easy Point

Delivery:
1x basic body including ATORN Easy Point module, includes packaging and transport

Type	Body height (mm)	Overall height (mm)	28793... Ident. No.	
RS-P 465/Easy Point	92	184	410	○+

Prod. Gr. 2BA

ATORN Basic body for 465 clamping pyramid, 123.5°

Without accessories

Application:
Basic body of an RS-P clamping pyramid for free configuration. Clamping systems can be attached as desired here depending on needs and requirements. For example, small jaw chucks or similar can be attached easily.

Execution:
- Pyramid basic body made of high-strength aluminium

Delivery:
1x 310 clamping pyramid basic body without accessories

Type	28795... Ident. No.	
Basic body 465	610	o+

Prod. Gr. 2BA

ATORN clamping towers

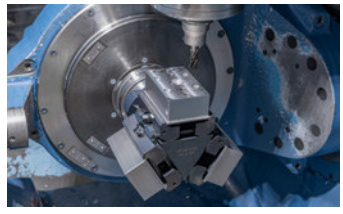
Turn unproductive nights into operator-less production time
With the ATORN clamping towers, we offer the right concept for every machine. The ATORN 20-way clamping tower can be converted from 4 to 20 components in just a few steps. For this purpose, only the centre clamping devices RS-Z are attached to the four sides of the basic body. A fully equipped tower can turn often-unused night-times into a productive third shift, avoiding the need for personnel to be on site. The more parts are clamped simultaneously, the longer the machine runtime. To further minimise the remaining downtimes, the clamping towers can be equipped outside the machine.

Extended total runtime increases machining efficiency
Furthermore, the clamping tower RS-T opens up interesting possibilities for machine operators, as the variable clamping options also allow individual programming. Due to the long total runtime of the machine, all the machining processes become more effective and give users more time for other tasks. Due to the large number of components machined in one clamping, the user benefits from an enormously high spindle runtime and very short chip-to-chip times.

Economical!
- Multiple clamping on 5-axis and horizontal machining centres = boosting productivity!
- Multiple clamping for fewer tool changes and longer spindle runtimes on 5-axis and horizontal machining centres
- Increase machine runtimes and reduce downtimes
- Using ATORN clamping towers in combination with central clamping devices RS-Z allows you to fully develop the complete performance of your machine
- High productivity thanks to significantly higher machine utilisation during an operator-less shift

Simple!
- Optimum accessibility even for short tools
- Adapted interference and cutting circle diameter of 350 mm
- Whether large batch, small batch or individual part production: All of this is no longer a problem thanks to the new ATORN clamping towers
- Prepared for zero-point clamping systems or direct clamping
- Whether programming directly at the machine or via a programming system, integrating the ATORN clamping towers is very simple in every way
- For clamping raw and finished parts

20-way clamping tower on horizontal machining centres



3-way clamping tower on 5-axis machine

ATORN RS-T 3-way clamping tower

For 3 and 5 axis machining

Application:
For NC machines and machining centres; increases profitability through fewer tool changes and shorter run times per workpiece.

Execution:
- Robust steel base body
- Functional surfaces hardened and polished
- Centre clamping through left-hand and right-hand spindle threads
- High repeat accuracy
- Easy to use
- Highly efficient, compact and space-saving
- Highly economical
- Maximum part size 100 x 100 mm x variable length for an interference circle of 350 mm

Advantage:
- Fewer tool changes due to multiple clamping
- High productivity thanks to significantly higher machine utilisation during an unmanned shift
- Prepared for ATORN ZPS K20 and Lang Quick Point 52
- Clamping jaws also suitable for embossing systems

Delivery:
1x 3-way RS-T clamping tower; does not include packaging and transport

Notes:
Other adaptations for your machine table available on request.

Type	Jaws width (mm)	Jaws height (mm)	Body height (mm)	Max. Ø (mm)	Overall height (mm)	Min./max. clamping width	Step height (mm)	Step depth (mm)	Tension force (kN)	Width across flats	Weight (kg)	28794... Ident. No.	
RS-T 125	125	10.5	170	177	170	8-100 mm	3	3	30	12 mm	14.3	400	o+

Prod. Gr. 2BA

RS-T 20-way clamping tower

includes 20x RS75-125 centric clamping devices without jaws

Application:

For NC machines and machining centres; increases profitability through fewer tool changes and shorter run times per workpiece.

Execution:

- Robust steel basic body
- Functional surfaces hardened and polished
- Centre clamping through left-hand and right-hand spindle threads
- High repeat accuracy
- Easy to use
- Highly efficient, compact and space-saving
- Highly economical

Advantage:

- Fewer tool changes due to multiple clamping
- High productivity thanks to significantly higher machine utilisation during an unmanned shift
- Clamping jaws also suitable for embossing systems

Delivery:

1x 20-way RS-T clamping tower including 20x RS-Z centre clamping devices without jaws; does not include packaging and transport

Type	Jaws width (mm)	Tension force (kN)	28793... Ident. No.	
RS-T 20-way	75	30	700	●+

Prod. Gr. 2BA

ATORN centric clamping device RS-Z

Jaws suitable for use on RS-Z clamping devices

Extensive range of jaws:

The RS-Z family of centric clamping devices offers an extensive range of jaws, but also the possibility of adapting the jaws for components and constructions with special shapes.

Jaws with grip toothing

Jaws with smooth clamping surface

Plain jaws for interchangeable jaws

Narrow jaws with grip toothing

Combination jaws with grip and smooth clamping surface

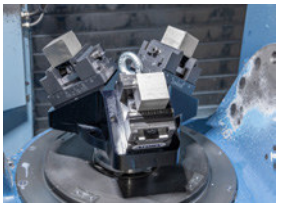
Interchangeable jaw grips in steel and aluminium version

Double-grip jaws with two rows of teeth

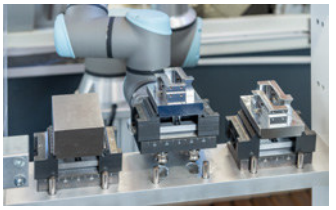
Application examples:

Use on multi-clamping tower

Use as single clamping device on machine table or zero-point clamping system



Use on pyramids



Use with robot handling

ATORN Standard clamping jaws “Grip” for centric clamping devices

Accessories for RS-Z and three-way clamping pyramid.

Application:
Standard clamping jaw for universal use according to requirements.

Execution:
- Standard clamping jaw with grip toothing
- Grip toothing for clamping unfinished parts
- Hardened and polished

Advantage:
- Reversible
- Easy and quick changing
- For clamping unfinished parts

Delivery:
1 set of standard clamping jaws (two pieces)

Notes:
Suitable for all RS-Z centric clamping devices and three-way clamping pyramids.

Jaw type	Type	Jaws width (mm)	Jaws thickness (mm)	Jaws height (mm)	Section, width (mm)	Section, height (mm)	Section, length (mm)	28795... Ident. No.	
Movable	Standard clamping jaw grip	75	36	46	3	3	75	030	●
Movable	Standard clamping jaw grip	125	48	62	3	3	125	130	●

Prod. Gr. 2BA

ATORN Combination jaws for centric clamping devices

Accessories for RS-Z and 3-way clamping pyramid

Application:
Combination jaws for universal use according to requirements.

Execution:
- Upper step with grip toothing for clamping unmachined parts
- Lower step with smooth clamping surface for clamping finished parts
- Hardened and polished

Advantage:
- Combination jaws combine grip and smooth jaws
- Reversible
- Easy and quick changing
- For clamping unmachined and finished parts

Delivery:
1 set of combination jaws (two pieces)

Notes:
Suitable for all RS-Z centric clamping devices and three-way clamping pyramids.

Jaw type	Type	Jaws width (mm)	Jaws thickness (mm)	Jaws height (mm)	Section, width (mm)	Section, height (mm)	Section, length (mm)	28795... Ident. No.	
Movable	Combination jaw	75	36	51	3	3	75	010	●
Movable	Combination jaw	125	48	62	3	3	125	110	●

Prod. Gr. 2BA

ATORN Standard clamping jaws, smooth, for centric clamping devices

Accessories for RS-Z and three-way clamping pyramid.

Application:
Standard clamping jaw for universal use according to requirements.

Execution:
- Standard clamping jaw smooth
- Smooth clamping surface for clamping finished parts
- Hardened and polished

Advantage:
- Reversible
- Easy and quick changing
- For clamping finished parts

Delivery:
1 set of standard clamping jaws (two pieces)

Notes:
Suitable for all RS-Z centric clamping devices and three-way clamping pyramids.

Ident. No. 040

Jaw type	Type	Jaws width (mm)	Jaws thickness (mm)	Jaws height (mm)	Section, width (mm)	Section, height (mm)	Section, length (mm)	28795... Ident. No.	
Movable	Standard clamping jaw smooth	75	36	46	3	11	75	040	●
Movable	Standard clamping jaw smooth	125	48	62	3	11	125	140	●

Prod. Gr. 2BA

ATORN Slim clamping jaws for centric clamping devices

Accessories for RS-Z and 3-way clamping pyramid

Application:
Slim clamping jaw for universal use according to requirements.

Execution:
- Slim clamping jaws with grip toothing
- Grip toothing for clamping unfinished parts
- Hardened and polished

Advantage:
- Reversible
- Easy and quick changing
- For clamping unfinished parts

Delivery:
1 set of slim clamping jaws (two pieces)

Notes:
Suitable for all RS-Z centric clamping devices and three-way clamping pyramids.

Ident. No. 050

Ident. No. 150

Jaw type	Type	Jaws width (mm)	Jaws thickness (mm)	Jaws height (mm)	Section, width (mm)	Section, height (mm)	Section, length (mm)	28795... Ident. No.	
Movable	Slim clamping jaw grip	44	36	46	3	3	44	050	●
Movable	Slim clamping jaw grip	85	48	62	3	3	85	150	●

Prod. Gr. 2BA

ATORN Double-grip jaws

Accessories for RS-Z and 3-way clamping pyramid

Application:
Double-grip jaw with additional second row of teeth for better pressure distribution and increased retention force where it's needed.

Version:
- Clamping jaw with 2 rows of grip toothing.
- Grip toothing for clamping unmachined parts.
- Hardened and ground.

Advantage:
- Better distribution of clamping force.
- Higher component protrusions are possible during machining.

Delivery:
One set of double-grip jaws (two pieces).

Note:
Suitable for all RS-Z centric clamping devices and three-way clamping pyramids.

Jaw type	Type	Jaws width (mm)	Jaws thickness (mm)	Jaws height (mm)	Section, length (mm)	28795... Ident. No.	
Movable	Double-grip	75	36	46	75	060	●
Movable	Double grip	125	48	62	125	160	●

Prod. Gr. 2BA

ATORN Plain jaws for centric clamping devices

Accessories for RS-Z and 3-way clamping pyramid

Application:
Plain jaw for universal use according to requirements.

Execution:
- Plain jaw for accommodating steel or aluminium soft interchangeable jaw grips
- Hardened and polished

Advantage:
- Reversible
- Easy and quick changing
- The use of soft top jaws allows for adaptation to suit any customer requirements
- For clamping unmachined and finished parts

Delivery:
1 set of plain jaws (two pieces)

Notes:
Suitable for all RS-Z centric clamping devices and three-way clamping pyramids.

Jaw type	Type	Jaws width (mm)	Jaws thickness (mm)	Jaws height (mm)	28795... Ident. No.	
Movable	Plain jaw	75	34	39.4	020	●
Movable	Plain jaw	125	48	39	120	●

Prod. Gr. 2BA

ATORN Interchangeable jaw grips, steel

Accessories for RS-Z and 3-way clamping pyramid

Application:
Top jaw for universal use according to requirements.

Execution:
- Steel version
- Not hardened and polished
- Designed for the insertion of special designs

Advantage:
- For custom adaptation according to machining requirements
- Easy and quick changing

Delivery:
1 set of steel soft interchangeable jaw grips (two pieces)

Notes:
Suitable for all RS-Z centric clamping devices and three-way clamping pyramids.

Jaw type	Type	Jaws width (mm)	Jaws thickness (mm)	Jaws height (mm)	28795... Ident. No.	
Solid	Interchangeable jaw grip, soft steel	116	45	40	270	●
Solid	Interchangeable jaw grip, soft steel	165	55	60	280	●

Prod. Gr. 2BA

ATORN Interchangeable jaw grips, aluminium

Accessories for RS-Z and 3-way clamping pyramid

Application:
Top jaw for universal use according to requirements.

Execution:
- Aluminium version
- Not hardened and polished
- Designed for the insertion of special designs

Advantage:
- For custom adaptation according to machining requirements
- Easy and quick changing

Delivery:
1 set of soft aluminium interchangeable jaw grips (two pieces)

Notes:
Suitable for all RS-Z centric clamping devices and three-way clamping pyramids.

Jaw type	Type	Jaws width (mm)	Jaws thickness (mm)	Jaws height (mm)	28795... Ident. No.	
Solid	Interchangeable jaw grip, soft aluminium	116	45	40	250	●
Solid	Interchangeable jaw grip, soft aluminium	165	55	60	260	●

Prod. Gr. 2BA

ATORN Multiple clamping rail sets with smooth jaws

incl. fixed jaws and wedge clamping device

Application:
The ATORN clamping rail can be used to clamp small, large, long and multiple components.

Version:
- Fixed jaws with smooth clamping flat.
- Wedge clamping device with smooth clamping flat.
- Extremely high rigidity.
- Clamping force up to 4 tonnes.
- Infinitely extendable.
- **Ref. no. 250, 450, 650, 850:** 50 mm clamping rail.
- **Ref. no. 350, 550, 750, 950:** 80 mm clamping rail.

Advantage:
- All module sizes fit on all clamping rails.
- Can be used with a range of systems.

Scope of delivery:
1x clamping rail with fixed jaws and wedge clamping device, without fastening material.

Note:
All wedge clamping devices and jaws of the ATORN clamping rails range can be used.

Product video: YouTube ID: -dV7LjrhfU4

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Clamping rail length x clamping rail width x clamping rail height	Number of clamping rails (PCS)	Taper clamp length x taper clamp width x taper clamp height	Number of taper clamps (PCS)	Jaw length x jaw width x jaw height	Number of jaws (PCS)	28890... Ident. No.	
200 x 50 x 80 mm	1	60 x 39 x 22 mm	1	50 x 42 x 22 mm	2	250	○
300 x 50 x 80 mm	1	60 x 39 x 22 mm	2	50 x 42 x 22 mm	3	450	○
400 x 50 x 80 mm	1	60 x 39 x 22 mm	2	50 x 42 x 22 mm	3	650	○
500 x 50 x 80 mm	1	60 x 39 x 22 mm	2	50 x 42 x 22 mm	3	850	○
200 x 80 x 80 mm	1	84 x 58 x 29 mm	1	72 x 42 x 29 mm	2	350	○
300 x 80 x 80 mm	1	84 x 58 x 29 mm	2	72 x 42 x 29 mm	3	550	○
400 x 80 x 80 mm	1	84 x 58 x 29 mm	2	72 x 42 x 29 mm	3	750	○
500 x 80 x 80 mm	1	84 x 58 x 29 mm	2	72 x 42 x 29 mm	3	950	○

Prod. Gr. 2AZ

ATORN Multiple clamping rail sets with smooth jaws with allowance

incl. fixed jaws and wedge clamping device

Application:
The ATORN clamping rail can be used to clamp small, large, long and multiple components.

Version:
- Fixed jaw with smooth clamping flat with allowance.
- Wedge clamping device with smooth clamping flat with allowance.
- Extremely high rigidity.
- Clamping force up to 4 tonnes.
- Infinitely extendable.
- **Ref. no. 251, 451, 651, 851:** 50 mm clamping rail.
- **Ref. no. 351, 551, 751, 951-956:** 80 mm clamping rail.

Advantage:
- All module sizes fit on all clamping rails.
- Can be used with a range of systems.

Scope of delivery:
1x clamping rail with fixed jaws and wedge clamping device, without fastening material.

Note:
All wedge clamping devices and jaws of the ATORN clamping rails range can be used.

Product video: YouTube ID: -dV7LjrhfU4

p. 1049

Clamping rail length x clamping rail width x clamping rail height	Number of clamping rails (PCS)	Taper clamp length x taper clamp width x taper clamp height	Number of taper clamps (PCS)	Jaw length x jaw width x jaw height	Number of jaws (PCS)	28890... Ident. No.	
200 x 50 x 80 mm	1	60 x 39 x 22 mm	1	50 x 42 x 22 mm	2	251	○+
300 x 50 x 80 mm	1	22 x 60 x 39 mm	2	50 x 42 x 22 mm	3	451	○+
400 x 50 x 80 mm	1	60 x 39 x 22 mm	2	50 x 42 x 22 mm	3	651	○+
500 x 50 x 80 mm	1	60 x 39 x 22 mm	2	50 x 42 x 22 mm	3	851	○+
200 x 80 x 80 mm	1	84 x 58 x 29 mm	1	72 x 42 x 29 mm	2	351	○+
300 x 80 x 80 mm	1	84 x 58 x 29 mm	2	72 x 42 x 29 mm	3	551	○+
400 x 80 x 80 mm	1	84 x 58 x 29 mm	2	72 x 42 x 29 mm	3	751	○+
500 x 80 x 80 mm	1	84 x 58 x 29 mm	2	72 x 42 x 29 mm	3	951	○+
600 x 80 x 80 mm	1	84 x 58 x 29 mm	2	72 x 42 x 29 mm	3	956	○+

Prod. Gr. 2AZ

ATORN Multiple clamping rail sets with smooth jaws with claws

incl. fixed jaws and wedge clamping device

Application:
The ATORN clamping rail can be used to clamp small, large, long and multiple components.

Version:
- Fixed jaw with stepped clamping flat and claws.
- Wedge clamping device with stepped clamping flat and claws.
- Extremely high rigidity.
- Clamping force up to 4 tonnes.
- Infinitely extendable.
- **Ref. no. 252, 452, 652, 852:** 50 mm clamping rail.
- **Ref. no. 352, 552, 752, 952-957:** 80 mm clamping rail.

Advantage:
- All module sizes fit on all clamping rails.
- Can be used with a range of systems.

Scope of delivery:
1x clamping rail with fixed jaws and wedge clamping device, without fastening material.

Note:
All wedge clamping devices and jaws of the ATORN clamping rails range can be used.

Product video: YouTube ID: -dV7LjrhfU4

p. 1049

Clamping rail length x clamping rail width x clamping rail height	Number of clamping rails (PCS)	Taper clamp length x taper clamp width x taper clamp height	Number of taper clamps (PCS)	Jaw length x jaw width x jaw height	Number of jaws (PCS)	28890... Ident. No.	
200 x 50 x 80 mm	1	60 x 39 x 22 mm	1	50 x 42 x 22 mm	2	251	○+
300 x 50 x 80 mm	1	22 x 60 x 39 mm	2	50 x 42 x 22 mm	3	451	○+
400 x 50 x 80 mm	1	60 x 39 x 22 mm	2	50 x 42 x 22 mm	3	651	○+
500 x 50 x 80 mm	1	60 x 39 x 22 mm	2	50 x 42 x 22 mm	3	851	○+
200 x 80 x 80 mm	1	84 x 58 x 29 mm	1	72 x 42 x 29 mm	2	351	○+
300 x 80 x 80 mm	1	84 x 58 x 29 mm	2	72 x 42 x 29 mm	3	551	○+
400 x 80 x 80 mm	1	84 x 58 x 29 mm	2	72 x 42 x 29 mm	3	751	○+
500 x 80 x 80 mm	1	84 x 58 x 29 mm	2	72 x 42 x 29 mm	3	951	○+
600 x 80 x 80 mm	1	84 x 58 x 29 mm	2	72 x 42 x 29 mm	3	956	○+

Prod. Gr. 2AZ

ATORN Multiple clamping rails, individual

without accessories

Application:
The ATORN clamping rail can be used to clamp small, large, long and multiple components.

Version:
- Extremely high rigidity.
- Clamping force up to 4 tonnes.
- Infinitely extendable.
- **No. 28890 020, 28890 030-28890 031, 28890 050:** 50 mm clamping rail.
- **No. 28890 021, 28890 040-28890 041, 28890 060-28890 070:** 80 mm clamping rail.
- **No. 28891:** 120 mm clamping rail.

Scope of delivery:
1x clamping rail, without fastening material.

Note:
All wedge clamping devices and jaws of the ATORN clamping rails range can be used.

No. 28890

No. 28891

p. 1049

Body length F (mm)	Body width K (mm)	Body height G (mm)	Number of through-holes (PCS)	28890... Ident. No.		28891... Ident. No.	
200	50	80	2	020	○	-	-
300	50	80	3	030	○	-	-
400	50	80	3	050	○	-	-
500	50	80	3	031	○	-	-
300	80	80	3	040	○	-	-
200	80	80	2	021	○	-	-
400	80	80	3	060	○	-	-
500	80	80	3	041	○	-	-
600	80	80	3	070	○+	-	-
200	120	80	5	-	-	160	○
300	120	80	5	-	-	161	○
400	120	80	5	-	-	162	○
500	120	80	5	-	-	163	○+
600	120	80	5	-	-	164	○+

Prod. Gr. 2AZ

ATORN Fixed jaws incl. slot nut and screw

Accessories for multiple clamping rails

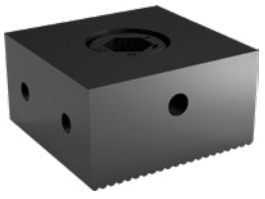
Application:
For screwing directly onto multiple clamping rails. The fixed jaw forms a fixed stop for all types of components. For pre-milled, precision-sawn or ground parts.

Version:
- Attached using 14 mm T-slot nut with M12 thread.
- **Ref. no. 310-318:** Smooth fixed jaws.
- **Ref. no. 319-327:** Grooved fixed jaws.
- **Ref. no. 328-336:** Fixed jaws with claws and step.
- **Ref. no. 081-089:** Fixed jaw with claws.
- **Ref. no. 231-239:** Fixed jaw with 2x carbide gripper inserts.

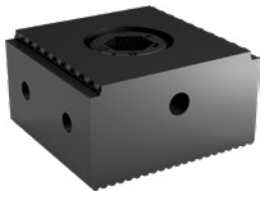
Scope of delivery:
1x fixed jaw incl. slot nut and screw.

No. 28890 081–28890 089

No. 28890 231–28890 239


No. 28891 311–28891 318

No. 28891 319–28891 327


No. 28891 328–28891 336

Taper clamp design	Jaw width A (mm)	Jaw thickness Y (mm)	Jaw height C (mm)	Fastening thread	28891... Ident. No.		28890... Ident. No.	
Smooth	32	22	15	M8	311	○	-	-
Smooth	42	22	15	M8	312	○	-	-
Smooth	30	42	22	M12	313	○	-	-
Smooth	40	42	22	M12	314	○	-	-
Smooth	50	42	22	M12	315	○	-	-
Smooth	42	42	29	M12	316	○	-	-
Smooth	57	42	29	M12	317	○	-	-
Smooth	72	42	29	M12	318	○	-	-
Serrated	22	22	15	M8	319	○	-	-
Serrated	32	22	15	M8	320	○	-	-
Serrated	42	22	15	M8	321	○	-	-
Serrated	30	42	22	M12	322	○	-	-
Serrated	40	42	22	M12	323	○	-	-
Serrated	50	42	22	M12	324	○	-	-
Serrated	42	42	29	M12	325	○	-	-
Serrated	57	42	29	M12	326	○	-	-
Serrated	73	42	29	M12	327	○	-	-
With claw fasteners	22	22	15	M8	328	○	-	-
With claw fasteners	32	22	15	M8	329	○	-	-
With claw fasteners	42	22	15	M8	330	○	-	-
With claw fasteners	30	42	22	M12	331	○	-	-
With claw fasteners	40	42	22	M12	332	○	-	-
With claw fasteners	50	42	22	M12	333	○	-	-
With claw fasteners	42	42	29	M12	334	○	-	-
With claw fasteners	57	42	29	M12	335	○	-	-
With claw fasteners	72	42	29	M12	336	○	-	-
With claw fasteners | Smooth	22	22	15	M8	-	-	081	○
With claw fasteners | Smooth	32	22	15	M8	-	-	082	○
With claw fasteners | Smooth	42	22	15	M8	-	-	083	○
With claw fasteners | Smooth	30	42	22	M12	-	-	084	○
With claw fasteners | Smooth	40	42	22	M12	-	-	085	○
With claw fasteners | Smooth	50	42	22	M12	-	-	086	○
With claw fasteners | Smooth	42	42	29	M12	-	-	087	○
With claw fasteners | Smooth	57	42	29	M12	-	-	088	○
With claw fasteners | Smooth	72	42	29	M12	-	-	089	○
With HM gripper	22	22	15	M8	-	-	231	○
With HM gripper	32	22	15	M8	-	-	232	○
With HM gripper	42	22	15	M8	-	-	233	○
With HM gripper	30	42	22	M12	-	-	234	○
With HM gripper	40	42	22	M12	-	-	235	○
With HM gripper	50	42	22	M12	-	-	236	○
With HM gripper	42	42	29	M12	-	-	237	○
With HM gripper	57	42	29	M12	-	-	238	○
With HM gripper	72	42	29	M12	-	-	239	○

Prod. Gr. 2AZ

ATORN Fixed jaw for 5-axis version incl. slot nut and screw

Accessories for multiple clamping rails

Application:
For screwing directly onto multiple clamping rails. The fixed jaw forms a fixed stop for all types of components. For pre-milled, precision-sawn or ground parts.

Version:
- Attached using 14 mm T-slot nut with M12 thread.
- **No. 28890 601-603:** Smooth version.
- **No. 28890 604-606:** Version with claws.

Advantage:
- Fixed jaw bevelled for better accessibility.

Scope of delivery:
1x fixed jaw for 5-axis version incl. slot nut and screw.

Taper clamp design	Jaw width A (mm)	Jaw thickness Y (mm)	Jaw height C (mm)	Fastening thread	28890... Ident. No.	
Smooth	32	22	15	M8	601	○
Smooth	40	42	22	M12	602	○
Smooth	72	42	29	M12	603	○
With claw fasteners	32	22	15	M8	604	○
With claw fasteners	40	42	22	M12	605	○
With claw fasteners	72	42	29	M12	606	○

Prod. Gr. 2AZ

ATORN Fixed jaw incl. slot nut and screw

Accessories for multiple clamping rails

Application:
For screwing directly onto multiple clamping rails. The fixed jaw forms a fixed stop for all types of components. For pre-milled, precision-sawn or ground parts.

Version:
- **No. 28891 150:** Smooth version.
- **No. 28891 151:** Version with claws and step.
- **No. 28891 152:** Version with carbide gripper.
- **No. 28891 153:** Grooved version.

Scope of delivery:
1x fixed jaw incl. slot nut and screw.

Taper clamp design	Jaw width A (mm)	Jaw thickness Y (mm)	Jaw height C (mm)	Fastening thread	28891... Ident. No.	
Smooth	120	72	54	M16	150	○
With claw fasteners	120	72	54	M16	151	○
With HM gripper	120	72	54	M16	152	○
Serrated	120	72	54	M16	153	○

Prod. Gr. 2AZ

ATORN Wedge clamping device incl. slot nut and screw

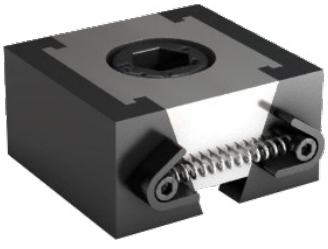
Accessories for multiple clamping rails

Application:
For screwing directly onto multiple clamping rails. Use one clamping screw to clamp two components simultaneously. All modules can be combined with all rails.

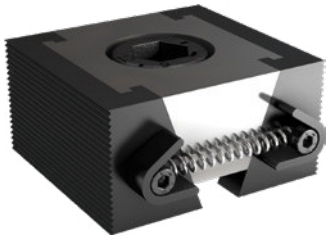
Version:
- **No. 28891 337-345:** Smooth version.
- **No. 28891 346-354:** Grooved version.
- **No. 28891 355-363:** Version with allowance. With 4 mm allowance on each side. Prepared for accommodating special designs.
- **No. 28891 364-372:** Version with claws and 2 mm step.

Advantage:
- The wedge clamping device can be positioned freely on any type of multiple clamping rail.
- All module sizes fit on all clamping rail widths.

Scope of delivery:
1x wedge clamping device incl. slot nut and screw



Ident. No. 337–345



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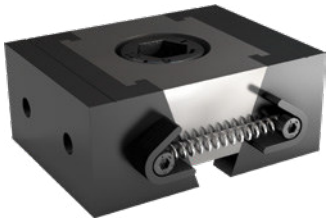
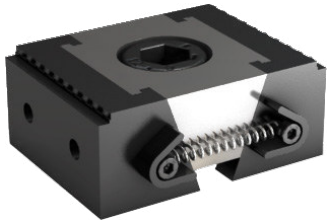


Ident. No. 355–363



Ident. No. 364–372

Taper clamp design	Wedge clamping device width B (mm)	Jaw width A (mm)	Wedge clamping device height C (mm)	Max. length (mm)	Min. length (mm)	Height h2 (mm)	Tension force (kN)	Fastening thread	28891... Ident. No.	
Smooth	30	22	15	33	27.5	5	1500	M8	337	○
Smooth	40	32	15	33	27.5	5	1500	M8	338	○
Smooth	50	42	15	33	27.5	5	1500	M8	339	○
Smooth	38	30	22	46.5	38	7	3000	M12	340	○
Smooth	48	40	22	46.5	38	7	3000	M12	341	○
Smooth	58	50	22	46.5	38	7	3000	M12	342	○
Smooth	50	42	29	59.5	46.5	11	3000	M12	343	○
Smooth	65	57	29	59.5	46.5	11	3000	M12	344	○
Smooth	80	72	29	59.5	46.5	11	3000	M12	345	○
Serrated	30	22	15	33	27.5	5	1500	M8	346	○

Taper clamp design	Wedge clamping device width B (mm)	Jaw width A (mm)	Wedge clamping device height C (mm)	Max. length (mm)	Min. length (mm)	Height h2 (mm)	Tension force (kN)	Fastening thread	28891... Ident. No.	
Serrated	40	32	15	33	27.5	5	1500	M8	347	○
Serrated	50	42	15	33	27.5	5	1500	M8	348	○
Serrated	38	30	22	46.5	38	7	3000	M12	349	○
Serrated	48	40	22	46.5	38	7	3000	M12	350	○
Serrated	58	50	22	46.5	38	7	3000	M12	351	○
Serrated	50	42	29	59.5	46.5	11	3000	M12	352	○
Serrated	65	57	29	59.5	46.5	11	3000	M12	353	○
Serrated	80	72	29	59.5	46.5	11	3000	M12	354	○
With allowance	30	22	15	39	33	5	1500	M8	355	○
With allowance	40	32	15	39	33	5	1500	M8	356	○
With allowance	50	42	15	39	33	5	1500	M8	357	○
With allowance	38	30	22	56.5	48	7	3000	M12	358	○
With allowance	48	40	22	56.5	48	7	3000	M12	359	○
With allowance	58	50	22	56.5	48	7	3000	M12	360	○
With allowance	50	42	29	69.5	56.6	11	3000	M12	361	○
With allowance	65	57	29	69.5	56.6	11	3000	M12	362	○
With allowance	80	72	29	69.5	56.6	11	3000	M12	363	○
With claw fasteners	30	22	15	34.4	28.4	5	1500	M8	364	○
With claw fasteners	40	32	15	34.4	28.4	5	1500	M8	365	○
With claw fasteners	50	42	15	34.4	28.4	5	1500	M8	366	○
With claw fasteners	38	30	22	51.9	43.4	7	3000	M12	367	○
With claw fasteners	48	40	22	51.9	43.4	7	3000	M12	368	○
With claw fasteners	58	50	22	51.9	43.4	7	3000	M12	369	○
With claw fasteners	50	42	29	64.9	52	11	3000	M12	370	○
With claw fasteners	65	57	29	64.9	52	11	3000	M12	371	○
With claw fasteners	80	72	29	64.9	52	11	3000	M12	372	○

Prod. Gr. 2AZ

ATORN Special wedge clamping device including slot nut and screw

Accessories for multiple clamping rails

Application:

For screwing directly onto multiple clamping rails. Use one clamping screw to clamp two components simultaneously. All modules can be combined with all rails.

Version:

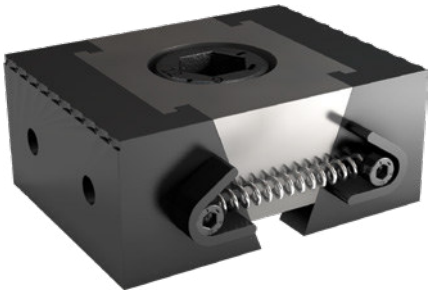
- **No. 28890 321-329:** Special wedge clamping device with claws and no step incl. slot nut and screw.
- **No. 28890 331-339:** Special wedge clamping device with carbide gripper incl. slot nut and screw.

Advantage:

- The wedge clamping device can be positioned freely on any type of multiple clamping rail. All module sizes fit on all clamping rail widths.

Scope of delivery:

1x wedge clamping device incl. slot nut and screw



Ident. No. 321–329

Taper clamp design	Wedge clamping device width B (mm)	Jaw width A (mm)	Wedge clamping device height C (mm)	Max. length (mm)	Min. length (mm)	Height h2 (mm)	Tension force	Fastening thread	28890... Ident. No.	
With claw fasteners | Smooth	22	22	15	38.2	32.2	5	1500	M8	321	○
With claw fasteners | Smooth	32	32	15	38.2	32.2	5	1500	M8	322	○
With claw fasteners | Smooth	42	42	15	38.2	32.2	5	1500	M8	323	○
With claw fasteners | Smooth	30	30	22	55.7	47.2	7	3000	M12	324	○
With claw fasteners | Smooth	40	40	22	55.7	47.2	7	3000	M12	325	○
With claw fasteners | Smooth	50	50	22	55.7	47.2	7	3000	M12	326	○
With claw fasteners | Smooth	42	42	29	68.7	55.8	11	3000	M12	327	○
With claw fasteners | Smooth	57	57	29	68.7	55.8	11	3000	M12	328	○

Taper clamp design	Wedge clamping device width B (mm)	Jaw width A (mm)	Wedge clamping device height C (mm)	Max. length (mm)	Min. length (mm)	Height h2 (mm)	Tension force	Fastening thread	28890... Ident. No.	
With claw fasteners | Smooth	72	72	29	68.7	55.8	11	3000	M12	329	○
With HM gripper	22	22	15	39	33	5	1500	M8	331	○
With HM gripper	32	32	15	39	33	5	1500	M8	332	○
With HM gripper	42	42	15	39	33	5	1500	M8	333	○
With HM gripper	30	30	22	56.5	48	7	3000	M12	334	○
With HM gripper	40	40	22	56.5	48	7	3000	M12	335	○
With HM gripper	50	50	22	56.5	48	7	3000	M12	336	○
With HM gripper	42	42	29	69.5	56.6	11	3000	M12	337	○
With HM gripper	57	57	29	69.5	56.6	11	3000	M12	338	○
With HM gripper	72	72	29	69.5	56.6	11	3000	M12	339	○

Prod. Gr. 2AZ

ATORN Wedge clamping device incl. slot nut and screw

Accessories for multiple clamping rails

Application:
For screwing directly onto multiple clamping rails. Use a clamping screw to clamp two components simultaneously. All modules can be combined with all rails.

Delivery:
1x wedge clamping device with internal spring

Notes:
When used on clamping rails with widths of 50 mm and 80 mm, a series 14 sliding block, an M12 screw and a screw bushing reducer are required.

Taper clamp design	Jaw width A (mm)	Wedge clamping device height C (mm)	Max. length (mm)	Min. length (mm)	Height h2 (mm)	Tension force (daN)	Fastening thread	28891... Ident. No.	
Smooth	120	54	59.5	46.5	8	4000	M16	130	○
With claw fasteners	120	54	59.5	46.5	6	4000	M16	131	○
With HM gripper	120	54	59.5	46.5	8	4000	M16	132	○
With squaring surface	120	54	59.5	46.5	8	4000	M16	133	○
Smooth	120	54	97	85	11	4000	M16	134	○
With claw fasteners	120	54	97	85	11	4000	M12	135	○
With HM gripper	120	54	97	85	11	4000	M12	136	○
With squaring surface	120	54	97	85	11	4000	M12	137	○

Prod. Gr. 2AZ

ATORN Wedge clamping device with fixed jaw incl. slot nut and screw

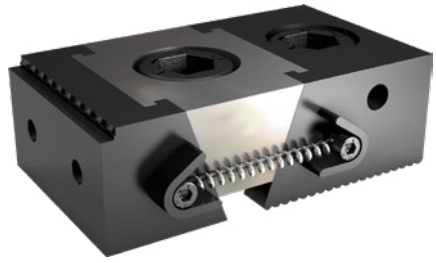
Accessories for multiple clamping rails

Application:
For screwing directly onto multiple clamping rails. Use a clamping screw to clamp two components simultaneously. All modules can be combined with all rails.

Execution:
- Easy clamping with fixed jaw. The zero points are therefore always clearly defined on the fixed jaw

Advantage:
- Wedge clamping device and fixed jaw combined in one
- No need for two components

Delivery:
1x wedge clamping device with fixed jaw



Ident. No. 414–416, 420–422

Jaws width (mm)	Jaws height (mm)	Min./max. clamping width	28890... Ident. No.	
32	15	44-50 mm	411 414 417 420	○ ○ ○ ○
40	22	63.5-72 mm	412 415	○ ○
72	29	69-82 mm	413 416	○ ○
40	22	63.5-71 mm	418 421	○ ○
72	29	64-77 mm	419 422	○ ○

Prod. Gr. 2AZ

ATORN Adjustable clamp set, 4 pieces

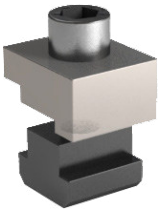
Accessories for multiple clamping rails

Application:
The adjustable clamps are used to mount the 5-axis multi-clamp or multiple clamping rails onto a T-slot nut table.

Version:
- For mounting the 5-axis multi-clamp or multiple clamping rails onto the machine table.

- Adjustable clamp 40 mm.
- Fastening screw M16.
- Slot nut with groove measurement of 18 mm.

Scope of delivery:
1 adjustable clamp set, including slot nut and fastening screws.



Type		Adjustable clamp set 30 mm for M12 screw	Adjustable clamp set 40 mm for M16 screw
Slot nut width (mm)		14	18
Slot size on machine (mm)		14	18
Length (mm)		22	18
Thread dimension		M12	M16
28891...	Ident. No.	403 ○	404 ○

Prod. Gr. 2AZ

ATORN Positioning bushings

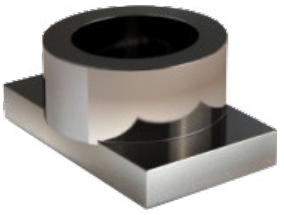
Accessories for multiple clamping rails

Application:
For quick alignment on the T-groove machine table.

Version:
- 20 H7 fit.

Scope of delivery:
1x positioning bushing

Technical data:
- Diameter: 20 mm



Type			Positioning bushing dia. 20x14 mm	Positioning bushing dia. 20x18 mm
28891...	Positioning bushing dia. 20H7 x T-slot width 14 mm	Ident. No.	405 ○	-
28891...	Positioning bushing dia. 20H7 x T-slot width 18 mm	Ident. No.	-	406 ○

Prod. Gr. 2AZ

ATORN Clamping jaw with positioning pins, pneumatic operation

Application:
Clamping jaw system with positioning pins render laborious and time-consuming clamping devices superfluous, a practical, fast and simple way to lock the position of workpieces in a matter of seconds.

Execution:
- Fast and precise clamping of a wide range of workpieces

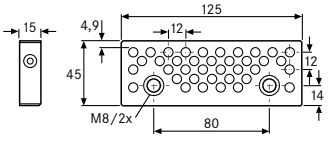
- Changeover in seconds for various machining operations
- Loose surfaces become superfluous, as does time-consuming cleaning
- Stable and robust construction, also suitable for high clamping forces
- Compressed air application via valves on each face
- Closed on all sides when installed, therefore low-maintenance

- Recommended air pressure: 5.5 bar
- High-quality tool steel, hardened, polished and treated with a special oxidation process

Advantage:
- One press of the blow-out gun and all pins are driven out

Delivery:
1 clamping jaw with positioning pins, can be actuated pneumatically

Ident. No. 320–321



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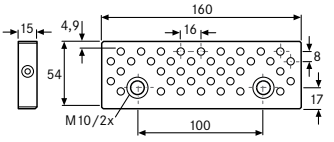
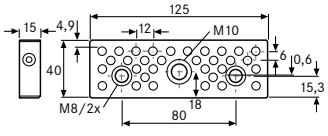


Ident. No. 321

Ident. No. 322–323



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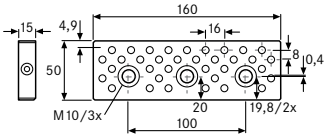

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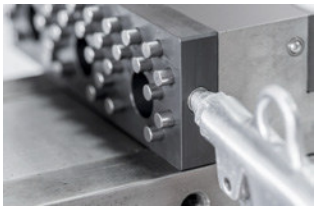


	suitable jaws for: Hilma NC125 NC125H, EL125 and KNC12		suitable jaws for: NC160 NC160H, EL160 and KNC160		suitable jaws for: KeselCNC125 Bull pneumatic125 ARNO125 BULL125 mechanical, Röhm RKE125 RKE-L125 RKE-U125 RKE-U125 RKG-L125 RKE-LV125 GresselGriposGPS 125,GriposGPS 125-VS, Gripos2 Grepos-5X/5X-S, Grefors, S2 Duogrip, C2 Ecopos		suitable jaws for: KeselCNC 160 Bull pneumatic160 Bull160 mechanical, ARNO 160 Röhm RKE160 RKE-L160 RKE-U160 RKE-UL160,RKG-L160,RKE-LV160 Gressel-GriposGPS 160,GriposGPS 160-VS, Gripos2 Grepos-5X/5X, Grefors, S2 Duogrip, C2 Ecopos	
Jaws width (mm)	26111... Ident. No.		26111... Ident. No.		26111... Ident. No.		26111... Ident. No.	
125	320	●	-	-	322	●	-	-
160	-	-	321	●	-	-	323	●

Prod. Gr. 281

ATORN Covers

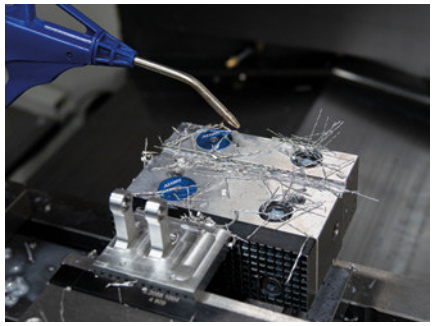
For bore holes and screw heads with hexagon socket

Application:
This patented system protects hexagon socket screws, drill holes and counterbores against contamination.

Version:
- For holes and widths across flats from dia. 8 mm
- Patented reusable system
- Suitable for all clamping systems featured in the catalogue
- Made from EN-AW-6082 (AlMgSi1), 1.4305 (X8CrNiS18-9) and NBR (natural rubber)

Advantage:
- Prevents swarf accumulation in the screw head and countersink bore
- Prevents the accumulation of cooling lubricants in the screw head and countersink
- Minimises the risk of cuts
- Minimises the risk of eye injury when working with compressed air
- Increases process reliability during setup

Delivery:
1 packing unit depending on size



Type		M10	M12	M16	M20
Ø (mm)		21	23	29	37
Height (mm)		1	1	1.2	1.5
Suitable for width across flats		8 mm	10 mm	14 mm	17 mm
Included in delivery		10 pieces	10 pieces	10 pieces	5 pieces
26080...	Ident. No.	001 ●	002 ●	003 ●	004 ●

Prod. Gr. 280

ATORN Workpiece stop

Adjustable in five axes

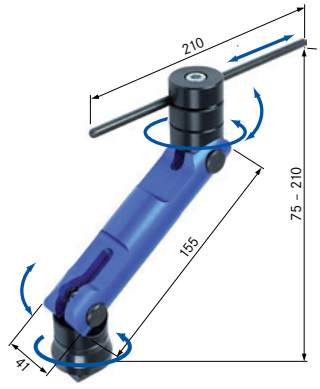
Application:
For use on drilling and milling machines.

Execution:
- Flexible and sturdy and quick to adjust
- For T-shaped sliding blocks with M8 thread

Delivery:
1 work piece stop; with T-sliding blocks 12 and 14 mm

Type		Universal stop
Width (mm)		41
Length (mm)		155
Bolt length (mm)		210
26111...	Ident. No.	020 ●

Prod. Gr. 281



Stop with probe system

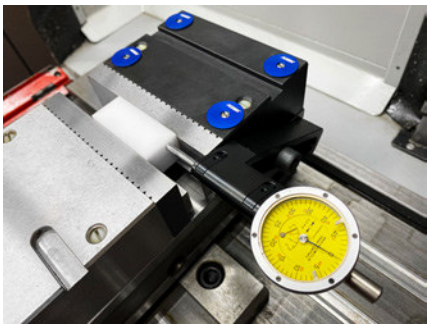
Workpiece stop and position check in one system

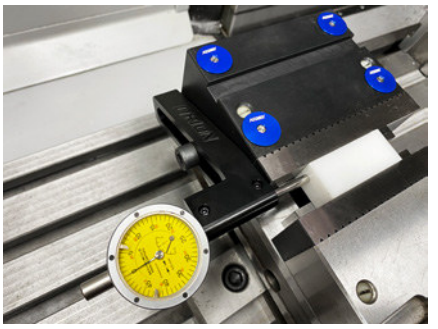
Version:
- Check repeat accuracy when clamping workpieces using a dial gauge/precision pointer
- Immediate detection of warping in the clamping process and during machining
- Fixed system prevents the stop from sliding
- Pre-defined extensions for flexible workpiece positioning, see accessory “Extension with tracer pin” (article number 26120001-004)

Advantage:
- Compatible with common dial gauges thanks to 8 mm location hole
- Compatible with many clamping devices thanks to attachment via 12x80 mm slotted hole
- For universal use in production and inspection
- Extensions/tracer pins and dial gauges are simple to replace and secure thanks to a positive-locking clamp

Delivery:
1 x stop and extension with tracer pin (25 mm usable length), w/o dial gauge/measuring equipment

Note:
Recommended dial gauge/measuring equipment, art. no.: 33051010 (IP67)





Width (mm)		24
Length (mm)		124
Nominal slot size (h6) (mm)		12
26120...	Ident. No.	000 ●

Prod. Gr. 2AY

Extension with tracer pin

Accessories for art. no.: 26120000

Execution:
- Extension with tracer pin in defined lengths 25/50/75/100 mm.

Delivery:
1 x extension with tracer pin according to usable length

Ident. No. 001

Ident. No. 002

Ident. No. 003

Ident. No. 004

Type		Extension with tracer pin 25 mm	Extension with tracer pin 50 mm	Extension with tracer pin 75 mm	Extension with tracer pin 100 mm
Length (mm)		25	50	75	100
26120...	Ident. No.	001 ●	002 ●	003 ●	004 ●

Prod. Gr. 2AY

Holder for stop

Accessories for art. no.: 26120000

Execution:
- Stable holder for “Stop with probe system” for installation on the machine table.
- Maximum achievable height in combination with Orion stop with probe system: 170 mm.
- Secured with 2x M8 screws.
- Suitable for T-shaped sliding blocks with M8 thread.

Delivery:
1 x holder, 2 x M8 screws, 1 x M12 screw, no T-shaped sliding blocks

Type		Holder for stop
Width (mm)		30
Length (mm)		80
26120...	Ident. No.	005 ●

Prod. Gr. 2AY

T-slot nuts
For workpiece stop

Application:

For use on drilling and milling machines.

For slot width (mm)		12	14	16	18
Connection thread		M8	M8	M8	M8
26195...	Ident. No.	039 ●	048 ●	057 ●	067 ●

Prod. Gr. 260

Standard

Locating key

Application:

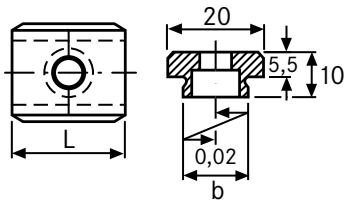
Fixed sliding blocks are screwed into the standardised 20 mm wide aligning groove of vices or jigs in pairs. The ability to replace the sliding blocks means that it is possible to work on machines with different groove widths.

Execution:

- Ground precisely around circumference
- C 15 case-hardened
- short alignment times

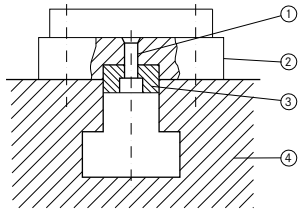
Notes:

Screws are not supplied. Other sizes and flat sliding blocks on request.



b (mm)		12	14	16	18
L (mm)		22	25	25	25
Width (mm)		20	20	20	20
Slot nut height (mm)		10	10	10	10
26196...	Ident. No.	112 ●	114 ●	116 ●	120 ●

Prod. Gr. 260



① Screw
② Device
③ Sliding block
④ Machine table

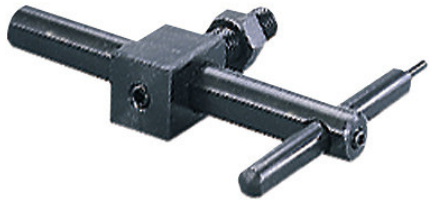
Workpiece stop
Accessories for high-pressure machine vices, art. no.: 28878; 28863 and 28874

Version:

- Adjustable workpiece stop for screwing onto the machine vice
- For clamping workpieces precisely in position
- M12 connecting thread

Delivery:

1 x stop including screws



Type		Screw-on
Connection thread		M12
28889...	Ident. No.	010 ●

Prod. Gr. 203

Magnetic parallel rest sets

Application:

For shimming workpieces. Can be attached to the screw-in jaws of vices.

Execution:

- Height tolerance ± 0.01
- Rest pairs made of hardened tool steel with approx. 62 HRC
- Black-oxide surfaces
- Precision-ground

Advantage:

- Magnetic parallel rests for short setup times
- Width 2.5 mm, making it possible to drill close to the vice jaws

Delivery:

5x pairs of rests in plastic case

Notes:

Individual parallel rests are also available upon request.

Parallel rest length (mm)		100	125	160
Parallel rest height		20 mm | 27 mm | 29 mm | 31 mm | 32 mm	15 mm | 30 mm | 35 mm | 37 mm | 39 mm	22 mm | 30 mm | 37 mm | 42 mm | 47 mm
Parallel rest width (mm)		2.5	2.5	2.5
26255...	Ident. No.	100 ●	125 ●	160 ●

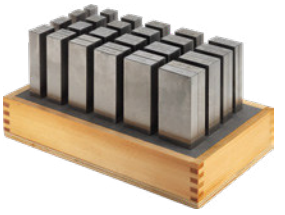
Prod. Gr. 281

Parallel rest set in a super-precision version
DIN ISO 2768 IT 5

Application:
For parallel support of workpieces in machine vices, on machines or on marking-off plates.

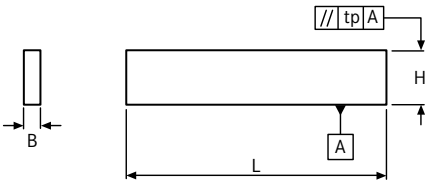
Execution:
- Pair tolerance tp height IT5.
- Nominal dimensional tolerance in height and width +/- 0.01 mm.
- Finished plane-parallel in pairs.
- Case-hardened.
- Remaining dimensions in accordance with DIN ISO 2768 m.
- Size information on the front of the product.

Delivery:
1 set in wooden box.



Parallel rest length (mm)		100	125	150
Min./max. set height		2-24 mm	8-42 mm	8-42 mm
Number of pieces in assortment/set		20	24	24
26257...	Ident. No.	230 ○	231 ○	232 ○

Prod. Gr. 260



Parallel rest set in a high-precision version
DIN ISO 2768 IT 5

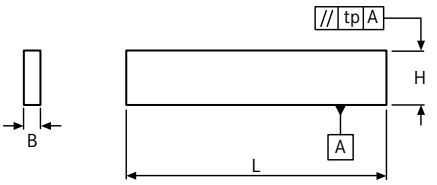
Application:
For parallel support of workpieces in machine vices, on machines or on marking-off plates.

Execution:
- Pair tolerance tp height IT5.
- Nominal dimensional tolerance in height and width +/- 0.01 mm.
- Finished plane-parallel in pairs.
- Case-hardened.
- Remaining dimensions in accordance with DIN ISO 2768 m.
- Size information on the front of the product.

Delivery:
1 set in wooden box.

Parallel rest length (mm)		100	125	150
Min./max. set height		2-24 mm	8-42 mm	8-42 mm
26257...	Ident. No.	233 ○	234 ○	235 ○

Prod. Gr. 260

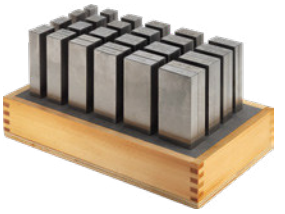


Parallel rest set in standard version
DIN ISO 2768 IT 5

Application:
For parallel support of workpieces in machine vices, on machines or on marking-off plates.

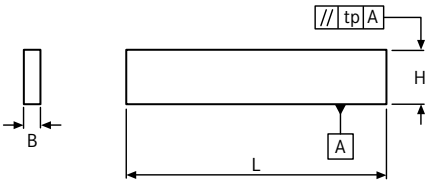
Execution:
- Finished plane-parallel in pairs.
- Pair tolerance tp height IT5.
- Nominal dimensional tolerance in height and width in accordance with DIN ISO 2768-1 m.
- Case-hardened.

Delivery:
1 set in wooden box.



Parallel rest length (mm)		100	125	15
Min./max. set height		2-24 mm	8-42 mm	8-42 mm
26257...	Ident. No.	236 ○	237 ○	238 ○

Prod. Gr. 260



Parallel support pairs (DIN 7168)

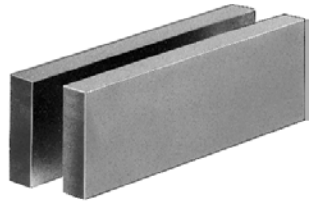
Case-hardened steel, finely ground in pairs and true-to-angle

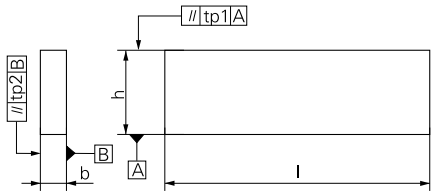
Application:
For parallel support of workpieces in machine vices, marking-off plates or machine tools during drilling, grinding, milling, planing, marking off and measuring; particularly suitable for supporting in machine vices, marking-off plates or machine tools.

Execution:
- Steel.
- In pairs, tolerance IT 5, nominal dimensions in accordance with DIN ISO 2768-1, tolerance class M.
- Case-hardened, finely polished in pairs and true-to-angle.

Delivery:
1x pair of parallel rests

Notes:
Numerous aligned pairs are available on request.





Parallel rest length L (mm)	Parallel rest width b (mm)	Parallel rest height h	Alignment tolerance, width (mm)	Alignment tolerance, height (mm)	26257... Ident. No.	
63	2.5	8 mm	0.004	0.006	208	○
63	3.2	10 mm	0.005	0.006	210	●
63	4	12 mm	0.005	0.008	212	○
63	5	16 mm	0.005	0.008	216	○
63	6.3	20 mm	0.006	0.009	220	●
100	4	12 mm	0.005	0.008	312	●
100	5	16 mm	0.005	0.008	316	●
100	6.3	20 mm	0.006	0.009	320	○
100	8	25 mm	0.006	0.009	325	●
100	10	32 mm	0.006	0.011	332	●
100	12	40 mm	0.008	0.011	340	●
160	10	32 mm	0.006	0.011	432	○
160	8	25 mm	0.006	0.009	425	●
160	12	40 mm	0.008	0.011	440	●
160	16	50 mm	0.008	0.011	450	○

Prod. Gr. 260

ORION® Parallel rest sets

Application:
For parallel support of workpieces in machine vices, on machine tools or on marking-off plates.

Execution:
- Steel.
- The different dimensions create a multitude of combination possibilities.
- Height tolerance within a pair: 0.01 mm.
- Hardened and ground.

- In pairs, tolerance IT 5, nominal width in accordance with DIN ISO 2768-1, tolerance class M.
- Ref. no. 26256010, nominal dimensional tolerance H + W +/- 0.02 mm in accordance with (DIN ISO 2768-1 tolerance class M).
- Ref. no. 26256020, nominal dimension tolerance at height 14-30 mm +/- 0.02 mm, at height 32-50 mm +/- 0.03 mm.

Delivery:
1 set of 14 pairs in wooden box.

Parallel rest length (mm)		150	150
Parallel rest width (mm)		10	10
Parallel rest height		14 mm | 16 mm | 18 mm | 20 mm | 22 mm | 24 mm | 26 mm | 28 mm | 30 mm | 32 mm | 35 mm | 40 mm | 45 mm | 50 mm	14 mm | 16 mm | 18 mm | 20 mm | 22 mm | 24 mm | 26 mm | 28 mm | 30 mm | 32 mm | 35 mm | 40 mm | 45 mm | 50 mm
Nominal tolerance, height 14-30 mm		+/- 0.02 mm	-
Pair tolerance		0.01 mm	0.01 mm
26256...	Ident. No.	010 ●	020 ●

Prod. Gr. 264

ORION® Parallel rests, single pairs

Application:
For mounting workpieces in parallel in machine vices, on machine tools or fixtures.

Execution:
- Made of hardened and ground steel.
- Height tolerance within a pair: 0.01 mm.

- Remaining dimensions in accordance with DIN ISO 2768 m.
- Ref. no. 26256232-250, nominal height tolerance +/-0.03 mm
- Remaining ref. no. nominal width + height tolerance +/-0.02 mm.

Delivery:
1x pair of parallel rests

Length (mm)		150		150		-	
Pair tolerance		0.01 mm		0.01 mm		0.01 mm	
Nominal tolerance width and height		+/- 0,02 mm		-		-	
Nominal tolerance height		-		+/- 0,02 mm		+/- 0,02 mm	
Width (mm)	Height (mm)	26256... Ident. No.		26256... Ident. No.		26256... Ident. No.	
14	10	114	●	214	●	-	-
16	10	-	-	216	●	-	-
18	10	-	-	218	●	-	-
20	10	-	-	220	●	-	-
22	10	-	-	222	●	-	-
24	10	-	-	224	●	-	-
26	10	-	-	226	●	-	-

Length (mm)		150		150		-	
Pair tolerance		0.01 mm		0.01 mm		0.01 mm	
Nominal tolerance width and height		+/- 0,02 mm		-		-	
Nominal tolerance height		-		+/- 0,02 mm		+/- 0,02 mm	
Width (mm)	Height (mm)	26256... Ident. No.		26256... Ident. No.		26256... Ident. No.	
28	10	-	-	228	●	-	-
30	10	-	-	230	●	-	-
32	10	-	-	232	●	-	-
35	10	-	-	235	●	-	-
40	10	-	-	240	●	-	-
45	10	-	-	245	●	-	-
50	10	-	-	-	-	250	●

Prod. Gr. 264

ORION® Parallel rest sets

Application:
For parallel support of workpieces in machine vices, on machine tools or on marking-off plates.

Execution:
- In pairs, tolerance IT 5, nominal width in accordance with DIN ISO 2768-1, tolerance class M.

Delivery:
1 set of 20-24 pairs in wooden box.

Composition of set		Width x height: 5x2 10x2 15x2 20x2 6x3 11x3 16x3 21x3 7x4 12x4 17x4 22x4 8x5 13x5 18x5 23x5 9x6 14x6 19x6 24x6 mm	Width x height: 11x8 16x8 21x8 26x8; 31x8 36x8 13x10 18x10 23x10 28x10 33x10 38x10 15x12 20x12 25x12 30x12 35x12 40x12 17x14 22x14 27x14 32x14 37x14 42x14 mm	Width x height: 11x8 16x8 21x8 26x8; 31x8 36x8 13x10 18x10 23x10 28x10 33x10 38x10 15x12 20x12 25x12 30x12 35x12 40x12 17x14 22x14 27x14 32x14 37x14 42x14 mm
Min. set height (mm)		2	8	8
Max. set height (mm)		24	42	42
Parallel rest length (mm)		100	125	150
Pair tolerance		IT 5	IT 5	IT 5
26254...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 264

ORION® ORION parallel rests, single pairs IT5

Application:
For mounting workpieces in parallel in machine vices, on machine tools or fixtures.

Execution:
- Made of hardened and ground steel.
- Height in accordance with DIN ISO 2768m pair tolerance IT5.
- Nominal width tolerance +/-0.02 mm.

Delivery:
1x pair of parallel rests

Ident. No. 100–119

Length (mm)		100		125		150	
Pair tolerance		IT 5		IT 5		IT 5	
Width (mm)	Height (mm)	26254... Ident. No.		26254... Ident. No.		26254... Ident. No.	
5	2	100	●	-	-	-	-
10	2	101	●	-	-	-	-
15	2	102	●	-	-	-	-
20	2	103	●	-	-	-	-
6	3	104	●	-	-	-	-
11	3	105	●	-	-	-	-
16	3	106	●	-	-	-	-
21	3	107	●	-	-	-	-
7	4	108	●	-	-	-	-
12	4	109	●	-	-	-	-
17	4	110	●	-	-	-	-
22	4	111	●	-	-	-	-
8	5	112	●	-	-	-	-
13	5	113	●	-	-	-	-
18	5	114	●	-	-	-	-
23	5	115	●	-	-	-	-
9	6	116	●	-	-	-	-
14	6	117	●	-	-	-	-
19	6	118	●	-	-	-	-
24	6	119	●	-	-	-	-
11	8	-	-	150	●	200	●
16	8	-	-	151	●	201	●

Length (mm)		100		125		150	
Pair tolerance		IT 5		IT 5		IT 5	
Width (mm)	Height (mm)	26254... Ident. No.		26254... Ident. No.		26254... Ident. No.	
21	8	-	-	152	●	202	●
26	8	-	-	153	●	203	●
31	8	-	-	154	●	204	●
36	8	-	-	155	●	205	●
13	10	-	-	156	●	206	●
18	10	-	-	157	●	207	●
23	10	-	-	158	●	208	●
28	10	-	-	159	●	209	●
33	10	-	-	160	●	210	●
38	10	-	-	161	●	211	●
15	12	-	-	162	●	212	●
20	12	-	-	163	●	213	●
25	12	-	-	164	●	214	●
30	12	-	-	165	●	215	●
35	12	-	-	166	●	216	●
40	12	-	-	167	●	217	●
17	14	-	-	168	●	218	●
22	14	-	-	169	●	219	●
27	14	-	-	170	●	220	●
32	14	-	-	171	●	221	●
37	14	-	-	172	●	222	●
42	14	-	-	173	●	223	●

Prod. Gr. 264

Parallel rests sets (DIN 7168)

Corrugated

Execution:
- In pairs, tolerance IT 5, nominal dimensions to DIN ISO 2768-1, tolerance group m.
- Hardened and tempered spring steel.
- Precision-ground.
- Parallelism height tolerance +/- 0.004 mm.

Advantage:
- No swarf.
- Parallelism of clamped workpiece is not impaired.
- Several flat or single thin workpieces can be clamped easily.

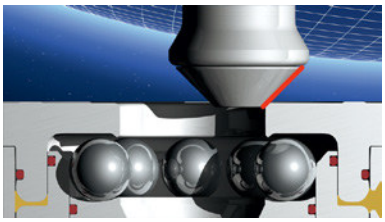
Delivery:
1 set of 8 pairs in wooden box.

Parallel rest length (mm)		110	110
Parallel rest width (mm)		0.3	0.3
Parallel rest height		9 mm | 11 mm | 13 mm | 15 mm | 17 mm | 19 mm | 21 mm | 23 mm	25 mm | 27 mm | 29 mm | 31 mm | 33 mm | 35 mm | 37 mm | 39 mm
26258...	Ident. No.	**110** ●	**120** ●

Prod. Gr. 260

ATORN zero-point clamping system
Convincing advantages in application, technology and maintenance

Large clutch movement

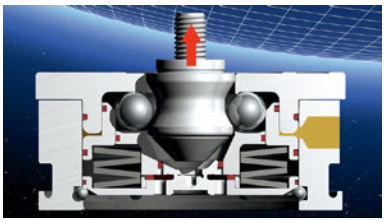


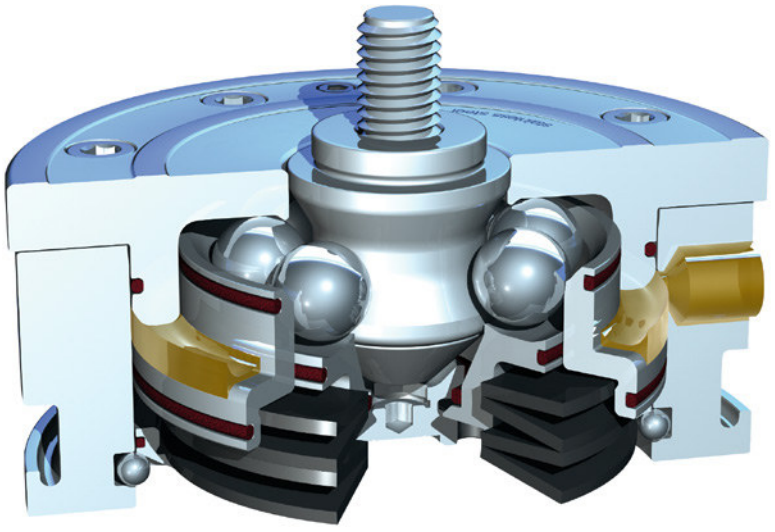
For feeding a pallet into the clamping module, a pre-positioning of 6.5 mm is sufficient.

No canting

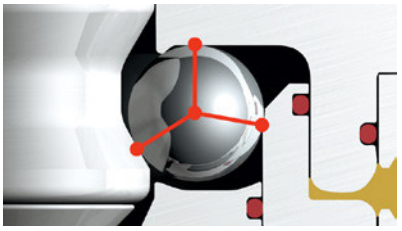
Cant-free retracting and extending through the optimal contour of the clamping nipple

Large hold, feed and locking forces



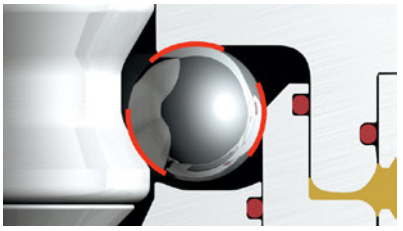


Three-stroke principle



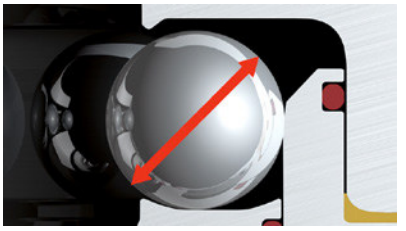
The force is distributed via a three-stroke principle. As a result, there are no shear loads of the balls.

Positive locking



The balls are positively enclosed on 3 sides. The forces evenly impact the balls and are optimally distributed.

Large ball diameter

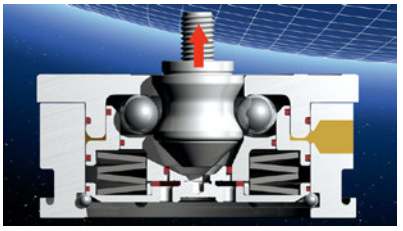


Better force distribution due to larger ball diameters.

No ball cage

The balls are exposed in the ball channel and always reposition themselves. Since the balls do not lie in a cage, dirt can easily be blown out with air.

Safety system



The system is absolutely process-safe. The clamping module can always be opened.

Stainless – stable – practicable

High-alloy, hardened tool steel – therefore no corrosion. Sturdy, suitable for industrial use and durable.

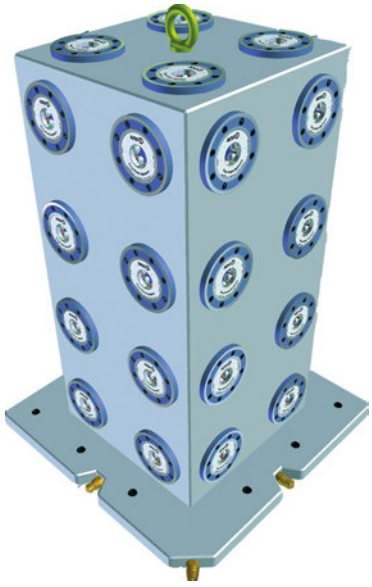
Questionnaire for the request: www.hahn-kolb.de - download centre: “Zero-point clamping system”

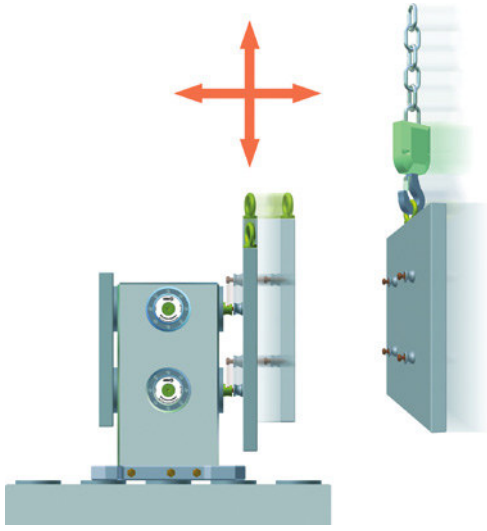
ATORN zero-point clamping system
Technology that inspires

Experience the benefits of the ATORN® zero-point clamping system, which presents its strengths in use through innovative and trendsetting features in a progressive manner.

Benefits that make the ATORN® zero-point clamping system unrivalled:

- **Use of different clamping nipples for highest positioning accuracy:**
  - Zero-point nipple: positioned at the absolute zero reference point
  - Strut nipple: secures the free axis
  - Undersize nipple: only for clamping and holding function
- **Two options for the different zero point definitions**
  - Classic: The zero point is defined by the zero point nipple in combination with the strut nipple
  - In case of temperature influence: The zero point is defined via the centre axis by the exclusive use of strut nipples
- **Maintenance-free system**
  - Fully sealed system made of hardened stainless steel for maintenance-free operation
- **Benefits in use**
  - Simple handling due to the large catch feed and the non-jamming loading and unloading option
- **Process reliability through technical advancement**
  - The “three-stroke principle, form closure and large ball diameter” features support process reliability. Due to these characteristics, the force is optimally distributed and does not lose any effect





Process	Without zero-point clamping system	With ATORN® zero-point clamping system
Machine costs	EUR 80/h	EUR 80/h
Number of set-up processes per day	3x	3x
Set-up time per process	60 min.	1.5 min.
Set-up time per day	180 min. (3 hrs)	4.5 min. (0.075 hrs)
Set-up costs per day	EUR 240	EUR 6
Annual set-up costs on the basis of 240 working days	EUR 57,600	EUR 1,440
Annual savings		EUR 56,160

ATORN mounting clamping module K10.2 and K20

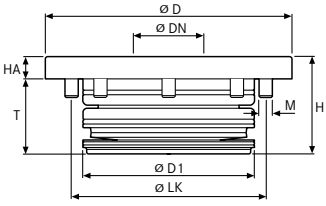
Application:
Zero-point clamping system for set-up-time-optimised clamping with chipping and chipless machining in all areas, such as in the food, pharmaceuticals and chemicals industry.

Execution:
- Hydraulic unlocking
- Lid and piston hardened
- Repeat accuracy < 0.005 mm

Delivery:
1x clamping module

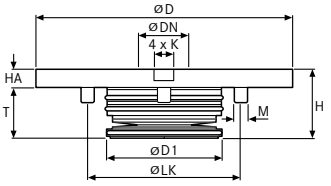
Notes:
The built-in clamping modules have high retention, feeding and locking forces with very small installation dimensions. hydraulic pressure is only required for loosening (min. 50 bar/max. 60 bar). The modules are mechanically locked in a clamped state. The advantage here is no disturbing lines and no risk of leakage. Available on request: - Installation sketches - Automation solutions - Also available as individual flange version

Ident. No. 500



Ident. No. 500

Ident. No. 107, 501



Ident. No. 107, 501

p. 1065 p. 1064

Type		K10.2	K10.2	K20
Model		without indexing	with indexing	with indexing
Width 2 (mm)		8	8	10
Depth (mm)		22	22	34
Ø (mm)		112	112	112
Adapter Ø (mm)		50	50	78
Locating bore hole Ø (mm)		22	22	32
Pitch circle Ø (mm)		77	77	88
Retraction force/closing force		10 kN	10 kN	20 kN
Weight (kg)		0.6	0.6	1.4
For tensioning station		K10.2 / 2-fold | K10.2 / 4-fold | K10.2 / 6-fold	K10.2 / 2-fold | K10.2 / 4-fold | K10.2 / 6-fold	K20 / 2-fold | K20 / 4-fold | K20 / 6-fold
Thickness (mm)		22	22	34
Thickness 2 (mm)		8	8	10
Height (mm)		30	30	44
Retaining force (kN)		25	25	55
Thread dimension		M5	M5	M6
28981...	Ident. No.	500 ○	501 ○	107 ○

Prod. Gr. 280

ATORN Multiple clamping stations K10.2

Execution:
- Hydraulic unlocking
- Repeat accuracy < 0.005 mm
- Unhardened steel
- The clamping systems are already equipped with mounting holes (for the most common table slot sizes 63, 100 and 125 mm) and positioning aids. The clamping stations are ready for immediate commissioning. Connections are already bolted
- The clamping station with blow-out features two connections: 1x hydraulic opening, 1x pneumatic purge
- the clamping stations are suitable for table slot sizes of 63, 100 and 125 mm

Advantage:
- Low overall height of only 36 mm

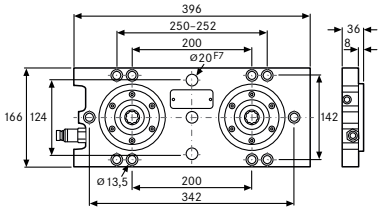
Delivery:
1x K10.2 clamping station

Notes:
Mounting sketches, other sizes as well as clamping stations especially tailored to your machine deliverable on request.

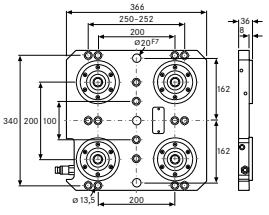
Ident. No. 502

Ident. No. 504

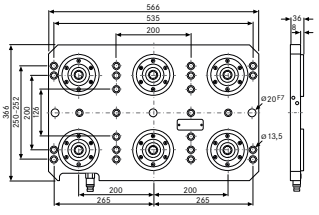
Ident. No. 506



Ident. No. 502



Ident. No. 504



Ident. No. 506

p. 1065 p. 1064

Type		K10.2 2-way clamping station	K10.2 4-way clamping station	K10.2 6-way clamping station
Model		without indexing	without indexing	without indexing
Width (mm)		166	366	366
Width 2 (mm)		-	200	200
Length (mm)		396	366	566
Locating bore hole Ø (mm)		13.5	13.5	13.5
Retraction force/closing force		2 x 10 kN	4 x 10 kN	6 x 10 kN
Weight (kg)		14	30	46
For tensioning station		K10.2 / 2-fold | K10.2 / 4-fold | K10.2 / 6-fold	K10.2 / 2-fold | K10.2 / 4-fold | K10.2 / 6-fold	K10.2 / 2-fold | K10.2 / 4-fold | K10.2 / 6-fold
Height (mm)		36	36	36
Height 2 (mm)		8	8	8
Length 2 (mm)		200	200	200
Retaining force (kN)		25	25	25
28981...	Ident. No.	502 ○	504 ○+	506 ○+

Prod. Gr. 280

ATORN Multiple clamping stations K20

Execution:
- Hydraulic unlocking
- Repeat accuracy < 0.005 mm
- Unhardened steel
- Mounting holes can be created in the base plate according to your specifications on request
- The clamping station is equipped with one connection: 1x hydraulic opening

Advantage:
- Low overall height of only 46 mm

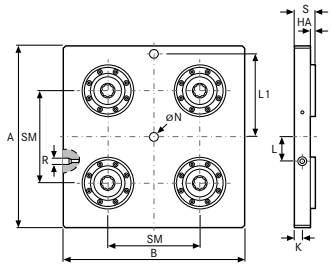
Delivery:
1x K20 clamping station

Notes:
Mounting sketches, other sizes and clamping stations tailored to your machine available on request

Ident. No. 069

Ident. No. 073

Ident. No. 174



p. 1065 p. 1064

Type		K20 2-way clamping station	K20 4-way clamping station	K20 6-way clamping station
Model		without indexing	without indexing	without indexing
Width (mm)		396	396	596
Width 2 (mm)		19	19	20
Length (mm)		196	396	396
Locating bore hole Ø (mm)		20	20	20
Retraction force/closing force		2 x 20 kN	4 x 20 kN	6 x 20 kN
Weight (kg)		21.9	44	75
For tensioning station		K20 / 2-fold | K20 / 4-fold | K20 / 6-fold	-	-
Thickness (mm)		10	10	10
Thickness 2 (mm)		46	46	46
Length 2 (mm)		45	53	50
Distance (mm)		180	180	180
Distance 2 (mm)		200	200	200
Retaining force (kN)		55	55	55
28981...	Ident. No.	069 ○	073 ○+	174 ○+

Prod. Gr. 280

ATORN Replacement pallets for K10.2 and K20

Execution:
- High-strength aluminium, with plane parallelism of 0.05 mm
- Mounting holes for carry handles on the front faces of the interchangeable pallets
- Location holes for clamping bolts pre-drilled into the plate
- All edges with chamfer 0.5 mm x 45°
- Pitch of clamping bolts = 200.0 mm

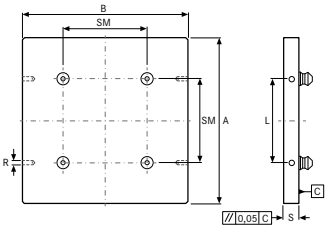
Advantage:
- Clamping devices can be easily and effortlessly replaced with the aid of an interchangeable plate
- Clamping devices are secured to the interchangeable plate with clamping bolts and positioning pins

Delivery:
1x interchangeable plate, incl. standard clamping bolt equipment

Notes:
On request, mounting holes can be included in the replacement pallet according to your specifications. Other dimensions, actual dimensions as well as the number of clamping nipple equipment available on request.

Ident. No. 201

Ident. No. 601–602



Type		K10.2 4-way	K10.2 6-way	K20 2-way	K20 4-way	K20 6-way
For tensioning station		K10.2 / 4-fold	K10.2 / 6-fold	K20 / 2-fold	K20 / 4-fold	K20 / 6-fold
Width (mm)		240.0	386.0	396.0	396.0	596.0
Thickness 2 (mm)		30	30	40	40	40
Height (mm)		30.0	30.0	40.0	40.0	40.0
Length (mm)		240.0	240.0	196.0	396.0	396.0
Length 2 (mm)		200	200	120	200	200
Distance (mm)		100.0	200.0	200.0	200.0	200.0
Distance 2 (mm)		100.0	200.0	-	200.0	200.0
Connection thread		M10	M10	M12	M12	M12
Weight (kg)		10.0	7.5	6.0	16.0	25.0
28981...	Ident. No.	**601** ○	**602** ○	**200** ○	**201** ○	**202** ○

Prod. Gr. 280

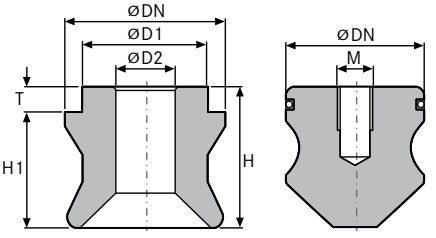
p. 1065 p. 1064

ATORN clamping nipple

Hardened, for hydraulic clamping modules

Application:
The correct arrangement of the clamping bolts ensures that the replacement pallet is always optimally positioned. The zero point clamping bolt at the same time always serves as the reference point. The strut clamping bolt acts as a balance to the free axis. The undersize clamping bolt only has a clamping and holding function.

Delivery:
1x clamping bolt without locking screw



Type		Zero point clamping bolt K10.2	Blade clamping bolt K10.2	Undersize clamping bolt K10.2	Protective clamping bolt K10.2
Height (mm)		19.0	19.0	19.0	16.0
Height 2 (mm)		16.0	16.0	16.0	-
Depth (mm)		3	3	3	-
Ø (mm)		22.0	22.0	21.8	21.8
Ø 2 (mm)		15.0	15.0	15.0	-
Ø 3 (mm)		8.0	8.0	8.0	-
Adapter Ø (mm)		15	15	15	-
Thread dimension		-	-	-	M8
Weight (g)		35.0	92.0	34.0	30.0
28981...	Ident. No.	**079** ●	**080** ○	**081** ●	**082** ○

Type		Zero point clamping bolt K20	Blade clamping bolt K20	Undersize clamping bolt K20	Protective clamping bolt K20
Height (mm)		28.0	28.0	28.0	23.0
Height 2 (mm)		23.0	23.0	23.0	-
Depth (mm)		5	5	5	-
Ø (mm)		32.0	32.0	31.8	31.8
Ø 2 (mm)		25.0	25.0	25.0	-
Ø 3 (mm)		12.0	12.0	12.0	-
Adapter Ø (mm)		-	-	-	-
Thread dimension		-	-	-	M8
Weight (g)		110.0	110.0	110.0	110.0
28981...	Ident. No.	**083** ●	**084** ●	**085** ●	**086** ○

Prod. Gr. 280

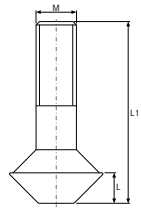
p. 1065

ATORN nipple catchment screws

Execution:
- Strength class 12.9

Delivery:
1x locking screw

Notes:
Versions in other lengths and materials (such as stainless steel) deliverable on request.



Type		Catch bolt K10.2	Catch bolt K20
Length (mm)		37.0	54.0
Length 2 (mm)		6.0	9.0
Distance (mm)		37	54
Thread dimension		M8	M12
Weight		22.0 g	0.070 kg
28981...	Ident. No.	092 ●	093 ●

Prod. Gr. 280

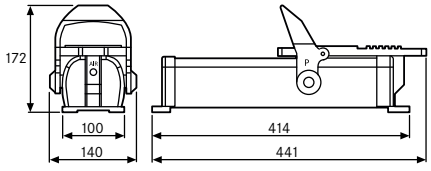
ATORN air hydraulic pump

Application:
The air-hydraulic pump is used for opening hydraulic clamping modules or hydraulic clamping stations.

Execution:
- Compact, compressed air operated hydraulic pump for single-acting circuits. The pump is equipped with a built-in safety valve which controls the hydraulic output pressure. the factory default setting of the safety valve is max. operating pressure of 60 bar. through the expansion body in the oil tank, the pump can be used horizontally and vertically. connecting thread air: G1/4 connecting thread oil: G1/4

Delivery:
1x air-hydraulic pump without connection material

Notes:
We recommend the use of clean and lubricated compressed air to operate the pump.



Type		Air hydraulic pump
Width (mm)		140.0
Height (mm)		172.0
Length (mm)		441.0
Min./max. air pressure		4-6 bar
Usable oil volume (cm^3)		1000
Weight (kg)		5.900
28981...	Ident. No.	535 ○

Prod. Gr. 280

p. 1065

ATORN Attachment set

Application:
For the connection between the hydraulic air pump and clamping station.

Execution:
- This set is used for the hydraulic connection of assembly clamping modules or clamping stations to the pressure generator such as pressure intensifier or air hydraulic pump.

Delivery:
The connection set includes: 1x hydraulic connection hose, length 2 m; 2x straight pipe fitting, 2x straight screw-in connection piece;1x T-fitting, 1x manometer 0-100 bar; 1x straight socket end fitting, 2x quick-action coupling sleeve; 2x quick-action coupling plug, 2x Cu sealing ring for G1/4

Notes:
Max. operating pressure: 100 bar

28981...	Ident. No.	580 ○

Prod. Gr. 280

Calibration

MELUTEC	Calibration service - MELUTEC	1070

Hand-held devices

	Vernier callipers	1071
	Workshop callipers and specialist callipers	1078
	Depth callipers	1081
	Measuring instrument sets	1085
	Micrometers	1086
	Outside micrometers, electronic	1089
	Outside micrometers special measuring surfaces	1091
	Dial indicator micrometers and micrometer heads	1095
	Internal micrometers	1098
	Groove distance measuring equipment	1106
	Absolute and comparison measuring instruments	1107
	Marking-off devices	1109

Gauges, measuring standards, small gauges, feeler gauges

	Gauge blocks	1112
	Test pins	1119
	Plane-parallel test glasses, test spheres and angle standards	1129
	Bore gauges, snap gauges, setting rings	1131

Gauges, measuring standards, small gauges, feeler gauges

	Thread pitch gauges	1135
	Thread pitch gauges with measuring depth reading	1141
	Small gauges and aids	1144
	Feeler gauges, strips and shimming sheets	1147

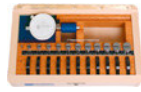
Dial gauges, dial indicators, dial test indicators

	Mechanical dial gauges	1153
	Electronic dial gauges	1160
	Indicator contact points for dial gauges	1164
	Dial indicator	1166
	Lever gauge probes	1168

Thickness gauge, measuring gauge, depth measurement instruments

	Depth measurement instruments	1172
	Thickness gauges	1173
	Internal chamfer gauge	1175
	Crankshaft test devices	1175
	Measuring gauge	1176

Bore gauges, hole measuring instruments

	Expansion probe bore gauges	1180
	Bore gauges	1180

Bore gauges, hole measuring instruments

Bore plug gauges 1182

Auxiliary aids for dial gauges

Dial gauge tripods 1183

Small measuring tables 1189

Vee blocks 1191

Measuring systems clamping equipment 1196

Marking-off and surface plates 1201

Measuring plates 1202

Concentricity tester 1205

Test benches, height measuring instruments, 3D probes

Length measuring instruments 1206

1D/2D height measuring instruments 1207

Accessories for 3D coordinate measuring instrument 1218

Lasers, tape rules, rulers, squares, spirit levels

Laser distance meters, cross-line lasers, accessories 1225

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Folding rules, rules, rulers 1233

Stroke, travel and quantity counters 1238

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Lasers, tape rules, rulers, squares, spirit levels

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Measuring magnifying glasses 1272

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Microscopes 1282

Hardness testing, material testing, metallography

Mobile hardness testers 1284

Shore hardness testers 1285

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Hardness testing, material testing, metallography

Hardness reference plates 1289

Material testing 1292

Coating thickness gauges 1293

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Contour and roughness measurement

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Roughness measuring instruments 1299

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Force measurement, torque measurement, scales

Cylindrical spring balances and dynamometers 1304

Tensile and compressive force measuring instruments 1306

Force sensors and display units 1308

Test stand 1312

Force measuring cells 1313

Closing force measuring instruments 1314

Scales and accessories 1317

Test weights 1321

Temperature and ambient conditions monitoring

Temperature and air-humidity measuring instruments 1325

Temperature and ambient conditions monitoring

Thermohygrometer 1328

Infrared temperature-measuring instruments 1330

Sensor 1332

Ambient monitoring measuring instruments 1334

Data logger 1336

Particle counter 1338

ATP measuring instruments - cleanliness on surfaces 1338

Water and fluid analysis 1340

Balancing, maintenance, machine monitoring

Balancing and vibration measurement 1342

Stop watches 1345

Stroboscopes 1346

Tachometer 1347

Ultrasonic flow gauges 1348

Electrical measuring instruments, VDE, VDI, position

Voltage testers 1349

Contactless phase, rotational field and magnetic field testers 1353

Multimeter/current clamps 1355

Multifunctional measuring instruments 1364

Electrical measuring instruments, VDE, VDI, position		
	Cable finder and dable length measuring devices	1365
	Safety devices and position finders	1366
Ultrasonic cleaning, steam cleaning, refractometer		
	Ultrasonic cleaning devices	1367
	Test case and test strip	1379
	Refractometer	1380

HAHN+KOLB calibration service

We calibrate and recalibrate your measuring instruments for you so that you can work reliably and all instruments meet the legal requirements and standards. We offer a calibration service in cooperation with our independently accredited partner Melutec Metrology GmbH. Make use of our service when purchasing new measuring and test equipment as well as for the periodic recalibration of all of your measuring and test equipment.

MELUTEC
calibration & services

CALIBRATION LABORATORY
Melutec Metrology GmbH
Helmholtzstraße 11
D-71573 Allmersbach im Tal, Germany

Large laboratory with 48 employees and over 30 years of experience

Short lead times for new equipment and recalibrations

On-site calibration

Advantages:

- Complies with the requirements of the quality system
- Safety for employees and customers
- Maintains product quality
- Reduces costs
- Conserves resources

Order service procedure:

Order calibration service for existing measuring equipment. Without pressure from the manufacturer.

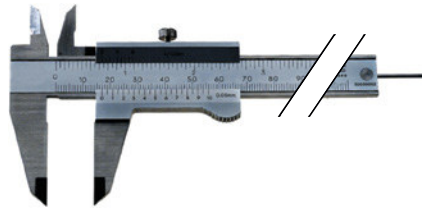
Request the appropriate shipping box from us
Tel. +49 7141 498-5377
Email: rekalibrierung@hahn-kolb.de

Easy shipping, either by pick-up or GLS return order
Include the calibration order for quick and easy assignment and processing.

Always calibrated in accordance with applicable standards
Our partner MELUTEC recalibrates your measuring and test equipment to the highest quality standards and sends it back to you, securely packed in special boxes.

Calibration certificates
You will receive the calibration certificate for each article. We will save the PDF for you for ten years. The digital calibration certificate
is available to you anytime, anywhere.

ATORN Pocket vernier callipers (ISO 13385-1)



Ident. No. 006–011, 020

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- Scale and vernier scale with anti-glare, brushed chromium-plated finish
- Measuring and guiding surfaces hardened

Delivery:
In a case

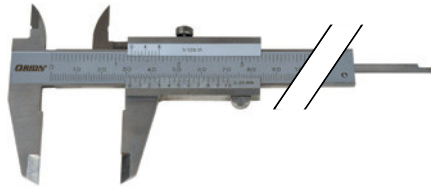
Technical data:
- Vernier scale: 0.05 mm
- Vernier scale (imperial): 1/128 inch

			Type of locating	With locking screw		With torque clamping	
Min./max. length measuring range	Length of jaw (mm)	Depth gauge rod	Depth gauge rod thickness (mm)	31003... Ident. No.		31003... Ident. No.	
0-100 mm	30	Flat	-	006	●	-	-
0-150 mm	40	Round	1.5	011	●	020	●
0-150 mm	40	Flat	-	015	●	-	-

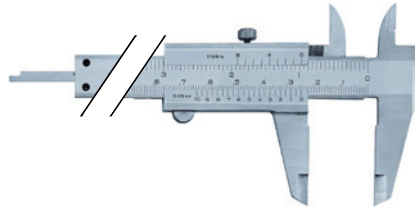
Prod. Gr. 3AC

ORION Pocket vernier callipers (ISO 13385-1)

For left- and right-handed users



No. 31013 010



No. 31014

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- Scale and vernier scale with anti-glare, brushed chromium-plated finish
- Hardened measuring and guidance faces

Delivery:
In case

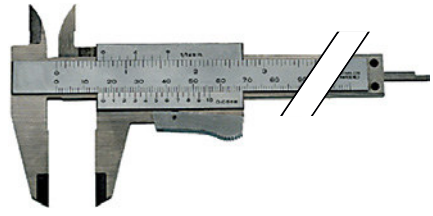
Technical data:
- Vernier scale: 0.05 mm
- Vernier scale (imperial): 1/128 inch
- Depth gauge rod: Flat

	Type	-		-		Left-handed version	
	Type of locating	With torque clamping		With locking screw		With locking screw	
Min./max. length measuring range	Length of jaw (mm)	31012... Ident. No.		31013... Ident. No.		31014... Ident. No.	
0-150 mm	40	010	●	010	●	010	●
0-300 mm	64	-	-	030	●	-	-

Prod. Gr. 3BA

ORION Pocket vernier callipers (ISO 13385-1)

With parallax-free reading



No. 31004
Quick adjustment

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- Scale and vernier scale with anti-glare, brushed chromium-plated finish
- Measuring and guiding surfaces hardened
- Parallax-free: Vernier and scale are on the same level, making it easier to read from the side

Delivery:
In a case

Technical data:
- Min./max. length measuring range: 0-150 mm
- Vernier scale: 0.05 mm
- Vernier scale (imperial): 1/128 inch
- Length of jaw: 40 mm
- Depth gauge rod: Flat

	Parallax-free		Parallax-free	
Type of locating	With torque clamping		With locking screw	
	31004... Ident. No.		31006... Ident. No.	
	010	●	010	●

Prod. Gr. 3BA

Plastic vernier callipers

A

NEW

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- Non-metallic high-tech material with 50 % fibre-glass content
- Green vernier scale with high contrast

Technical data:
- Min./max. length measuring range: 0-150 mm
- Vernier scale: 0.1 mm
- Length of jaw: 40 mm
- Fine adjustment: No
- Depth gauge rod: Flat

With drive wheel	Yes	
	31165... Ident. No.	
	050	●

Prod. Gr. 571

Pocket vernier callipers with round scale (ISO 13385-1)

A

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- Round scale, 32 mm diameter
- Depth gauge also covers the rack to protect it from chips
- Rotating dial with clamping mechanism

Advantage:
- Shock-resistant measuring mechanism

Delivery:
In a case

Technical data:
- Depth gauge rod: Flat

Ident. No. 010

Type of locating				With locking screw		With locking screw	
With drive wheel				No		Yes	
Min./max. length measuring range	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Length of jaw (mm)	31169... Ident. No.		31169... Ident. No.	
0-150 mm	0.01	1	40	010	●	-	-
0-150 mm	0.02	2	40	020	●	-	-
0-200 mm	0.02	2	50	-	-	025	●
0-300 mm	0.02	2	64	-	-	035	●

Prod. Gr. 362

Plastic dial callipers
Normal and ESD version

A

NEW

Application:
Ident. No. 030: For measuring external, internal, step and depth dimensions.
Ident. No. 040: For measuring external, internal, step and depth dimensions. For all work on components at risk of electrostatic discharge.

Execution:
- Dial gauge, diameter 35 mm, shockproof
- The round scale can be adjusted to zero, therefore enabling comparison measurements
- **Ident. No. 030:** Non-metallic high-tech material with 50 % fibreglass content
- **Ident. No. 040:**
  - Non-metallic high-tech material with 60 % fibreglass content
  - Surface resistance 10⁶-10⁹ ohms. Callipers made of electrostatic dissipating material

Technical data:
- Min./max. length measuring range: 0-150 mm
- Scale value: 0.01 mm
- Measurement travel of one pointer revolution: 10 mm
- Length of jaw: 40 mm
- Fine adjustment: No
- Depth gauge rod: Flat

Ident. No. 030

Ident. No. 040

	-		ESD design	
With drive wheel	Yes		Yes	
	31165... Ident. No.		31165... Ident. No.	
	030	●	040	●

Prod. Gr. 571

IP degrees of protection in accordance with DIN EN 60529

Degrees of protection against dust	
IP	**1st number**
0	Not protected
1	Protected against solid foreign bodies 50 mm in diameter and larger
2	Protected against solid foreign bodies 12.5 mm in diameter and larger
3	Protected against solid foreign bodies 2.5 mm in diameter and larger
4	Protected against solid foreign bodies 1.0 mm in diameter and larger
5	Dust-protected
6	Dustproof

Degrees of protection against water	
IP	**2nd number**
0	Not protected
1	Protected against dripping water
2	Protected against dripping water where housing is inclined at angle of up to 15°
3	Protected against spray
4	Protected against splash water
5	Protected against hose water
6	Protected against heavy jets of hose water
7	Protected against impact of temporary submersion in water
8	Protected against impact of continual submersion in water

ATORN Electronic pocket callipers IP40 (ISO 13385-1)

with data output

IP 40 | multiCOM | A

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- ON/OFF
- Zero setting at any position
- ABS function
- High-contrast display
- **Ident. No. 104–105:**
  - mm/inch changeover
  - AUTO OFF
  - Keeptronic system
- **Ident. No. 112–301:**
  - mm/inch switch-over
  - Auto off
  - Keeptronic System

Advantage:
- **Ident. No. 104–105:**
  - key lock to prevent unintentional adjustment
  - Switched on using the ON button or automatically switched on by calliper movement
  - Simple and reliable measurement reading thanks to large and high-contrast display
- **Ident. No. 112–301:**
  - Key lock to prevent unintentional adjustment
  - Switched on by the ON button or automatically switched on by calliper movement

Delivery:
Ident. No. 104–105: In a case, with battery (1 x 3 V lithium, type CR 2032)
Ident. No. 112–301: In a case, with battery (1 x 3 V lithium type CR 2032)

Technical data:
- Digit increment: 0.01 mm
- Functions: On/Off | Automatic switch-on (movement of the slide/measuring bolt) | With zero setting at any position | With mm / inch switching | Lock-function (Keybord lock)
- IP protection class: IP 40

Ident. No. 104–105

Ident. No. 112, 301

p. 1261

					Data transmission type	No		multiCOM	
Min./max. length measuring range	Length of jaw (mm)	Depth gauge rod	Depth gauge rod thickness (mm)	Digit height (mm)	31173... Ident. No.			31173... Ident. No.	
0-150 mm	40	Round	1.5	11	104	●		-	-
0-150 mm	40	Flat	-	11	105	●		-	-
0-150 mm	40	Round	1.5	8.5	-	-		112	●
0-150 mm	40	Flat	-	8.5	-	-		113	●
0-300 mm	64	Without	-	8.5	-	-		301	●

Prod. Gr. 3CA
Spare battery see no. 56815 210 page 1682

ATORN IP67 electronic pocket vernier callipers (ISO 13385-1)

IP67

Ident. No. 204

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- ON/OFF
- Zero setting at any position
- mm/inch changeover
- AUTO OFF
- ABS function
- Protection rating: IP67
- Keeptronic system
- High-contrast display

Advantage:
- key lock to prevent unintentional adjustment
- Simple and reliable measurement reading thanks to large and high-contrast display
- Switched on using the ON button or automatically switched on by calliper movement

Delivery:
In a case, with battery (1 x 3 V lithium, type CR 2032)

Technical data:
- Min./max. length measuring range: 0-150 mm
- Digit increment: 0.01 mm
- Length of jaw: 40 mm
- Digit height: 11 mm
- Functions: On/Off | Automatic switch-on (movement of the slide/measuring bolt) | With zero setting at any position | Hold-function (AE lock) | Preset function | Reversal of counting direction | With mm / inch switching | Lock-function (Keybord lock)
- IP protection class: IP 67

		Data transmission type	No	
Depth gauge rod	Depth gauge rod thickness (mm)	31173... Ident. No.		
Round	1.5	204	●	
Flat	-	205	●	

Prod. Gr. 3CA
Spare battery see no. 56815 210 page 1682

ORION Electronic pocket callipers IP40 (ISO 13385-1)

For left- and right-handed users

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- ON/OFF

- Zero setting at any position
- mm/inch switch-over

Delivery:
In a case, with battery (1x type SR 44)

						with 1.55 V battery		-	
					Type	-		Left-handed version	
					Type of locating	With locking screw		With locking screw	
Min./max. length measuring range	Digit increment (mm)	Digit height (mm)	Length of jaw (mm)	Design of measuring contact	Depth gauge rod	31170... Ident. No.		31170... Ident. No.	
0-100 mm	0.01	11	30	Steel	Flat	201	●	-	-
0-150 mm	0.01	11	40	Steel	Flat	211	●	601	●
0-300 mm	0.01	11	60	Steel	Flat	651	●	-	-

Prod. Gr. 3BH
Spare battery see no. 56815 200 page 1682

ORION Electronic pocket callipers IP40 (ISO 13385-1)

various versions

Ident. No. 231

Ident. No. 401

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- ON/OFF
- Zero setting at any position

- mm/inch changeover

Advantage:
- **Ident. No. 231:** Suitable for marking-off jobs
- **Ident. No. 401:** Scratch-resistant

Delivery:
In a case, with battery (1x type SR 44)

						Carbide measuring surfaces		Metal housing	
					Type of locating	With locking screw		With locking screw	
Min./max. length measuring range	Digit increment (mm)	Digit height (mm)	Length of jaw (mm)	Depth gauge rod	Functions	31170... Ident. No.		31170... Ident. No.	
0-150 mm	0.01	11	40	Flat	On/Off | With zero setting at any position | With mm / inch switching	231	●	401	●

Prod. Gr. 3BH
Spare battery see no. 56815 200 page 1682

ORION® Electronic pocket vernier callipers IP67 (ISO 13385-1)

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- ON/OFF
- Zero setting at any position
- mm/inch switch-over

Advantage:
- Depth gauge: flat design with narrow probe tip, length 22 mm, for depth measurements in small boreholes from 2.5 mm diameter

Delivery:
In a case, with battery (1 x 3 V lithium type CR 2032)

					Type of locating	With locking screw	
Min./max. length measuring range	Digit increment (mm)	Length of jaw (mm)	Depth gauge rod	IP protection class	31177... Ident. No.		
0-150 mm	0.01	40	Flat	IP 67	115	●	
0-200 mm	0.01	50	Flat	IP 67	120	●	
0-300 mm	0.01	60	Flat	IP 67	130	●	

Prod. Gr. 3BH
Spare battery see no. 56815 210 page 1682

TESA Electronic pocket callipers IP40 (ISO 13385-1)

TWIN-CAL IP40

p. 1256

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- With locking screw
- ON
- mm/inch changeover
- Auto off
- Zero setting at any position
- ABS function

Advantage:
- Long operating time of over 12,000 hours
- Soft touch for comfortable handling
- Superbly ground slide for extremely smooth running

Delivery:
In a case, with battery (1 x 3 V lithium type CR 2032)

							TWIN-CAL IP40		TWIN-CAL IP40	
						Type	TWIN-CAL IP40		TWIN-CAL IP40	
						Data transmission type	TLC		TLC	
						Type of locating	With locking screw		With locking screw	
						With drive wheel	Yes		No	
Min./max. length measuring range	Digit increment (mm)	Digit height (mm)	Length of jaw (mm)	Depth gauge rod	Depth gauge rod thickness (mm)	IP protection class	31172... Ident. No.		31172... Ident. No.	
0-150 mm	0.01	11	40	Round	1.5	IP 40	110	●	-	-
0-150 mm	0.01	11	40	Flat	-	IP 40	-	-	115	●
0-200 mm	0.01	11	50	Flat	-	IP 40	120	●	-	-
0-300 mm	0.01	11	65	Flat	-	IP 40	130	●	-	-

Prod. Gr. 362
Spare battery see no. 56815 210 page 1682

TESA Electronic pocket callipers IP67 (ISO 13385-1)

TESA-CAL IP67 and TWIN-CAL IP67

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- With locking screw
- ON
- mm/inch changeover
- AUTO OFF
- Zero setting at any position
- ABS function

Advantage:
- Long operating time of over 12,000 hours
- Superbly ground slide for extremely smooth running
- **No. 31174:**
  - Soft Touch for comfortable handling
  - IP protection, even with a data transfer cable connected

Delivery:
No. 31172: In a case, with battery (1x 3 V lithium, type CR 2032)
No. 31174: In a case, with battery (1 x 3 V lithium type CR 2032)

No. 31172

p. 1256

							TESA-CAL IP67		TESA-CAL IP67		TWIN-CAL IP67		TWIN-CAL IP67	
						Type	TESA-CAL IP67		TESA-CAL IP67		TWIN-CAL IP67		TWIN-CAL IP67	
						Data transmission type	-		-		TLC		TLC	
						Type of locating	With locking screw		With locking screw		With locking screw		With locking screw	
						With drive wheel	No		Yes		No		Yes	
Min./max. length measuring range	Digit increment (mm)	Digit height (mm)	Length of jaw (mm)	Depth gauge rod	Depth gauge rod thickness (mm)	IP protection class	31172... Ident. No.		31172... Ident. No.		31174... Ident. No.		31174... Ident. No.	
0-150 mm	0.01	11	40	Flat	-	IP 67	200	●	-	-	160	●	-	-
0-150 mm	0.01	11	40	Round	1.5	IP 67	201	●	-	-	165	●	-	-
0-200 mm	0.01	11	50	Flat	-	IP 67	-	-	202	●	-	-	210	●
0-300 mm	0.01	11	64	Flat	-	IP 67	-	-	203	●	-	-	310	●

Prod. Gr. 362
spare battery see no. 56815 210 page 1682

Mahr Electronic pocket vernier callipers IP40 (ISO 13385-1)

MarCal 16 ER

Application:
for measuring external, internal, step and depth dimensions.

Execution:
- ON/OFF AND AUTO-ON/OFF
- Zero setting at any position
- mm/inch changeover

Advantage:
- key lock to prevent unintentional adjustment
- Simple and reliable measurement reading thanks to high-contrast display
- Switched on automatically by moving the slider

Delivery:
In a case, with battery (1 x 3 V lithium, type CR 2032)

Ident. No. 015

p. 1261

							Data transmission type	No		multiCOM	
							Type of locating	With locking screw		With locking screw	
Min./max. length measuring range	Digit increment (mm)	Digit height (mm)	Length of jaw (mm)	Depth gauge rod	Depth gauge rod thickness (mm)	IP protection class	31181... Ident. No.			31181... Ident. No.	
0-150 mm	0.01	11	40	Round	1.5	IP 40	005	●		-	-
0-150 mm	0.01	11	40	Flat	-	-	015	●		035	●
0-200 mm	0.01	11	50	Flat	-	-	021	●		045	○
0-300 mm	0.01	11	64	Without	-	-	031	●		055	●
0-150 mm	0.01	11	40	Round	1.5	-	-	-		025	●

Prod. Gr. 305
Spare battery see no. 56815 210 page 1682

Mahr IP67 electronic pocket vernier callipers (ISO 13385-1)

MarCal 16 EWR and EWRi

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- ON/OFF AND AUTO-ON/OFF
- Zero setting at any position
- mm/inch changeover
- **Ident. No. 305–335:**
  - PRESET
  - HOLD

Advantage:
- Key lock to prevent unintentional adjustment
- Simple and reliable measurement reading thanks to high-contrast display
- Switched on automatically by moving the slider
- **Ident. No. 305–335:** Unrestricted freedom of movement (radio range up to 6 m)

Delivery:
In a case, with battery (1 x 3 V lithium type CR 2032)

p. 1261

Data transmission type								No		MarConnect		multiCOM	
Type of locating								With locking screw		With locking screw		With locking screw	
Min./max. length measuring range	Digit increment (mm)	Digit height (mm)	Length of jaw (mm)	Design of measuring contact	Depth gauge rod	Depth gauge rod thickness (mm)	IP protection class	31181... Ident. No.		31181... Ident. No.		31181... Ident. No.	
0-150 mm	0.01	11	40	-	Round	1.5	IP 67	225	●	-	-	-	-
0-150 mm	0.01	11	40	-	Flat	-	IP 67	235	●	-	-	-	-
0-200 mm	0.01	11	50	-	Flat	-	IP 67	245	●	-	-	-	-
0-300 mm	0.01	11	64	-	Without	-	IP 67	250	●	-	-	-	-
0-150 mm	0.01	11	40	Steel	Round	1.5	IP 67	-	-	305	●	-	-
0-150 mm	0.01	11	40	Steel	Flat	-	IP 67	-	-	315	●	-	-
0-200 mm	0.01	11	50	Steel	Flat	-	IP 67	-	-	325	●	-	-
0-300 mm	0.01	11	64	Steel	Without	-	IP 67	-	-	335	●	-	-
0-150 mm	0.01	8.5	40	-	Round	1.5	IP 67	-	-	-	-	105	●
0-150 mm	0.01	8.5	40	-	Flat	-	IP 67	-	-	-	-	115	●
0-200 mm	0.01	8.5	50	-	Flat	-	IP 67	-	-	-	-	125	●
0-300 mm	0.01	8.5	64	-	Without	-	IP 67	-	-	-	-	135	●

Prod. Gr. 305

Spare battery see no. 56815 210 page 1682

Mitutoyo Electronic pocket callipers IP40 (ISO 13385-1)

with ABS AOS

Application:

For measuring external, internal, step and depth dimensions.

Execution:

- ON/OFF
- Zero setting at any position
- ORIGIN
- Digimatic
- ABSOLUTE system for reliable measurement
- High-contrast display

Advantage:

- AOS (advanced on-site sensor) magnetic-inductive scale
- No influence on the measurement due to contamination of the scale (dust, oil, water etc.).
- Smooth and stable guide surfaces

Delivery:

Delivered in box

Technical data:

- Digit increment: 0.01 mm
- Design of measuring contact: Steel
- Functions: ABS function | Absolute function | Origin (Dimension preset) | On/Off
- IP protection class

Ident. No. 021

Ident. No. 023

p. 1263

Data transmission type					No		No		DIGIMATIC		DIGIMATIC	
Type of locating					With locking screw		With locking screw		With locking screw		With locking screw	
With drive wheel					No		Yes		Yes		No	
Min./max. length measuring range	Digit height (mm)	Length of jaw (mm)	Depth gauge rod	Depth gauge rod thickness (mm)	32018... Ident. No.		32018... Ident. No.		32018... Ident. No.		32018... Ident. No.	
0-150 mm	9	40	Flat	-	021	●	005	●	-	-	016	●
0-150 mm	9	40	Round	1.9	023	●	-	-	015	●	-	-
0-200 mm	9	50	Flat	-	022	●	006	○	-	-	017	●
0-300 mm	11	64	Flat	-	-	-	-	-	-	-	025	●

Prod. Gr. 3MA

Mitutoyo Electronic pocket callipers IP67 (ISO 13385-1)

ABS IP67

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- Digimatic
- ABSOLUTE system for reliable measurement
- high-contrast display
- Steel measuring surfaces

Advantage:
- High resistance to water and dust (protection class IP67)
- Survive temporary, complete immersion in water without damage

Delivery:
Delivered in box

Technical data:
- Digit increment: 0.01 mm
- Functions: Absolute function | Origin (Dimension preset) | Automatic switch-off
- IP protection class: IP 67

Ident. No. 187

Ident. No. 189

p. 1263

Data transmission type					No		DIGIMATIC		No		DIGIMATIC	
Type of locating					With locking screw		With locking screw		With locking screw		With locking screw	
With drive wheel					No		Yes		Yes		No	
Min./max. length measuring range	Digit height (mm)	Length of jaw (mm)	Depth gauge rod	Depth gauge rod thickness (mm)	32018... Ident. No.		32018... Ident. No.		32018... Ident. No.		32018... Ident. No.	
0-150 mm	9	40	Round	1.9	191	●	196	○	-	-	-	-
0-150 mm	9	40	Flat	-	189	●	192	○	187	○	194	●
0-200 mm	9	50	Flat	-	190	●	193	○	188	○	195	●
0-300 mm	11	64	Flat	-	221	●	222	○	220	●	223	○

Prod. Gr. 3MA

wiha Plastic digital callipers

NEW

Application:
For measuring external, internal, step and depth dimensions.

Execution:
- Non-metallic high-tech material with 50 % fibre-glass content
- Auto-OFF after five minutes
- mm/inch changeover

Delivery:
incl. batteries (SR44)

Technical data:
- Min./max. length measuring range: 0-150 mm
- Digit increment: 0.01 mm
- Digit height: 7.5 mm
- Length of jaw: 40 mm
- Depth gauge rod: Flat
- Functions: Preset function | With mm / inch switching
- IP protection class: IP 40

	Type	With drive wheel		
31165...	digiMax	Yes	Ident. No.	020 ●

Prod. Gr. 571

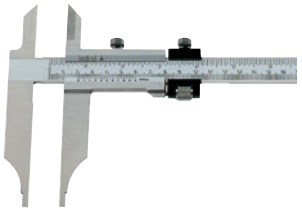
ATORN workshop vernier callipers (ISO 13385-1)

Application:
For measuring external and internal dimensions.

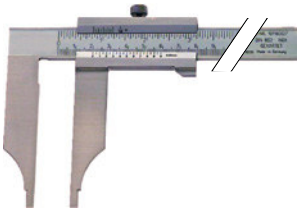
Execution:
- Vernier scale and scale with anti-glare, brushed chromium-plated finish

Delivery:
In folding carton

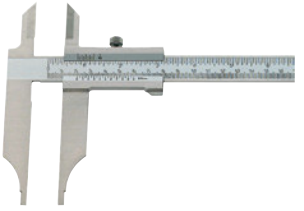
Technical data:
- Vernier scale: 0.05 mm



No. 31092



No. 31088



No. 31091

Min./max. length measuring range	Length of jaw (mm)	Inner measurement scales (mm)	31092... Ident. No.		31088... Ident. No.		31091... Ident. No.	
0-300 mm	90	10	003	●	103	●	003	●
0-500 mm	150	20	005	●	105	●	005	●
0-800 mm	150	20	008	○	108	●	008	○
0-1000 mm	150	20	010	○+	-	-	010	○+

Prod. Gr. 3AC

ORION® Workshop vernier callipers (ISO 13385-1)

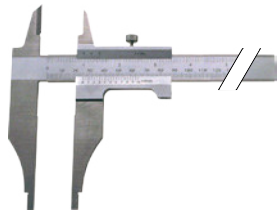
A

Application:
For measuring external and internal dimensions.

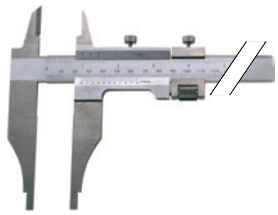
Execution:
- Vernier scale and scale with anti-glare, brushed chromium-plated finish
- 2 graduations: mm/inch

Delivery:
In a case

Technical data:
- Vernier scale: 0.05 mm
- Vernier scale (imperial): 1/128 inch



No. 31079 103



No. 31080 103

			without fine adjustment		With fine adjustment	
		Type of locating	With locking screw		With locking screw	
		Fine adjustment	No		Yes	
		Measuring tips	Yes		Yes	
Min./max. length measuring range	Length of jaw (mm)	Inner measurement scales (mm)	31079... Ident. No.		31080... Ident. No.	
0-300 mm	90	10	103	●	103	●
0-500 mm	150	20	105	●	105	●
0-800 mm	150	20	108	○	108	○
0-1000 mm	150	20	110	○	110	●

Prod. Gr. 3BA

ORION® Workshop vernier callipers (ISO 13385-1)
in Leichtbauweise mit Messerspitzen

A

Application:
For measuring external and internal dimensions.

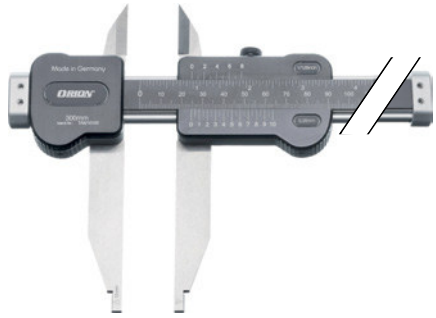
Execution:
- Flat vernier scale with parallax-free reading
- Very good contrast - white scale on black surface
- Measuring arms made of finely polished, hardened stainless steel

Advantage:
- Internal double vee-block guide for optimum guidance and slide properties
- Low weight for easier handling
- Easier reading with reduced light reflections due to black surface
- Threaded core hole table on the back

Delivery:
In a plastic case

Notes:
Made in Germany

Technical data:
- Vernier scale: 0.05 mm
- Vernier scale (imperial): 1/128 inch
- Length of jaw: 90 mm
- Inner measurement scales: 10 mm



Min./max. length measuring range					0-200 mm	0-300 mm	0-500 mm	0-700 mm	0-900 mm
	Type of locating	Fine adjustment	Measuring tips						
31115...	With locking screw	No	Yes	Ident. No.	402 ○	403 ○	405 ○	407 ○	409 ○

Prod. Gr. 3BA

ORION® Workshop callipers with large measuring range (ISO 13385-1)
in lightweight design

A

Application:
For measuring external and internal dimensions.

Execution:
- Beam and scale made from anodised aluminium
- Measuring arms made of hardened steel
- Precise laser scale

Advantage:
- Up to 70% lighter than steel

Technical data:
- Vernier scale: 0.05 mm
- Vernier scale (imperial)
- Inner measurement scales: 20 mm

Min./max. length measuring range					0-500 mm	0-1000 mm	0-1500 mm	0-2000 mm	0-2500 mm	0-3000 mm
Length of jaw (mm)					150	200	200	200	200	200
	Type of locating	Fine adjustment	Measuring tips							
31115...	With locking screw	No	No	Ident. No.	005 ○	010 ○+	015 ○+	020 ○+	025 ○	030 ○

Prod. Gr. 3BA

ATORN Electronic workshop vernier callipers (ISO 13385-1)

IP 40 | multiCOM | A

Application:
For measuring external and internal dimensions.

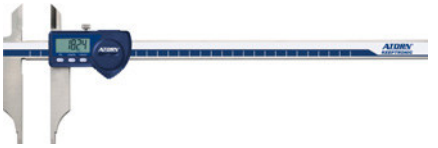
Execution:
- ON/OFF
- Zero setting at any position
- mm/inch switch-over
- Auto off
- Preset function
- ABS function
- Keeptronic System

Advantage:
- Key lock to prevent unintentional adjustment
- Switched on by moving the slider

Delivery:
in a wooden case, with battery (1 x 3 V lithium, type CR 2032)

Technical data:
- Digit increment: 0.01 mm

No. 31152



No. 31150

No. 31151

Min./max. length measuring range	Length of jaw (mm)	Inner measurement scales (mm)	Data transmission type: multiCOM 31152... Ident. No.		multiCOM 31150... Ident. No.		multiCOM 31151... Ident. No.	
0-300 mm	90	10	230	●	130	●	130	●
0-500 mm	125	20	250	●	150	●	150	●
0-800 mm	150	20	280	○	180	●	180	○
0-1000 mm	150	20	300	○	200	●	200	○

Prod. Gr. 3CA
Spare battery see no. 56815 210 page 1682

p. 1261

ORION Electronic workshop vernier callipers (ISO 13385-1)

IP 40 | A

Application:
For measuring external and internal dimensions.

Execution:
- ON/OFF

- Zero setting at any position
- mm/inch switch-over

Delivery:
In a case, with battery (1 x 3 V lithium type CR 2032)

					Type of locating	With locking screw	
					Fine adjustment	No	
					Measuring tips	Yes	
Min./max. length measuring range	Digit increment (mm)	Length of jaw (mm)	Inner measurement scales (mm)	Functions	IP protection class	31145... Ident. No.	
0-300 mm	0.01	90	20	On/Off | With zero setting at any position | With mm / inch switching	IP 40	130	●

Prod. Gr. 3BH
Spare battery see no. 56815 210 page 1682

ATORN Electronic internal groove vernier callipers

multiCOM | IP 40 | A

Application:
For measuring internal recesses.

Execution:
- ON/OFF
- Zero setting at any position
- mm/inch switch-over
- Auto off
- Preset function

- ABS function
- Keeptronic System

Advantage:
- Key lock to prevent unintentional adjustment
- Switch on by moving the slider

Delivery:
in a wooden case, with battery (1 x 3 V lithium, type CR 2032)

Ident. No. 312

p. 1261

Min./max. length measuring range	Digit increment (mm)	Length of jaw (mm)	Measuring surface thickness (mm)	Min. internal length (mm)	31191... Ident. No.	
10-160 mm	0.01	25	0.9	10	312	●
20-160 mm	0.01	40	2	20	322	●

Prod. Gr. 3CA

Spare battery see no. 56815 210 page 1682

ATORN Electronic universal vernier calipers set IP67

With interchangeable gauge slides M2.5

multiCOM IP 67 A

Application:
For measuring various internal and external dimensions.

Execution:
- ON/OFF
- Zero setting at any position
- mm/inch changeover
- AUTO OFF
- Preset function
- ABS function

Advantage:
- Button locking prevents inadvertent adjustments
- Switched on by moving the slider
- Suitable for a wide range of measuring applications due to exchangeable M2.5 gauge slides

Delivery:
in a wooden case, with 2 pairs of gauge slides (ball Ø 5 mm, end face Ø 4.8 mm) setting dimension, with battery (1 x 3 V lithium, type CR 2032)

p. 1261

Min./max. length measuring range	Digit increment (mm)	Length of jaw (mm)	31173... Ident. No.	
0-200 mm	0.01	40	900	●

Prod. Gr. 3CA

Spare battery see no 56815 210 page 1682

ATORN Electronic universal workshop callipers set IP65

With interchangeable gauge slides M2.5

multiCOM IP 65 A

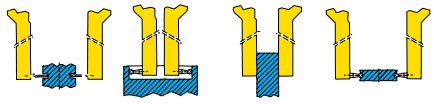
Application:
For measuring various internal and external dimensions.

Execution:
- ON/OFF
- Zero setting at any position
- mm/inch switch-over
- Auto off
- Preset function
- ABS function
- Keeptronic System
- HOLD function
- Suitable gauge slides no. 33149 ref. no. 150/140/100/180

Advantage:
- Key lock to prevent unintentional adjustment
- Switch on by moving the slider

Delivery:
With pairs of gauge slides in wooden case, with battery (1 x 3 V lithium, type CR 2032)

Ident. No. 130



Example applications

Min./max. length measuring range	Digit increment (mm)	Length of jaw (mm)	Min. internal length (mm)	31155... Ident. No.	
0-300 mm	0.01	90	40	130	●
0-500 mm	0.01	100	50	150	●

Prod. Gr. 3CA

Spare battery see no. 56815 210 page 1682

p. 1261

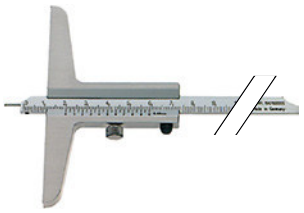
ATORN Vernier depth calliper (ISO 13385-2)

B

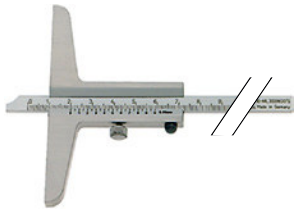
Application:
For measuring, e. g. bore depths, shoulders on workpieces etc.

Execution:
- Vernier scale and scale with anti-glare, brushed chromium plated finish
- Rails manufactured from one piece
- **No. 31216:**
  - Graduation on front and rear for refitting; side 1: with measuring pin; side 2: straight depth gauge
  - Stainless
- **No. 31276:** Graduation on front; straight depth gauge
- **No. 31276–31278:** rust-proof
- **No. 31278:** Graduation on front and rear for refitting; side 1: hook-shaped; side 2: straight depth gauge

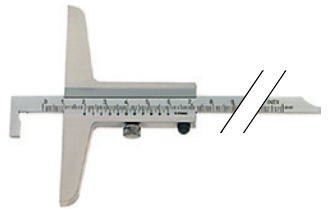
Delivery:
No. 31276–31278: In cardboard box



No. 31216
Rail for refitting



No. 31276



No. 31278
Rail for refitting

Min./max. length measuring range			0-150 mm	0-200 mm	0-300 mm	0-500 mm	0-500 mm	0-800 mm	0-1000 mm
Vernier scale			0.05 mm	0.05 mm	0.05 mm	0.05 mm	0.05 mm	0.05 mm	0.05 mm
Bridge length x bridge width			100 x 8 mm	100 x 8 mm	150 x 12 mm	150 x 12 mm	250 x 20 mm	250 x 20 mm	250 x 20 mm
	Type of locating								
31216...	With locking screw	Ident. No.	150 ●	200 ●	300 ●	-	-	-	-
31276...	With locking screw	Ident. No.	015 ●	020 ●	030 ●	050 ●	055 ●	075 ○	100 ○+
31278...	With locking screw	Ident. No.	015 ●	020 ●	030 ●	050 ●	-	-	-

Prod. Gr. 3CB

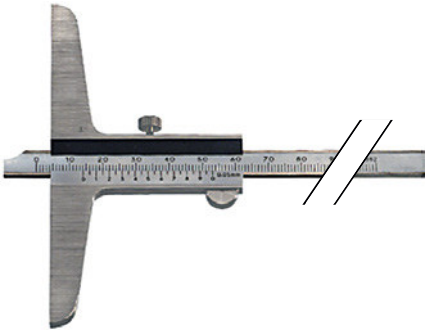
ORION® Depth callipers (ISO 13385-2)

B

Application:
For measuring, e. g. bore depths, shoulders on workpieces etc.

Execution:
- Vernier scale and scale with anti-glare, brushed chromium plated finish
- Rails manufactured from one piece
- Graduation on front

Delivery:
In cardboard box



Min./max. length measuring range			0-150 mm	0-200 mm	0-300 mm
Vernier scale			0.05 mm	0.05 mm	0.05 mm
Bridge length x bridge width			100 x 8.5 mm	100 x 8.5 mm	100 x 8.5 mm
	Type of locating				
31240...	With locking screw	Ident. No.	015 ●	020 ●	030 ●

Prod. Gr. 3BB

ATORN Electronic depth callipers (ISO 13385-2)

With three interchangeable gauge slides

IP67 multiCOM

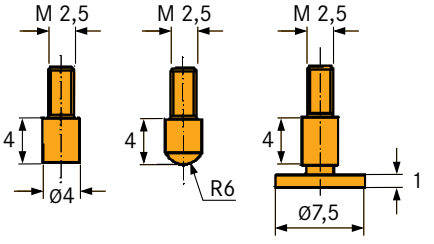
Application:
For universal measurement of depth, width, steps and distance dimensions.

Execution:
- ON/OFF
- Zero setting at any position
- mm/inch switch-over
- Auto off
- ABS function
- Keeptronic System
- Preset function

Advantage:
- Key lock to prevent unintentional adjustment
- Switch on by moving the slider

Delivery:
in a wooden case, with battery (1 x 3 V lithium, type CR 2032)

Technical data:
- Min./max. length measuring range: 0-100 mm
- Digit increment: 0.01 mm
- Bridge length x bridge width: 85 x 8.5 mm
- IP protection class: IP 67



	Data transmission type	Type of locating		
31288...	multiCOM	With locking screw	Ident. No.	012 ●

Prod. Gr. 3CC
Spare battery see no. 56815 210 page 1682

p. 1261

ORION® Electronic depth calliper (ISO 13385-2)

IP 40 B

Application:
For measuring, e. g. bore depths, shoulders on workpieces etc.

Execution:
- ON/OFF
- Zero setting at any position
- mm/inch switch-over
- ABS function

Delivery:
in a plastic case, with battery (1 x type SR44)

Technical data:
- Digit increment: 0.01 mm
- IP protection class: IP 40

Ident. No. 115

Min./max. length measuring range			0-150 mm	0-200 mm	0-300 mm	0-500 mm
Bridge length x bridge width			80 x 7 mm	100 x 7 mm	150 x 7 mm	150 x 9 mm
	Type of locating					
31295...	With locking screw	Ident. No.	115 ●	120 ●	130 ●	150 ●

Prod. Gr. 3BI

ORION® Electronic depth callipers (ISO 13385-2)

IP67

IP 67 B

Application:
For measuring, e. g. bore depths, shoulders on workpieces etc.

Execution:
- ON/OFF
- Zero setting at any position
- mm/inch switch-over

Delivery:
In plastic case with battery (1 x 3 V lithium type CR2032)

Technical data:
- Digit increment: 0.01 mm
- IP protection class: IP 67

Min./max. length measuring range			0-150 mm	0-300 mm
Bridge length x bridge width			100 x 7 mm	150 x 7 mm
	Type of locating			
31298...	With locking screw	Ident. No.	115 ●	130 ●

Prod. Gr. 3BI
Spare battery see no. 56815 210 page 1682

ORION® Electronic depth calliper (ISO 13385-2)

Lightweight design incl. 3 measuring bridges

IP 40 B

Application:
For measuring, e. g. hole depths, distances on workpieces etc.

Execution:
- Interchangeable depth gauge bases
- Measuring tip can be screwed into 90° offset mounts

Advantage:
- Internal double vee-block guide for optimum guidance and slide properties
- Replaceable blade tips M2.5

Delivery:
in case, spherical indicator contact point, depth gauge bases 150/300/450 mm, battery (1x type SR 44, 1.55 V)

Technical data:
- Digit increment: 0.01 mm
- Bridge length x bridge width: 150 x 13 mm
- IP protection class: IP 40
- Functions: With mm / inch switching | With zero setting at any position | On/Off

Min./max. length measuring range			0-300 mm	0-500 mm	0-800 mm
Error limit (mm)			0.04	0.05	0.06
	Type of locating				
31115...	With locking screw	Ident. No.	203 ●	205 ●	208 ○

Prod. Gr. 3BI

ORION® Electronic depth calliper (ISO 13385-2)

with sliding additional depth gauge bases

IP 40 | B

Application:
For measuring, e. g. hole depths, distances on workpieces etc.

Execution:
- Adjustable additional depth gauge base
- Additional depth gauge base self-locking in the desired position
- With interchangeable disc and spherical indicator contact point

Advantage:
- Internal double vee-block guide for optimum guidance and slide properties
- Replaceable blade tips M2.5

Delivery:
in case, spherical/disc indicator contact points, additional depth gauge base 350 mm, battery (1x type SR 44, 1.55 V)

Technical data:
- Digit increment: 0.01 mm
- Bridge length x bridge width: 150 x 16 mm
- IP protection class: IP 40
- Functions: With mm / inch switching | With zero setting at any position | On/Off

Min./max. length measuring range			0-200 mm	0-300 mm	0-500 mm	0-800 mm	0-950 mm
Error limit (mm)			0.03	0.04	0.05	0.06	0.06
	Type of locating						
31115...	With locking screw	Ident. No.	302 ●	303 ●	305 ○	308 ○	310 ○

Prod. Gr. 3BI

ATORN Small electronic depth calliper, IP67 (ISO 13385-2)

IP 67 | multiCOM

p. 1261

Application:
For measuring depths in small boreholes and at cramped measuring points, e.g tread pattern.

Execution:
- ON/OFF
- Zero setting at any position
- mm/inch switch-over
- Auto off
- ABS function
- Keeptronic System
- Preset function
- Overall length 122.5 mm

Advantage:
- Key lock to prevent unintentional adjustment
- Switched on by moving the slider

Delivery:
in a wooden case, with battery (1 x 3 V lithium, type CR 2032)

Technical data:
- Min./max. length measuring range: 0-25 mm
- Digit increment: 0.01 mm
- Bridge length x bridge width: 48 x 8 mm
- IP protection class: IP 67
- Depth gauge rod width: 2 mm
- With drive wheel: No
- With automatic shut off: Yes
- Functions: Preset function

	Data transmission type	Type of locating		
31283...	multiCOM	With locking screw	Ident. No.	012 ●

Prod. Gr. 3CC
Spare battery see no. 56815 210 page 1682

ORION® Small electronic depth callipers (ISO 13385-2)

IP 40 | B

Application:
For measuring depths in small boreholes and at cramped measuring points, e.g tread pattern.

Execution:
- ON
- Zero setting at any position
- mm/inch changeover
- Auto off
- Overall length 150 mm

Delivery:
In a case, with battery (1 x 3 V, type CR 2032)

Technical data:
- Min./max. length measuring range: 0-25 mm
- Digit increment: 0.01 mm
- Bridge length x bridge width: 60 x 6 mm
- IP protection class: IP 40

	Data transmission type	Type of locating		
31308...	No	With locking screw	Ident. No.	012 ●

Prod. Gr. 3BI

ATORN Measuring instrument sets
in dense foam insert in wooden case

Application:
Measuring instrument sets with different combinations of contents

Execution:
- Premium wooden box in German joiner quality
- Dense foam insert with recesses in the box base, recessed by 1 mm
- Dense foam insert recessed into the cover by 1 mm

Advantage:
- The most useful measuring instruments, combined in one set
- High-quality dense foam for shock-proof storage

Delivery:
in accordance with the contents of the set

Ident. No. 131

Ident. No. 161

Ident. No. 331

Ident. No. 361

Type	Number of pieces in assortment/set (PCS)	Composition of set	31320... Ident. No.	
ATORN measuring instrument set | basic	3	30054318 ATORN mechanical pocket vernier callipers 150 mm 30050043 ATORN mechanical outside micrometer 0-25 mm 30050034 ATORN stainless knife-edge square 100x70 mm	131	●
ATORN measuring instrument set | analogue | complete	7	30054318 ATORN mechanical pocket vernier callipers 150 mm 30050043 ATORN mechanical outside micrometer 0-25 mm 30050034 ATORN stainless knife-edge square 100x70 mm 31448070 ATORN stainless spring steel rule 150 mm 30380165 ATORN carbide spring divider 150 mm 30050011 ATORN straight edge 100 mm 30380117 ATORN carbide scriber	161	●
ATORN measuring instrument set | digital | basic	3	30403033 ATORN electronic pocket callipers 150 mm 30050043 ATORN mechanical outside micrometer 0-25 mm 30050034 ATORN stainless knife-edge square 100x70 mm	331	●
ATORN measuring instrument set | digital | complete	7	30403033 ATORN electronic pocket vernier callipers 150 mm 30050043 ATORN mechanical outside micrometer 0 - 25 mm 30050034 ATORN stainless knife-edge square 100x70 mm 31448070 ATORN stainless spring steel ruler 150 mm 30380165 ATORN tungsten carbide spring divider 150 mm 30050011 ATORN straight edge 100 mm 30380117 ATORN tungsten carbide scriber	361	●

Prod. Gr. 303

ATORN Empty wooden box
for 1/3 size dense foam inserts

Application:
Empty wooden box for storing small objects and hard foam inserts

Execution:
- Suitable for standard 1/3 hard foam inserts
- Solid beech frame
- Birch veneer bottom panel and cover
- Brass-plated hinges and fasteners
- Box exterior with natural-coloured paint finish, interior and bottom panel not painted

Advantage:
- Can be combined with standard 1/3 hard foam inserts
- Empty box as a starting point for individual configurations
- High-quality design, German carpenter quality

Notes:
Interior height of 41 mm is divided into interior-bottom panel height of 31 mm and interior-cover height of 11 mm

NEW

Internal length x internal width x internal height		172 x 345 x 42 mm
31320...	Ident. No.	070 ●

Prod. Gr. 3AC

Measuring instrument set
13-piece

Application:
HAHN+KOLB measuring instrument set for metal-workers and mechanics

Execution:
- with ATORN and ORION measuring instruments

Advantage:
- Ideal starter set for trainees

Number of pieces in assortment/set (PCS)		13
Composition of set		31003011 ATORN pocket vernier callipers 150 mm | 31240015 ORION depth vernier callipers 150 mm | 31330005 ORION outside micrometer 0-25 mm | 35010200 ORION spring divider 175 mm | 35053020 ORION marking gauge 200 mm | 36130010 ORION radius gauges R 1-7.5 mm | 36131010 ORION radius gauges R 7.5-15 mm | 37101030 ORION scale 300 mm | 37550010 ATORN straight edge 100 mm | 38052015 ATORN try square 150 x 100 mm | 38125005 ATORN knife-edge square 50 x 40 mm | 38217012 ORION manual-reading protractor 120 x 150 mm | 51315500 ORION scriber 160 mm
38170...	Ident. No.	013 ●

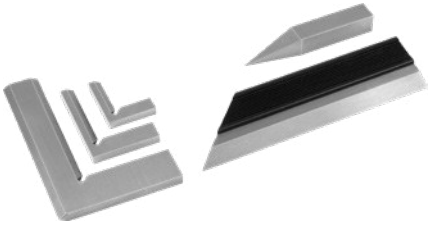
Prod. Gr. 3AF

ATORN Measuring instrument set
5-piece

Execution:
- Straight edge 100 mm, knife-edge square 75 x 50 mm, 1 incision square each 40 x 28 mm and 25 x 20 mm, gauge block scriber 60 x 8 x 8 mm

Delivery:
In a case

Technical data:
- Number of pieces in assortment/set: 5 PCS
- Composition of set: Straight edge 100 mm, knife-edge square 75x50 mm, precision square 25x20 mm and 40x28 mm, gauge block scriber



38170...	Ident. No.	006 ●

Prod. Gr. 3AF

ATORN Micrometers (DIN 863)

D D/E

Application:
For measuring e. g. shaft diameters, external dimensions on workpieces etc.

Execution:
- Scale with anti-glare, brushed chromium plated finish
- Carbide measuring faces
- Friction coupling for consistent, repeatable measuring force
- Steel bracket, brushed chromium-plated
- Article 31342005 without setting gauge

Delivery:
In case with setting gauges

Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm
Vernier scale		0.01 mm	0.01 mm	0.01 mm	0.01 mm
Measuring surface Ø (mm)		6.5	6.5	6.5	6.5
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5
Bracket depth (mm)		26	32	45	58
31342...	Ident. No.	005 ●	025 ●	050 ●	075 ●

Prod. Gr. 3AD

ATORN Micrometer set (DIN 863)

0-100 mm

D/E

Min./max. length measuring range		0-100 mm
Measuring spindle increments (mm)		0.5
Measuring surface Ø (mm)		6.5
Vernier scale		0.01 mm
31342...	Ident. No.	400 ●

Prod. Gr. 3AD

ATORN Outside micrometer non-rotating spindle (DIN 863)

D

HIGHLIGHT

Application:
For measurements on scratch-prone measuring points. Also suitable for mounting adapters, e.g. thread measurement wires.

Execution:
- Anti-glare, matt chrome-plated finish on reading elements
- Tungsten carbide measuring surfaces
- Friction coupling for consistently repeatable measuring force of 5-10 N
- With spindle clamp
- Handle prevents transfer of heat from the hands
- Non-rotating measuring spindle

Advantage:
- Extremely stable frame. Bending deflection superior to the requirements of DIN 863.
- Very high-contrast and durable scale, sharply recessed and black

Delivery:
Supplied in a high-quality wooden case

Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm
Vernier scale		0.005 mm	0.005 mm	0.005 mm	0.005 mm
Measuring surface Ø (mm)		8	8	8	8
Measuring arrangement		Flat	Flat	Flat	Flat
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5
31550...	Ident. No.	290 ●	300 ○	310 ○	320 ○

Prod. Gr. 3AD

ORION Micrometers (DIN 863)

Application:
For measuring e. g. shaft diameters, external dimensions on workpieces etc.

Execution:
- Scale with anti-glare, brushed chromium plated finish
- Carbide measuring faces
- Friction coupling for consistent, repeatable measuring force
- **Ident. No. 005–175:** Steel bracket, brushed chromium-plated
- **Ident. No. 200–275:** Cast iron bracket, painted, with weight-reducing bores

Delivery:
In case with setting gauges

Notes:
Ident. No. 005–175: Article 31330005 without setting gauge

Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm	100-125 mm	125-150 mm	150-175 mm	175-200 mm
Vernier scale		0.01 mm	0.01 mm	0.01 mm	0.01 mm	0.01 mm	0.01 mm	0.01 mm	0.01 mm
Measuring surface Ø (mm)		6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
31330...	Ident. No.	005 ●	025 ●	050 ●	075 ●	100 ●	125 ●	150 ●	175 ●

Min./max. length measuring range		200-225 mm	225-250 mm	250-275 mm	275-300 mm
Vernier scale		0.01 mm	0.01 mm	0.01 mm	0.01 mm
Measuring surface Ø (mm)		6.5	6.5	6.5	6.5
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5
31330...	Ident. No.	200 ●	225 ●	250 ●	275 ●

Prod. Gr. 3BC

ORION® Micrometer sets 0-150 mm (DIN 863)

Min./max. length measuring range		0-100 mm	0-150 mm
Vernier scale		0.01 mm	0.01 mm
Number of bracket measuring screws		4	6
Number of setting dimensions		3	5
Measuring surface Ø (mm)		6.5	6.5
Measuring spindle increments (mm)		0.5	0.5
31331...	Ident. No.	100	150
		●	●

Prod. Gr. 3BC

Ident. No. 100

ORION® Micrometers (DIN 863)

with 6 replaceable measuring anvils with 25 mm increment

Application:
For measuring e. g. shaft diameters, external dimensions on workpieces etc.

Execution:
- Scale with anti-glare, brushed chromium plated finish
- Carbide measuring faces
- Friction coupling for consistent, repeatable measuring force
- Including setting gauges 25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275 mm

Advantage:
- Measuring spindle increment: 1 mm (direct 1/100 reading for prevention of reading errors, no need to add the 0.5 mm value)

Delivery:
In case with setting gauges

Min./max. length measuring range		0-150 mm	150-300 mm
Vernier scale		0.01 mm	0.01 mm
Number of bracket measuring screws (PCS)		1	1
Number of setting dimensions (PCS)		5	6
Measuring surface Ø (mm)		8	8
Measuring spindle increments (mm)		1	1
31344...	Ident. No.	015	030
		●	●

Prod. Gr. 3BC

Hartig Large micrometers (DIN 863)

Measuring range up to 1000 mm

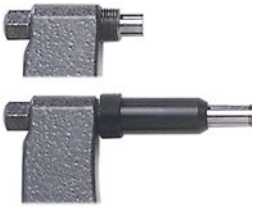
Application:
For measuring e. g. shaft diameters, external dimensions on workpieces etc.

Execution:
- Scale with anti-glare, brushed chromium plated finish
- Carbide measuring faces
- Friction coupling for consistent, repeatable measuring force
- Robust, light metal bracket
- Measuring spindle hardened and ground from one piece
- Bolted hand-warmth insulation plates

Advantage:
- Measuring spindle increment: 1 mm (direct 1/100 reading for prevention of reading errors, no need to add the 0.5 mm value)
- **Ident. No. 130–200:** 50 mm spindle travel and 50 mm gauge block extension results in 100 mm application range

Delivery:
In high-quality wooden case

Ident. No. 130–200



Min./max. length measuring range	Vernier scale	Measuring surface Ø (mm)	Measuring spindle increments (mm)	31345... Ident. No.	
100-125 mm	0.01 mm	8	1	050	○
125-150 mm	0.01 mm	8	1	060	○
150-175 mm	0.01 mm	8	1	070	○
175-200 mm	0.01 mm	8	1	080	○
200-225 mm	0.01 mm	8	1	090	○
225-250 mm	0.01 mm	8	1	100	○
250-275 mm	0.01 mm	8	1	110	○
275-300 mm	0.01 mm	8	1	120	○
200-300 mm	0.01 mm	10	1	130	○
300-400 mm	0.01 mm	10	1	140	●
400-500 mm	0.01 mm	10	1	150	●
500-600 mm	0.01 mm	10	1	160	○
600-700 mm	0.01 mm	10	1	170	○
700-800 mm	0.01 mm	10	1	180	○
800-900 mm	0.01 mm	10	1	190	○
900-1000 mm	0.01 mm	10	1	200	○

Prod. Gr. 316

ORION® Electronic micrometer (DIN 863)

IP 40

Application:
For measuring e. g. shaft diameters, external dimensions on workpieces etc.

Execution:
- Carbide measuring faces
- Advanced friction coupling for consistent, repeatable measuring force
- ON/OFF
- Zero setting at any position
- mm/inch switch-over

Delivery:
In a case, with battery (1 x type SR 44, 1.55 V), 1 setting gauge from size 25–50 mm

Technical data:
- Digit increment: 0.001 mm
- Measuring surface diameter: 6.5 mm
- Measuring spindle increments: 0.5 mm

Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm
31406...	Ident. No.	005 ●	025 ●	050 ●	075 ●

Prod. Gr. 3BJ

ORION® Electronic micrometer set (DIN 863)

0-100 mm

IP 40

Technical data:
- Min./max. length measuring range: 0-100 mm
- Digit increment: 0.001 mm
- Number of bracket measuring screws: 4
- Measuring surface diameter: 6.5 mm
- Measuring spindle increments: 0.5 mm

31406...	Ident. No.	400 ●

Prod. Gr. 3BJ

TESA TECHNOLOGY Electronic micrometer (DIN 863)

MICROMASTER IP54

IP 40 | Opto RS 232 | IP 54

No. 31407

p. 1262

Application:
For measuring e. g. shaft diameters, external dimensions on workpieces etc.

Execution:
- advanced friction clutch for consistent, repeatable measuring force
- Display blocking function (excluding Easy model)

Delivery:
In a case, with battery (1 x 3 V lithium, type CR 2032)

Technical data:
- Digit increment: 0.001 mm
- Measuring surface diameter: 6.5 mm
- Measuring spindle increments: 0.5 mm
- Functions: Spindle clamping | With zero setting at any position | With mm / inch switching | Automatic switch-off | ABS function | Preset function
- Material of measuring bolt: Carbide

Min./max. length measuring range			0-30 mm	25-50 mm	50-75 mm	75-100 mm
31407...	MICROMASTER EASY IP40	Ident. No.	005 ●	-	-	-
31408...	MICROMASTER IP54 without data output	Ident. No.	005 ●	025 ●	050 ●	075 ●
31409...	MICROMASTER IP54 with data output	Ident. No.	005 ●	025 ●	050 ○	075 ○

Prod. Gr. 362

Mahr Electronic micrometers without data output

Micromar 40 ER/EWR

IP 40

Application:
for measuring e.g. shaft diameters, external dimensions of workpieces etc.

Execution:
- carbide-tipped measuring faces
- RESET (resetting the display)
- ABS (display can be set to zero without losing the reference to the ORIGIN)
- mm/inch changeover
- LOCK function (keypad lock)
- HOLD (measured value storage)

Advantage:
- Digit height 10 mm

Delivery:
Operating instructions, battery, setting gauge (from a measuring range of 25–50 mm), travel case

Technical data:
- Min./max. length measuring range: 0-25 mm
- Digit increment: 0.001 mm
- Measuring surface diameter: 6.5 mm
- Measuring arrangement: Standard
- Measuring spindle increments: 0.5 mm
- Bracket depth: 24 mm
- Functions: Reset (Zeroing the display) | ABS function | With mm / inch switching | Origin (Dimension preset) | Lock-function (Keybord lock) | Hold-function (AE lock)
- Material of measuring bolt: Carbide
- Digit height: 10 mm

31403...	IP 40 / ER	Ident. No.	006 ●

Prod. Gr. 305

Mitutoyo Electronic micrometers (DIN 863)

QuantuMike IP65

DIGIMATIC IP 65

NEW

Ident. No. 025

p. 1263

Application:
For measuring e.g. shaft diameters, external dimensions on workpieces etc.

Execution:
- Carbide-tipped measuring surfaces
- ABS function
- HOLD (measured value storage)
- Origin (measurement presetting)
- with ratchet thimble
- Tolerance value setting with evaluation
- S1 bi-directional Digimatic data output

Advantage:
- Warning function in the event of excessive approach speed
- Calculation function (Ax+B): The magnitude of the deviation from the machine processing target value and the machine compensation value can be read directly
- Calibration plan warning
- Serial number of the measuring instrument can be read out via the interface
- Settings can be changed on the PC

Delivery:
Includes box, wrench, battery, setting standard (from 25 mm), up to 50 mm measuring range with factory test certificate

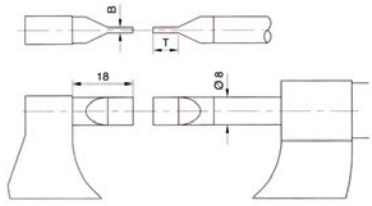
Technical data:
- Digit increment: 0.001 mm
- Measuring surface diameter: 6.35 mm
- Measuring arrangement: Standard
- Measuring spindle increments: 2 mm
- Material of measuring bolt: Carbide
- Digit height: 7.5 mm

Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm
31420...	Ident. No.	025 ●	050 ●	075 ○	100 ○

Prod. Gr. 3MA

ATORN Micrometer
with narrow measuring surfaces

D



Application:
For measuring narrow external recesses.

Execution:
- Scale with anti-glare, brushed chromium plated finish
- Measuring faces made of hardened steel
- Friction coupling for consistent, repeatable measuring force
- Non-rotating measuring spindle

Advantage:
- Accesses hard-to-reach measuring points

Delivery:
In a wooden case

Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm
Vernier scale		0.01 mm	0.01 mm	0.01 mm	0.01 mm
Measuring surface depth (mm)		4	4	7	7
Measuring arrangement		Cutting edge	Cutting edge	Cutting edge	Cutting edge
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5
Measuring surface width x Measuring surface depth		0.4 x 4 mm	0.4 x 4 mm	0.75 x 7 mm	0.75 x 7 mm
31550...	Ident. No.	005 ●	025 ●	051 ●	076 ○

Prod. Gr. 3AD

ATORN Micrometer (DIN 863)
with 30 degree tips

D

HIGHLIGHT

Application:
For measurement in small recesses, hard-to-reach places and on very small surfaces.

Execution:
- Anti-glare, matt chrome-plated finish on reading elements
- Carbide measuring surfaces
- Friction coupling for consistently repeatable measuring force of 5-10 N
- With spindle clamp
- Handle prevents transfer of heat from the hands

Advantage:
- Extremely stable frame. Better bending than required by DIN 863.
- Very high-contrast and durable scale, sharply recessed and black

Delivery:
Supplied in a high-quality wooden case

Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm
Vernier scale		0.01 mm	0.01 mm	0.01 mm	0.01 mm
Measuring surface Ø (mm)		6.5	6.5	6.5	6.5
Measuring arrangement		Cone tip (SR0.3)	Cone tip (SR0.3)	Cone tip (SR0.3)	Cone tip (SR0.3)
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5
Angle of the tip (Degree)		30	30	30	30
31550...	Ident. No.	210 ●	220 ○	230 ○	240 ○

Prod. Gr. 3AD

ATORN Micrometer (DIN 863)
with offset measuring surfaces

D

HIGHLIGHT

Application:
For measurement in narrow recesses, grooves and external recesses.

Execution:
- Anti-glare, matt chrome-plated finish on reading elements
- Carbide measuring surfaces
- Friction coupling for consistently repeatable measuring force of 5-10 N
- With spindle clamp
- Handle prevents transfer of heat from the hands

Advantage:
- Extremely stable frame. Better bending than required by DIN 863.
- Very high-contrast and durable scale, sharply recessed and black

Delivery:
Supplied in a high-quality wooden case

Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm
Vernier scale		0.01 mm	0.01 mm	0.01 mm	0.01 mm
Measuring surface Ø (mm)		3	3	3	3
Measuring surface depth (mm)		10	10	10	10
Measuring arrangement		Deposed	Deposed	Deposed	Deposed
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5
31550...	Ident. No.	250 ●	260 ○	270 ○	280 ○

Prod. Gr. 3AD

ATORN Micrometer (DIN 863)

for measuring crimp contacts

D

HIGHLIGHT

Application:
For measuring cable lugs and crimp contacts

Execution:
- Anti-glare, matt chrome-plated finish on reading elements
- Measuring surfaces made of hardened steel
- Friction coupling for consistently repeatable measuring force of 5-10 N
- With spindle clamp
- Handle prevents transfer of heat from the hands

Advantage:
- Extremely stable frame. Better bending than required by DIN 863.
- Very high-contrast and durable scale, sharply recessed and black

Delivery:
Supplied in a high-quality wooden case

Min./max. length measuring range		0-25 mm
Vernier scale		0.01 mm
Measuring surface Ø (mm)		6.5
Measuring surface depth (mm)		3
Measuring arrangement		Crimp contact
Measuring spindle increments (mm)		0.5
Angle of the tip (Degree)		60
Measuring surface width x Measuring surface depth		0.7 x 3 mm
31550...	Ident. No.	200 ●

Prod. Gr. 3AD

ATORN Snap gauge micrometer (DIN 863)

With 2 spindles stacked on top of each other

D

HIGHLIGHT

Application:
The snap gauge micrometer can be used to cost-effectively replace many individual,
fixed snap gauges
with fits up to IT7. An even higher accuracy is obtained when
setting the dimensions with parallel gauge blocks.

Execution:
- Anti-glare, matt chrome-plated finish on reading elements
- Carbide measuring surfaces
- Friction coupling for consistently repeatable measuring force of 5-10 N
- With spindle clamp
- Handle prevents transfer of heat from the hands
- Two independent measuring spindles mounted on top of each other

Advantage:
- Extremely stable frame. Better bending than required by DIN 863.
- Very high-contrast and durable scale, sharply recessed and black
- Replaces multiple snap gauges within the measurement range

Delivery:
Supplied in a high-quality wooden case

Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm	100-125 mm	125-150 mm
Vernier scale		0.01 mm	0.01 mm	0.01 mm	0.01 mm	0.01 mm	0.01 mm
Measuring surface Ø (mm)		8	8	8	8	8	8
Measuring arrangement		Flat	Flat	Flat	Flat	Flat	Flat
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5	0.5	0.5
31550...	Ident. No.	370 ●	380 ●	390 ○	400 ○	410 ○	420 ○

Prod. Gr. 3AD

ATORN Thread micrometer (DIN 863)

For measuring male threads

Application:
For measuring flanks and outside diameters on male threads.

Execution:
- Scale with anti-glare, brushed chromium plated finish
- Location hole, diameter 3.5 mm

Advantage:
- Direct measurement of flank diameter
- Replaceable thread inserts

Delivery:
In wooden case, gauge slides and setting gauges not included

Notes:
Inserts for Whitworth and trapezoidal threads deliverable on request

Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm	100-125 mm	125-150 mm	150-200 mm
Vernier scale		0.01 mm	0.01 mm	0.01 mm	0.01 mm	0.01 mm	0.01 mm	0.01 mm
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5	0.5	0.5	0.5
Spindle clamping		Yes	Yes	Yes	Yes	Yes	Yes	Yes
31579...	Ident. No.	005 ●	025 ●	050 ●	075 ●	100 ●	125 ●	150 ○

Prod. Gr. 3AD
Setting gauges available on request

ATORN Thread flank gauge slides

Metric, UNC and UNF 60°, Whitworth 55° and trapezoidal 30°

G

Execution:
- Hardened steel, fine ground
- For use in thread micrometer no. 31579.

Delivery:
In pairs (prism and tip)

Ident. No. 001–006
Tip

Prism

		Adapter Ø (mm)	3.5	
Min./max. pitch	Number of thread starts per inch	Angle (Degree)	31581... Ident. No.	
0.35-0.5 mm	72-48	60	001	●
0.6-0.8 mm	44-32	60	002	●
0.9-1.25 mm	28-18	60	003	●
1.5-2 mm	16-11	60	004	●
2.5-3.5 mm	10-7	60	005	●
4-6 mm	6-4	60	006	●
-	60-48	55	101	○
-	40-32	55	102	○
-	28-22	55	103	○
-	20-16	55	104	○

		Adapter Ø (mm)	3.5	
Min./max. pitch	Number of thread starts per inch	Angle (Degree)	31581... Ident. No.	
-	14-11	55	105	○
-	10-7	55	106	○
-	6-4	55	107	○
1.5-1.5 mm	-	30	201	○
2-2 mm	-	30	202	○
3-3 mm	-	30	203	○
4-4 mm	-	30	204	○
5-6 mm	-	30	205	○
7-8 mm	-	30	206	○
9-10 mm	-	30	207	○

Prod. Gr. 3AD

ATORN Thread setting gauges

Metric, UNC and UNF 60°, Whitworth 55°

Application:
For adjusting thread micrometers.

Execution:
- **Ident. No. 025–175:** With handle to prevent transfer of heat from the hands, consecutive ID numbers

Ident. No. 025

Length (mm)		25	50	75	100	125	175	25	50	75
Angle (Degree)		60	60	60	60	60	60	55	55	55
31580...	Ident. No.	025 ●	050 ●	075 ●	100 ○	125 ○	175 ○	325 ○	350 ○	375 ○

Prod. Gr. 3AD

ORION® Micrometer (DIN 863)

Small measuring faces

Application:
For measuring narrow external recesses and grooves.

Execution:
- Scale with anti-glare, brushed chromium-plated finish

- Carbide-tipped measuring faces
- Friction coupling for consistent, repeatable measuring force

Delivery:
In case

Ident. No. 105

Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm
Vernier scale		0.01 mm	0.01 mm	0.01 mm	0.01 mm
Measuring surface Ø (mm)		2	2	2	2
Measuring surface depth (mm)		5	5	5	5
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5
31464...	Ident. No.	105 ●	125 ●	150 ●	175 ●

Prod. Gr. 3BC

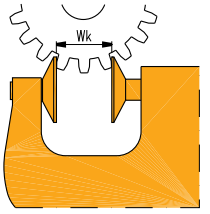
ORION® Micrometer (DIN 863)

with disc-shaped measuring surfaces

Application:
For measuring tooth span (Wk) on cogs as of module 0.5, for recesses, groove distances etc.

Execution:
- Anti-glare, matt chrome-plated finish reading elements
- Measuring faces made of hardened steel
- Friction coupling for consistent, repeatable measuring force

Delivery:
In a case



Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm
Vernier scale		0.01 mm	0.01 mm	0.01 mm	0.01 mm
Measuring surface Ø (mm)		20	20	20	20
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5
31531...	Ident. No.	005 ●	025 ●	050 ●	075 ●

Prod. Gr. 3BC

ORION® Electronic micrometer (DIN 863)

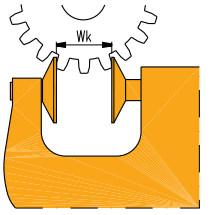
with disc-shaped measuring surfaces

IP 40

Application:
For measuring tooth span (Wk) on cogs as of module 0.5, for recesses, groove distances etc.

Execution:
- Measuring faces made of hardened steel
- Advanced friction coupling for consistent, repeatable measuring force
- ON/OFF
- Zero setting at any position
- mm/inch switch-over
- ABS function

Delivery:
In a case, with battery (1 x 1.5 V type SR44)



Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm
Digit increment (mm)		0.001	0.001	0.001	0.001
Measuring surface Ø (mm)		20	20	20	20
Measuring arrangement		Plate	Plate	Plate	Plate
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5
31610...	Ident. No.	005 ●	025 ●	050 ●	075 ●

Prod. Gr. 3BJ

ORION® Electronic universal micrometer (DIN 863)

with 7 interchangeable gauge slide pairs

IP 40

Application:
For measuring various external dimensions.

Execution:
- Measuring faces made of hardened steel
- Advanced friction coupling for consistent, repeatable measuring force
- ON/OFF
- Zero setting at any position
- mm/inch switch-over
- ABS function

Delivery:
In a case, with battery (1 x 1.5 V type SR44)

Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm
Digit increment (mm)		0.001	0.001	0.001	0.001
Measuring surface Ø (mm)		8	8	8	8
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5
31620...	Ident. No.	005 ●	025 ●	050 ●	075 ●

Prod. Gr. 3BC

ATORN Micrometer heads (DIN 863)

Precision design

Application:
Particularly suitable for fine adjustment and movement of cross tables, lenses, laser accessories and devices.

Execution:
- Anti-glare, matt chrome-plated finish on reading elements

Advantage:
- Very high-contrast and durable scale, sharply recessed and black

Delivery:
in a plastic bag

HIGHLIGHT

Min./max. length measuring range	Vernier scale	Measuring surface Ø (mm)	Measuring arrangement	Clamp in shank Ø (mm)	Clamping shank length (mm)	Material of measuring bolt	Scale drum Ø (mm)	Measuring spindle increments (mm)	31550... Ident. No.	
0-5 mm	0.01 mm	3.5	Flat	6	6	Steel	9.5	0.5	100	●
0-5 mm	0.01 mm	3.5	Spherical (SR3)	6	6	Steel	9.5	0.5	110	●
0-15 mm	0.01 mm	5	Flat	9.5	9.5	Steel	15	0.5	120	●
0-15 mm	0.01 mm	5	Spherical (SR4)	9.5	9.5	Steel	15	0.5	130	●
0-25 mm	0.01 mm	6.5	Spherical	12	16	Carbide	20	0.5	140	●

Prod. Gr. 3AD

ATORN Micrometer heads with large thimble (DIN 863)

Precision design

Application:
Particularly suitable for fine adjustment and movement of cross tables, lenses, laser accessories and devices.

Execution:
- Anti-glare, matt chrome-plated finish on reading elements
- With large thimble

Advantage:
- Very high-contrast and durable scale, sharply recessed and black
- Finer scaling is possible due to large thimble diameter

Delivery:
in a plastic bag

HIGHLIGHT

Min./max. length measuring range	Vernier scale	Measuring surface Ø (mm)	Measuring arrangement	Clamp in shank Ø (mm)	Clamping shank length (mm)	Material of measuring bolt	Scale drum Ø (mm)	Measuring spindle increments (mm)	31550... Ident. No.	
0-50 mm	0.01 mm	7	Flat	12	16	Carbide	30	1	160	●
0-50 mm	0.005 mm	7	Flat	12	16	Steel	30	0.5	170	●
0-50 mm	0.005 mm	7	Flat	12	16	Carbide	30	0.5	180	●

Prod. Gr. 3AD

ATORN Micrometer heads with friction clutch (DIN 863)

Precision design

Application:
Particularly suitable for use as a measuring element in devices.

Execution:
- Anti-glare, matt chrome-plated finish on reading elements
- Friction coupling for consistently repeatable measuring force of 5-10 N

Advantage:
- Very high-contrast and durable scale, sharply recessed and black

Delivery:
in a plastic bag

HIGHLIGHT

Min./max. length measuring range	Vernier scale	Measuring surface Ø (mm)	Measuring arrangement	Clamp in shank Ø (mm)	Clamping shank length (mm)	Coupling design	Material of measuring bolt	Scale drum Ø (mm)	Measuring spindle increments (mm)	31550... Ident. No.	
0-25 mm	0.01 mm	6.5	Spherical	12	16	Friction Clutch	Carbide	20	0.5	150	●

Prod. Gr. 3AD

ATORN Micrometer heads with non-rotating spindle (DIN 863)

Precision design

Application:
Particularly suitable for use as a measuring element in devices. For measurements on scratch-prone measuring points. Also suitable for mounting adapters, e.g. thread measurement wires.

Execution:
- Anti-glare, matt chrome-plated finish on reading elements
- Friction coupling for consistently repeatable measuring force of 5-10 N
- Non-rotating measuring spindle

Advantage:
- Very high-contrast and durable scale, sharply recessed and black
- Clamping shank with more accurate h6 fit for greater accuracy in devices

Delivery:
in a plastic bag

HIGHLIGHT

Min./max. length measuring range	Vernier scale	Measuring surface Ø (mm)	Measuring arrangement	Clamp in shank Ø (mm)	Clamping shank length (mm)	Coupling design	Material of measuring bolt	Scale drum Ø (mm)	Measuring spindle increments (mm)	31550... Ident. No.	
0-25 mm	0.01 mm	8	Flat	12	16	Friction Clutch	Carbide	20	0.5	190	○

Prod. Gr. 3AD

ORION® Micrometer heads

Application:
For installation in measuring instruments and presetters, as a setting and control element on machine tools, for fine adjustment of cross tables

Execution:
- hardened spindle
- anti-glare, brushed chromium-plated measuring drum

Ident. No. 013

Min./max. length measuring range	Scale value (mm)	Clamp in shank Ø (mm)	Measuring spindle increments (mm)	Material of measuring bolt	31450... Ident. No.	
0-6.5 mm	0.01	6	0.5	Steel	006	●
0-13 mm	0.01	9.5	0.5	Steel	013	●
0-25 mm	0.01	9.5	0.5	Steel	025	●

Prod. Gr. 3BB

ATORN Precision pointer snap gauges

Application:
For precise testing of cylindrical parts in series.

Execution:
- Carbide measuring faces
- Spring-mounted anvil
- Consistent, repeatable measuring force

Delivery:
In case, without precision pointer

Min./max. length measuring range		0-25 mm	0-50 mm	50-100 mm
Measuring sensor travel (mm)		3	3	3
Measuring surface Ø (mm)		8	8	8
Shank Ø (mm)		8	8	8
Spindle clamping		Yes	Yes	Yes
31935...	Ident. No.	025 ●	050 ●	100 ●

Prod. Gr. 3AD

ATORN Precision pointer snap gauges (DIN 863)
Precision design

AN

HIGHLIGHT

Application:
For accommodating a dial gauge, precision pointer or inductive sensor to carry out fast comparison measurements in series.

Execution:
- Anti-glare, matt chrome-plated finish on reading elements
- Carbide measuring surfaces
- With spindle clamp
- Handle prevents transfer of heat from the hands
- Shank holder dia. 8 for measuring instruments
- Lever lift-off on the anvil with a 2.5 mm stroke
- Constant, consistent measuring force

Advantage:
- Extremely stable frame. Better bending than required by DIN 863.
- Very high-contrast and durable scale, sharply recessed and black

Min./max. length measuring range		0-25 mm	25-50 mm	50-75 mm	75-100 mm
Vernier scale		0.005 mm	0.005 mm	0.005 mm	0.005 mm
Measuring surface Ø (mm)		8	8	8	8
Measuring arrangement		Flat	Flat	Flat	Flat
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5
31550...	Ident. No.	330 ●	340 ●	350 ○	360 ○

Prod. Gr. 3AD

Mahr Precision pointer snap gauges
Marameter 840F

Application:
For precise testing of cylindrical parts in series.

Execution:
- Carbide measuring faces
- Spring-mounted anvil
- Consistent, repeatable measuring force
- Forged steel bracket
- Measuring and counter probe made from stainless, hardened steel
- Adjustable centring stop

Delivery:
In wooden box, display unit not included

Min./max. length measuring range		0-25 mm	25-60 mm	50-100 mm	100-150 mm	150-200 mm
Measuring surface Ø (mm)		8	9	10	12	12
Shank Ø (mm)		8	8	8	8	8
31936...	Ident. No.	005 ●	025 ●	050 ●	100 ●	150 ○

Prod. Gr. 305

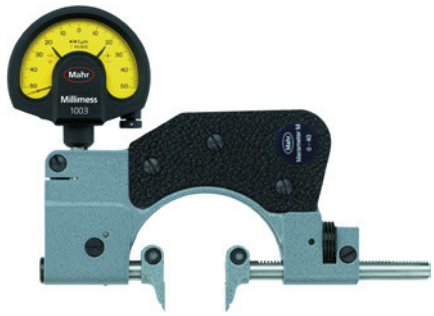
Mahr Precision pointer snap gauges

Marameter 840FM

Application:
For precise testing of tooth widths, narrow shoulders, etc.

Execution:
- Carbide measuring faces
- Spring-mounted anvil
- Consistent, repeatable measuring force
- Forged steel bracket
- Measuring and counter probe made from stainless, hardened steel

Delivery:
In wooden box, display unit not included



Min./max. length measuring range		0-40 mm	40-80 mm	80-130 mm	130-180 mm
Shank Ø (mm)		8	8	8	8
31937...	Ident. No.	005 ○	040 ○	080 ○	130 ○

Prod. Gr. 305

Mahr Precision pointer snap gauges

Marameter 840FS

Application:
For precise testing of cylindrical parts directly on the machine tool.

Execution:
- Carbide measuring faces
- Movable anvil spring-mounted on bottom
- Consistent, repeatable measuring force
- Forged steel bracket
- Both measuring probes made from stainless, hardened steel
- Adjustable centring stop

Delivery:
In wooden box, display unit not included

Notes:
Other sizes up to 500 mm available on request

Min./max. length measuring range		10-30 mm	30-60 mm	60-100 mm	100-150 mm	150-200 mm
Measuring surface Ø (mm)		17	17	20	20	20
Shank Ø (mm)		8	8	8	8	8
31938...	Ident. No.	010 ○	030 ○	060 ○	100 ○	150 ○

Prod. Gr. 305

ATORN precision pointer micrometers (DIN 863)

AN

Application:
For quick testing of parts from series production.

Execution:
- Adjustable tolerance marks
- Carbide measuring faces
- Movable measuring probe for lifting the anvil

Delivery:
In a case

Ident. No. 105

Min./max. length measuring range		0-25 mm	25-50 mm
Indicating calliper measuring range		+/- 0,065 mm	+/- 0,065 mm
Digit increment, micrometer (mm)		0.01	0.01
Digit increment, indicating calliper (mm)		0.001	0.001
Indicating calliper error limit (mm)		0.001	0.001
Measuring spindle increments (mm)		0.5	0.5
Spindle clamping		Yes	Yes
31471...	Ident. No.	105 ●	125 ○

Prod. Gr. 3AD

ORION precision pointer micrometers (DIN 863)

Application:
For quick testing of parts from series production.

Execution:
- Adjustable tolerance marks
- Carbide measuring faces
- Movable measuring probe for lifting the anvil
- Adjustable support
- Rotating dial

Delivery:
In a case

Min./max. length measuring range		0-25 mm
Indicating calliper measuring range		+/- 0.04 mm
Digit increment, micrometer (mm)		0.01
Measuring surface Ø (mm)		6.5
Digit increment, indicating calliper (mm)		0.001
Indicating calliper error limit (mm)		0.001
Measuring spindle increments (mm)		0.5
31477...	Ident. No.	005 ●

Prod. Gr. 3BC

ORION® Depth caliper (DIN 863)

Application:
For measuring bore depths and shoulders.

Execution:
- Scale with anti-glare, brushed chromium plated finish
- Steel measuring needles hardened and lapped
- Measuring range per measuring needle: 25 mm
- Advanced friction coupling

Delivery:
In a case

Technical data:
- Digit increment: 0.01 mm
- Bridge length: 102 mm
- Bridge width: 17 mm
- Measuring surface diameter: 4.5 mm
- Measuring spindle increments: 0.5 mm
- Spindle clamping: Yes

Min./max. length measuring range	Number of measurement needles (PCS)	31630... Ident. No.	
0-100 mm	4	100	●
0-150 mm	6	150	●

Prod. Gr. 3BB

ORION® Electronic depth micrometer (DIN 863)

Application:
For measuring bore depths and shoulders.

Execution:
- ON/OFF
- Steel measuring needles hardened and lapped
- Measuring range per measuring needle: 25 mm
- Advanced friction coupling
- Zero setting at any position
- mm/inch switch-over

Delivery:
In a case, with battery (1 x 1.5 V type SR44)

Min./max. length measuring range		0-100 mm
Digit increment (mm)		0.001
Bridge length (mm)		100
Bridge width (mm)		16
Measuring surface Ø (mm)		4.5
Measuring spindle increments (mm)		0.5
Spindle clamping		Yes
Number of measurement needles (PCS)		4
31633...	Ident. No.	100 ●

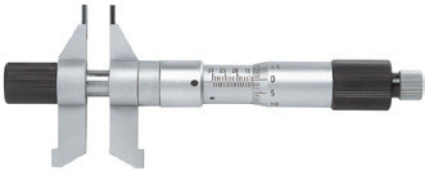
Prod. Gr. 3BB

ATORN Internal micrometers (DIN 863)
with measuring jaws

Application:
For measuring e.g. bores during turning, milling and grinding processes.

Execution:
- Scale with anti-glare, brushed chromium plated finish
- Ball bearing measuring spindle
- Carbide measuring faces
- Advanced friction coupling for consistent, repeatable measuring force
- Internal double-sided scale sleeve

Delivery:
In a wooden case



Min./max. length measuring range		5-55 mm
Error limit (µm)		2.5
Vernier scale		0.01 mm
Measuring depth (mm)		23
Measuring spindle increments (mm)		0.5
31635...	Ident. No.	010 ●

Prod. Gr. 316

ORION® Internal micrometer (DIN 863)
Dual measuring spouts

Application:
For measuring e.g. bores during turning, milling and grinding processes.

Execution:
- Scale with anti-glare, brushed chromium plated finish
- Measuring faces made of hardened steel
- Friction coupling for consistent, repeatable measuring force
- Internal double-sided scale sleeve

Delivery:
In case with setting ring, diameter 30 mm

Min./max. length measuring range		5-55 mm
Vernier scale		0.01 mm
Measuring spindle increments (mm)		0.5
31640...	Ident. No.	010 ●

Prod. Gr. 3BB

ATORN Inside micrometer set (DIN 863)

for 2-point measurement

Application:
For measuring large bore diameters, distances on workpieces, etc.

Execution:
- Scale with anti-glare, brushed chromium-plated finish
- Carbide-tipped measuring faces
- Can be individually configured for the diameter being measured
- Graduated drum, Ø 17 mm
- Measuring body, 25 mm, adjustable
- Threaded connection, M7 x 1

Advantage:
- Ready for measuring with no special settings required
- High level of measuring accuracy due to extension rods hardened at the ends, lapped along the length of the gauge block and with insulated grips to prevent transfer of heat from the hands
- Measuring range extendible via screw-on extensions

Delivery:
In wooden case

Min./max. length measuring range		50-150 mm	50-250 mm	50-450 mm	50-850 mm	50-1450 mm
Error limit (µm)		6	8	10	12	15
Vernier scale		0.01 mm	0.01 mm	0.01 mm	0.01 mm	0.01 mm
Extensions provided		50 mm | 25 mm	100 mm | 50 mm | 25 mm	200 mm | 100 mm | 50 mm | 25 mm	400 mm | 200 mm | 100 mm | 50 mm | 25 mm	400 mm | 200 mm | 100 mm | 50 mm | 25 mm | 600 mm
Measuring spindle increments (mm)		0.5	0.5	0.5	0.5	0.5
31678...	Ident. No.	115 ○	125 ●	145 ●	185 ●	245 ●

Prod. Gr. 316

Hartig Internal micrometer (DIN 863)

Micromar 44F

Ident. No. 025–075

Ident. No. 100–475

Application:
For measuring internal dimensions.

Execution:
- The spindle movement is sluggish up to 100 mm to prevent the scale drum from adjusting during measuring. From 100 mm, the spindle is smooth-running and features a clamping ring
- Precision version, better than DIN 863
- Curved measuring surfaces made from hardened steel
- From 100 mm with insulated grip

Delivery:
in plastic case

Technical data:
- Vernier scale: 0.01 mm
- Measuring spindle increments: 0.5 mm
- IP protection class
- Material of measuring bolt: Steel
- Measuring surface diameter: 6 mm

Min./max. length measuring range	Error limit (µm)	Spindle clamping	Measuring surface depth (mm)	Scale drum Ø (mm)	31675... Ident. No.	
25-30 mm	3	No	1.5	15	025	○
30-35 mm	3	No	1.5	15	030	○
35-50 mm	3	No	1.5	15	040	○
50-75 mm	3	No	1.5	16	050	○
75-100 mm	3	No	6	17	075	○
100-125 mm	3	Yes	6	20	100	○
125-150 mm	3	Yes	10	20	125	○
150-175 mm	4	Yes	10	20	150	○
175-200 mm	4	Yes	10	20	175	○
200-225 mm	4	Yes	10	20	200	○
250-275 mm	4	Yes	10	20	250	○
275-300 mm	4	Yes	10	20	275	○
300-325 mm	4	Yes	10	20	300	●
325-350 mm	4	Yes	10	20	325	○
375-400 mm	4	Yes	10	20	375	○
400-425 mm	4	Yes	10	20	400	○
425-450 mm	4	Yes	10	20	425	○
450-475 mm	4	Yes	10	20	450	○
475-500 mm	4	Yes	10	20	475	○

Prod. Gr. 316

ORION® Internal micrometers (DIN 863)

Individual devices

I/AC

Application:
For measuring through-bores and short centring shoulders.

Execution:
- Scale with anti-glare, brushed chromium plated finish
- Carbide measuring faces
- Friction coupling for consistent, repeatable measuring force

Delivery:
Single device with setting ring and measuring depth extension in a case

Technical data:
- Vernier scale: 0.005 mm
- Measuring spindle increments: 0.5 mm

Min./max. length measuring range	Measuring depth (mm)	Error limit (µm)	Distance from base of hole (mm)	31910... Ident. No.	
6-8 mm	54	4	1.5	006	●
8-10 mm	54	4	1.5	008	●
10-12 mm	54	4	1.5	010	●
12-16 mm	80	4	0.5	012	●
16-20 mm	80	4	0.5	016	●
20-25 mm	90	4	0.5	020	●
25-30 mm	90	4	0.5	025	●

Min./max. length measuring range	Measuring depth (mm)	Error limit (µm)	Distance from base of hole (mm)	31910... Ident. No.	
30-40 mm	97	4	0.5	030	●
40-50 mm	97	5	0.5	040	●
50-63 mm	114	5	0.5	050	●
62-75 mm	114	5	0.5	062	●
75-88 mm	114	5	0.5	075	●
87-100 mm	114	5	0.5	088	●

Prod. Gr. 3BB

ORION® Internal micrometer sets (DIN 863)

Complete sets

I

Min./max. length measuring range			6-12 mm	12-20 mm	20-50 mm	50-100 mm
Vernier scale			0.005 mm	0.005 mm	0.005 mm	0.005 mm
Measuring depth (mm)			100	150	150	150
Error limit (µm)			4	4	4/5	5
Adjusting ring Ø			10 mm | 8 mm | 6 mm	16 mm	40 mm | 25 mm	87 mm | 62 mm
	Type					
31910...	Complete set	Ident. No.	500 ●	510 ●	520 ●	530 ●

Prod. Gr. 3BB

ATORN Internal micrometers (DIN 863)

Individual devices

I

Application:
For measuring through-bores and short centring shoulders.

Execution:
- Scale with anti-glare, brushed chromium plated finish
- Measuring faces made of hardened steel
- Friction coupling for consistent, repeatable measuring force

Delivery:
In a case

Technical data:
- Measuring spindle increments: 0.5 mm

Ident. No. 306–310, 340–475

Min./max. length measuring range	Error limit (µm)	Vernier scale	Measuring depth (mm)	31915... Ident. No.	
6-8 mm	4	0.001 mm	58	306	●
8-10 mm	4	0.001 mm	58	308	●
10-12 mm	4	0.001 mm	58	310	●
12-16 mm	4	0.001 mm	64	312	●
16-20 mm	4	0.001 mm	64	316	●
20-25 mm	4	0.005 mm	68	320	●
25-30 mm	4	0.005 mm	68	325	●
30-40 mm	4	0.005 mm	76	330	●
40-50 mm	4	0.005 mm	76	340	●

Min./max. length measuring range	Error limit (µm)	Vernier scale	Measuring depth (mm)	31915... Ident. No.	
50-60 mm	5	0.005 mm	79	350	●
60-70 mm	5	0.005 mm	79	360	●
70-85 mm	5	0.005 mm	97	370	●
85-100 mm	5	0.005 mm	97	385	●
100-125 mm	6	0.005 mm	132	400	●
125-150 mm	6	0.005 mm	132	425	●
150-175 mm	7	0.005 mm	132	450	○
175-200 mm	7	0.005 mm	132	475	○

Prod. Gr. 303

ATORN Internal micrometer sets (DIN 863)

Complete sets

I

Min./max. length measuring range	Measuring depth (mm)	Error limit (µm)	Vernier scale	Adjusting ring Ø	Measuring spindle increments (mm)	31915... Ident. No.	
6-12 mm	58	4	0.001 mm	10 mm | 8 mm	0.5	610	●
12-20 mm	64	4	0.001 mm	16 mm	0.5	620	●
20-50 mm	68/76	4	0.005 mm	40 mm | 25 mm	0.5	630	●
50-100 mm	79/97	5	0.005 mm	85 mm | 60 mm	0.5	640	●

Prod. Gr. 303

Ident. No. 610

TESA IMICRO internal micrometers, individual devices (DIN 863)

Analogue measurement display

I I/AC

Application:
For high-precision measurement of through-bores, even at high measuring depths.

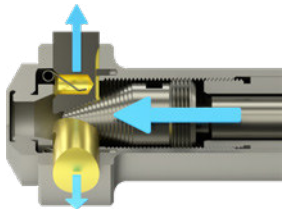
Execution:
- Friction clutch for consistent, repeatable measuring force
- self-centring and self-aligning
- Model 3.5-12 mm: hardened steel measuring surfaces
- Model 11-100 mm: titanium-coated measuring surfaces
- Model 100-300 mm: carbide-tipped measuring surfaces

Advantage:
- Ground step taper for high precision
- Insensitive to influence of body heat from the user's hand and fluctuations in ambient temperature
- The only 3-point internal micrometer working on the Abbe principle

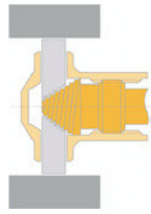
Delivery:
incl. measurement report

Notes:
with 150 mm measuring depth extension from size 200-225 mm

Technical data:
- Measuring spindle increments: 0.5 mm



① Step taper



Min./max. length measuring range	Vernier scale	Design of measuring contact	Measuring depth (mm)	Error limit (µm)	31695... Ident. No.	
3.5-4 mm	0.001 mm	Steel	20	4	003	○
4-4.5 mm	0.001 mm	Steel	20	4	004	○
4.5-5.5 mm	0.001 mm	Steel	25	4	005	●
5.5-6.5 mm	0.001 mm	Steel	25	4	006	●
6-8 mm	0.001 mm	Steel	52	4	008	●
8-10 mm	0.001 mm	Steel	52	4	010	●
10-12 mm	0.001 mm	Steel	52	4	012	●
11-14 mm	0.005 mm	TiN	77	4	014	●
14-17 mm	0.005 mm	TiN	77	4	017	●
17-20 mm	0.005 mm	TiN	77	4	020	●
20-25 mm	0.005 mm	TiN	78	4	025	●
25-30 mm	0.005 mm	TiN	78	4	030	●
30-35 mm	0.005 mm	TiN	78	4	035	●
35-40 mm	0.005 mm	TiN	78	4	040	●
40-50 mm	0.005 mm	TiN	84	5	050	●
50-60 mm	0.005 mm	TiN	84	5	060	●
60-70 mm	0.005 mm	TiN	84	5	070	○
70-80 mm	0.005 mm	TiN	84	5	080	●
80-90 mm	0.005 mm	TiN	84	5	090	●
90-100 mm	0.005 mm	TiN	84	5	100	○
100-125 mm	0.01 mm	Carbide	81	6	125	○
125-150 mm	0.01 mm	Carbide	81	6	150	●
150-175 mm	0.01 mm	Carbide	81	7	175	●
175-200 mm	0.01 mm	Carbide	81	7	200	○
200-225 mm	0.01 mm	Carbide	81	8	225	○
225-250 mm	0.01 mm	Carbide	81	8	250	○
250-275 mm	0.01 mm	Carbide	81	8	275	○
275-300 mm	0.01 mm	Carbide	81	8	300	○

Prod. Gr. 362

TESA IMICRO electronic internal micrometers, individual devices (DIN 863)

Individual devices

Opto RS 232 | IP 54

Application:
For high-precision measurement of through-bores, even at high measuring depths.

Execution:
- Friction clutch for consistent, repeatable measuring force
- self-centring and self-aligning

Advantage:
- Ground step taper for high precision
- Insensitive to influence of body heat from the user's hand and fluctuations in ambient temperature
- The only 3-point internal micrometer working on the Abbe principle

Delivery:
In a case, with battery (1 x 3 V lithium type CR 2032), includes TESA calibration certificate

Technical data:
- Digit increment: 0.001 mm
- Measuring spindle increments: 0.5 mm
- IP protection class: IP 54
- Functions: With mm / inch switching | Preset function | With zero setting at any position | Lock-function (Keybord lock) | Automatic switch-off

Ident. No. 010

p. 1262

Data transmission type				RS232 opto coupled	
Min./max. length measuring range	Design of measuring contact	Measuring depth (mm)	Error limit (µm)	31745... Ident. No.	
3.5-4 mm	Steel	20	4	010	○
4-4.5 mm	Steel	20	4	020	○
4.5-5.5 mm	Steel	25	4	030	○
5.5-6.5 mm	Steel	25	4	040	○
6-8 mm	Steel	79	4	050	○
8-10 mm	Steel	79	4	060	○
10-12 mm	Steel	79	4	070	○
11-14 mm	TiN	93	4	080	○
14-17 mm	TiN	93	4	090	○
17-20 mm	TiN	93	4	100	○
20-25 mm	TiN	91	4	110	○
25-30 mm	TiN	91	4	120	○

Data transmission type				RS232 opto coupled	
Min./max. length measuring range	Design of measuring contact	Measuring depth (mm)	Error limit (µm)	31745... Ident. No.	
30-35 mm	TiN	91	4	130	○
35-40 mm	TiN	91	4	140	○
40-50 mm	TiN	104	5	150	○
50-60 mm	TiN	104	5	160	●
60-70 mm	TiN	104	5	170	○
70-80 mm	TiN	104	5	180	○
80-90 mm	TiN	104	5	190	○
90-100 mm	TiN	104	5	200	○
100-125 mm	Carbide	100	6	210	○
125-150 mm	Carbide	100	6	220	○
150-175 mm	Carbide	100	7	230	○
175-200 mm	Carbide	100	7	240	○

Prod. Gr. 362

Mahr 44 EWR digital 3-point inside micrometer (DIN 863)

multiCOM | IP 65

NEW

Application:
For measuring bores and short centring shoulders in series.

Execution:
- Self-centring sensor head with three measuring contacts (arrangement 3x 120°)
- Large, high-contrast digital display with clear tolerance symbols
- Interchangeable sensor heads
- From 12 mm, measuring jaws for measurements to the bottom of the bore

Advantage:
- Extremely easy to use with practical functions
- Lightweight and compact basic unit for optimal handling
- 1.5 mm spindle pitch for quick adjustment

Delivery:
Basic unit, sensor head, operating instructions, battery (CR 2450N), case

Technical data:
- Digit increment: 0.001 mm
- Measuring spindle increments: 1.5 mm
- IP protection class: IP 65
- Functions: Reset (Zeroing the display) | ABS function | Preset function | TOL (Tolerance and warning limits input) | Lock-function (Keybord lock) | Data (Data transfer) | With mm / inch switching

Ident. No. 017

Type				44 EWR	
Data transmission type				multiCOM	
Min./max. length measuring range	Design of measuring contact	Measuring depth (mm)	Error limit (mm)	Distance from base of hole (mm)	31912... Ident. No.	
6-8 mm	Steel	58	0.004	1.5	007	○
8-10 mm	Steel	58	0.004	1.8	009	○
10-12 mm	Steel	58	0.004	1.8	011	○
12-16 mm	Carbide	64	0.004	-	013	○
16-20 mm	Carbide	64	0.004	-	017	○
20-25 mm	Carbide	68	0.004	-	021	○
25-30 mm	Carbide	68	0.004	-	026	○
30-40 mm	Carbide	76	0.004	-	031	○
40-50 mm	Carbide	76	0.004	-	041	○
50-60 mm	Carbide	79	0.005	-	051	○

				Type	44 EWR	
				Data transmission type	multiCOM	
Min./max. length measuring range	Design of measuring contact	Measuring depth (mm)	Error limit (mm)	Distance from base of hole (mm)	31912... Ident. No.	
60-70 mm	Carbide	79	0.005	-	061	○
70-85 mm	Carbide	97	0.005	-	071	○
85-100 mm	Carbide	97	0.005	-	086	○
100-125 mm	Carbide	132	0.006	-	101	○
125-150 mm	Carbide	132	0.006	-	126	○
150-175 mm	Carbide	132	0.007	-	151	○
175-200 mm	Carbide	132	0.007	-	176	○

Prod. Gr. 305

Mahr 844 EWR digital 3-point inside quick-measuring device

NEW

Application:
For measuring bores and short centring shoulders in series. Quickly perform measurements by releasing the lever.

Execution:
- Self-centring sensor head with three measuring contacts (arrangement 3x 120°)
- Large, high-contrast digital display with clear tolerance symbols
- Interchangeable sensor heads
- Release lever for quick series measurements
- From 12 mm, measuring jaws for measurements to the bottom of the bore

Advantage:
- Ergonomically shaped pistol grip for optimal handling
- Two data buttons are integrated into the lever for optimal handling in all measuring directions
- Large, high-contrast and rotating display for reliable reading of the measured values

Delivery:
Basic unit, sensor head, operating instructions, battery (CR 2450N), case

Technical data:
- Digit increment: 0.001 mm
- IP protection class: IP 65
- Functions: Reset (Zeroing the display) | ABS function | Preset function | TOL (Tolerance and warning limits input) | Lock-function (Keybord lock) | Data (Data transfer) | With mm / inch switching | Hold-function (AE lock)

Ident. No. 017

				Type	844 EWR	
				Data transmission type	multiCOM	
Min./max. length measuring range	Design of measuring contact	Measuring depth (mm)	Error limit (mm)	Distance from base of hole (mm)	31913... Ident. No.	
6-8 mm	Steel	58	0.004	1.5	007	○
8-10 mm	Steel	58	0.004	1.8	009	○
10-12 mm	Steel	58	0.004	1.8	011	○
12-16 mm	Carbide	64	0.004	-	013	○
16-20 mm	Carbide	64	0.004	-	017	○
20-25 mm	Carbide	68	0.004	-	021	○
25-30 mm	Carbide	68	0.004	-	026	○
30-40 mm	Carbide	76	0.004	-	031	○
40-50 mm	Carbide	76	0.004	-	041	○
50-60 mm	Carbide	79	0.005	-	051	○
60-70 mm	Carbide	79	0.005	-	061	○
70-85 mm	Carbide	97	0.005	-	071	○
85-100 mm	Carbide	97	0.005	-	086	○

Prod. Gr. 305

Mitutoyo electronic internal micrometers

3-point internal micrometer

Application:
For measuring through-bores and short centring shoulders in series production.

Execution:
- LCD digit size 7.5 mm
- with DIGIMATIC interface
- Friction clutch for consistent, repeatable measuring force

Advantage:
- Long service life and high impact resistance
- suitable for use in the presence of coolants and cutting oils

Delivery:
Includes box, adjustment wrench, SR-44 battery, factory test certificate

Notes:
Setting ring and extensions not included

Technical data:
- Digit increment: 0.001 mm
- Design of measuring contact: Titanium-coated tungsten carbide
- IP protection class: IP 65
- Functions: ABS function | Automatic switch-off | Preset function | Hold-function (AE lock) | Lock-function (Keybord lock)

Ident. No. 689

p. 1263

Min./max. length measuring range	Error limit (mm)	Data transmission type DIGIMATIC 32017... Ident. No.	
6-8 mm	0.002	689	○
8-10 mm	0.002	690	○
10-12 mm	0.002	691	○
12-16 mm	0.002	692	○
16-20 mm	0.002	693	●
20-25 mm	0.003	694	●
25-30 mm	0.003	695	●
30-40 mm	0.003	696	●

Min./max. length measuring range	Error limit (mm)	Data transmission type DIGIMATIC 32017... Ident. No.	
40-50 mm	0.003	697	○
50-63 mm	0.003	698	●
62-75 mm	0.003	699	○
75-88 mm	0.003	700	○
87-100 mm	0.003	701	○
100-125 mm	0.005	702	○
125-150 mm	0.005	703	○

Prod. Gr. 3MA

Vernier scale 3-point inside micrometers (DIN 863)

with large measuring ranges

NEW

Application:
For measuring through holes and blind holes

Execution:
- High-precision measuring system with three synchronous-running measuring spindles
- Central bevel gear drive with a high level of accuracy
- Each unit has an extremely large measuring range
- Self-centring
- Temperature-compensating design with insulation against hand heat
- Parallax-free scale engraving

Advantage:
- Spindle measuring system with large measuring range
- Centring system with constant measuring force, independent of the user
- Lower wear compared to conical systems
- Can be extended up to 15 metres using measuring depth extensions and centring devices (not included in the scope of delivery)

Delivery:
including manufacturer certificate in case

Technical data:
- Vernier scale: 0.001 mm
- Design of measuring contact: Carbide
- Measuring spindle increments: 1 mm
- IP protection class: IP 52
- Distance from base of hole: 0 mm

Ident. No. 090

Min./max. length measuring range	Measuring depth (mm)	Error limit (mm)	Type MICROTEST analogue 31800... Ident. No.	
30-40 mm	110	0.002	031	○
40-60 mm	110	0.002	040	○
60-90 mm	110	0.002	060	○
90-140 mm	140	0.002	090	○
140-240 mm	210	0.003	140	○

Min./max. length measuring range	Measuring depth (mm)	Error limit (mm)	Type MICROTEST analogue 31800... Ident. No.	
240-400 mm	300	0.004	240	○
400-650 mm	520	0.005	400	○
650-900 mm	520	0.007	650	○
900-1150 mm	520	0.008	900	○+

Prod. Gr. 3MT

Vernier scale 3-point inside micrometer sets (DIN 863)

with large measuring ranges

NEW

Application:
For measuring through holes and blind holes

Execution:
- High-precision measuring system with three synchronous-running measuring spindles
- Central bevel gear drive with a high level of accuracy
- Each unit has an extremely large measuring range
- Self-centring
- Temperature-compensating design with insulation against hand heat
- Parallax-free scale engraving

Advantage:
- Spindle measuring system with large measuring range
- Centring system with constant measuring force, independent of the user
- Lower wear compared to conical systems
- Can be extended up to 15 metres using measuring depth extensions and centring devices (not included in the scope of delivery)

Delivery:
Multiple devices with setting gauges, 200 mm measuring depth extension, screwdriver and manufacturer certificate in case

Technical data:
- Vernier scale: 0.001 mm
- Design of measuring contact: Carbide
- Measuring spindle increments: 1 mm
- IP protection class: IP 52
- Extensions provided: 200 mm

Min./max. length measuring range	Measuring depth (mm)	Error limit (mm)	Adjusting ring Ø	Number of measurement heads (PCS)	Type MICROTEST Analog 31800... Ident. No.	
30-90 mm	110	0.002	40 mm | 90 mm	3	530	○
90-400 mm	300	0.004	40 mm | 90 mm | 240 mm	3	590	○
30-400 mm	300	0.004	40 mm | 90 mm | 240 mm	6	600	○

Prod. Gr. 3MT

Digital 3-point inside micrometers (DIN 863)

with large measuring ranges

NEW

Application:
For measuring through holes and blind holes

Execution:
- High-precision measuring system with three synchronous-running measuring spindles
- Central bevel gear drive with a high level of accuracy
- Each unit has an extremely large measuring range
- Self-centring
- Temperature-compensating design with insulation against hand heat
- High-contrast display

Advantage:
- Spindle measuring system with large measuring range
- Centring system with constant measuring force, independent of the user
- Lower wear compared to conical systems
- Can be extended up to 15 metres using measuring depth extensions and centring devices (not included in the scope of delivery)

Delivery:
including manufacturer certificate in case

Technical data:
- Digit increment: 0.001 mm
- Design of measuring contact: Carbide
- Measuring spindle increments: 1 mm
- IP protection class: IP 52
- Functions: ABS function | On/Off | Preset function | With mm / inch switching | With zero setting at any position
- Distance from base of hole: 0 mm

Ident. No. 090

			Type	MICROTEST digital	
			Data transmission type	RS232 opto coupled	
Min./max. length measuring range	Measuring depth (mm)	Error limit (mm)	31801... Ident. No.		
30-40 mm	50	0.002	030	○	
40-60 mm	110	0.002	040	○	
50-75 mm	110	0.002	050	○	
60-90 mm	110	0.002	060	○	
75-115 mm	140	0.002	075	○	

			Type	MICROTEST digital	
			Data transmission type	RS232 opto coupled	
Min./max. length measuring range	Measuring depth (mm)	Error limit (mm)	31801... Ident. No.		
90-140 mm	140	0.002	090	○	
115-185 mm	210	0.003	115	○	
140-240 mm	210	0.003	140	○	
185-315 mm	300	0.003	185	○	
240-400 mm	300	0.004	240	○	

Prod. Gr. 3MT

3-point inside micrometers with increased precision (DIN 863)

with large measuring ranges

NEW

Application:
For measuring through holes and blind holes

Execution:
- High-precision measuring system with three synchronous-running measuring spindles
- Central bevel gear drive with a high level of accuracy
- Each unit has an extremely large measuring range
- Self-centring
- Temperature-compensating design with insulation against hand heat
- High-contrast display
- Gold version with increased accuracy

Advantage:
- Spindle measuring system with large measuring range
- Centring system with constant measuring force, independent of the user
- Lower wear compared to conical systems
- Can be extended up to 15 metres using measuring depth extensions and centring devices (not included in the scope of delivery)

Delivery:
including manufacturer certificate in case

Technical data:
- Digit increment: 0.0001 mm
- Design of measuring contact: Carbide
- Error limit: 0.0015 mm
- Measuring spindle increments: 1 mm
- IP protection class: IP 52
- Functions: ABS function | On/Off | Preset function | With mm / inch switching | With zero setting at any position
- Distance from base of hole: 0 mm

Ident. No. 375

		Type	MICROTEST Gold	
		Data transmission type	RS232 opto coupled	
Min./max. length measuring range	Measuring depth (mm)	31801... Ident. No.		
30-40 mm	50	330	○	
40-60 mm	110	340	○	
50-75 mm	110	350	○	

		Type	MICROTEST Gold	
		Data transmission type	RS232 opto coupled	
Min./max. length measuring range	Measuring depth (mm)	31801... Ident. No.		
60-90 mm	110	360	○	
75-115 mm	140	375	○	
90-140 mm	140	390	○	

Prod. Gr. 3MT

3-point inside micrometers, modular measuring contact system (DIN 863)

with large measuring ranges

NEW

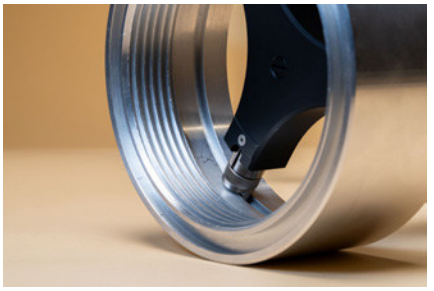
Application:
For measuring through holes and blind holes

Execution:
- High-precision measuring system with three synchronous-running measuring spindles
- Central bevel gear drive with a high level of accuracy
- Each unit has an extremely large measuring range
- Self-centring
- Temperature-compensating design with insulation against hand heat
- High-contrast display
- Modular system with interchangeable indicator contact points

Advantage:
- Spindle measuring system with large measuring range
- Centring system with constant measuring force, independent of the user
- Lower wear compared to conical systems
- Can be extended up to 15 metres using measuring depth extensions and centring devices (not included in the scope of delivery)

Delivery:
including manufacturer certificate in case

Technical data:
- Digit increment: 0.001 mm
- Design of measuring contact: Carbide
- Measuring spindle increments: 1 mm
- IP protection class: IP 52
- Functions: ABS function | On/Off | Preset function | With mm / inch switching | With zero setting at any position



Type			MICROTEST Modular	
Data transmission type			RS232 opto coupled	
Min./max. length measuring range	Measuring depth (mm)	Error limit (mm)	31801... Ident. No.	
45-55 mm	110	0.002	400	○
55-75 mm	110	0.002	410	○
75-105 mm	140	0.002	420	○

Type			MICROTEST Modular	
Data transmission type			RS232 opto coupled	
Min./max. length measuring range	Measuring depth (mm)	Error limit (mm)	31801... Ident. No.	
105-155 mm	210	0.002	430	○
155-255 mm	210	0.003	440	○
255-415 mm	300	0.004	450	○

Prod. Gr. 3MT

Slotmaster groove distance measuring device

For internal and external grooves

Application:
Measuring grooves and recesses as well as internal and external axial distances

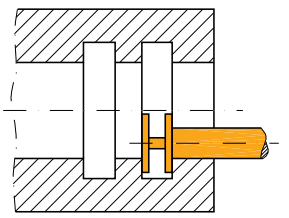
Execution:
- Spring-loaded measuring system with retraction lever
- Interchangeable indicator contact points
- Robust handle with base
- Shock-resistant dial gauge with 30 mm measuring difference
- Adjustable tolerance marks
- Splash-proof

Delivery:
Slotmaster including indicator contact point, setting gauge, manufacturer certificate, in case

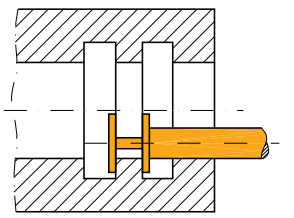
Notes:
CAUTION: With the 0-30 mm indicator contact point, internal measurement is only possible from 1.2 mm (double measuring disc thickness)

NEW

Technical data:
- Measuring span: 30 mm
- Scale value: 0.01 mm
- Measuring surface diameter: 11 mm
- Measuring surface thickness: 0.6 mm



Measuring the slot width



Measuring the space between 2 grooves

Min./max. length of application area		0-60 mm	0-30 mm	30-60 mm
Number of measurement heads (PCS)		2	1	1
31802...	Ident. No.	500 ○	505 ○	510 ○

Prod. Gr. 3MT

Sensor heads for Slotmaster groove distance measuring device

Application:
Extends the measuring ranges of the Slotmaster groove measuring instrument

Execution:
- 30 mm measuring difference per indicator contact point

Notes:
Special indicator contact points available on request

Technical data:
- Number of measurement heads: 1 PCS
- Measuring surface diameter: 11 mm
- Measuring surface thickness: 0.6 mm

NEW

Min./max. length of application area		0-30 mm	30-60 mm	60-90 mm	90-120 mm	120-150 mm
31802...	Ident. No.	515 ○	520 ○	525 ○	530 ○	535 ○

Prod. Gr. 3MT

Comparison measuring instrument version 2
for internal and external measurements

Application:
For universal measurement of various tasks, e.g. external and internal measurement of bores, threads, toothing, recesses, grooves etc.

Execution:
- 1 adjustable fixed measuring arm
- 1 moving measuring arm for internal and external measurements, spring-mounted for consistent, repeatable results, measuring direction reversible, measurement path approx. 18 mm
- robust, torsion-free tubular structure
- Measured values displayed by dial gauge, precision pointer or electronic measuring probes
- Adjusted using a setting device with gauge block combinations, master gauges, ring gauges or other material measures
- Can be extended up to 2,000 mm using extensions

Advantage:
- Flexible system

Delivery:
Basic unit in wooden box, incl. adapter for old version 1 indicator contact points

Notes:
Without dial gauge or dial indicator

Technical data:
- Min./max. external length measuring range: 0-200 mm
- Min./max internal length measuring range: 25-250 mm
- Measurement force: 5 N

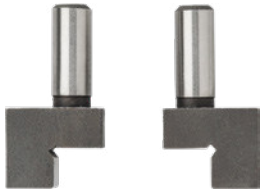
31970...	Ident. No.	011 ○

Prod. Gr. 303

Accessories for comparison measuring instrument version 2

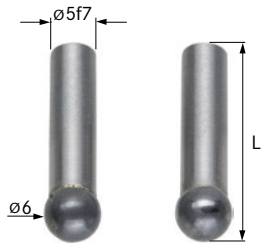
Ident. No. 101–121

Ident. No. 131



Ident. No. 141

Ident. No. 151



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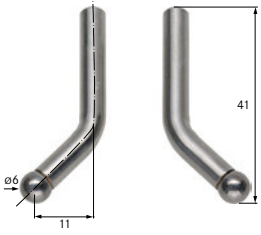
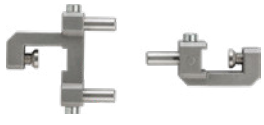


Ident. No. 190

Ident. No. 201

Ident. No. 211–221



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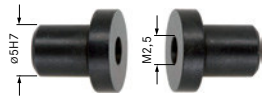

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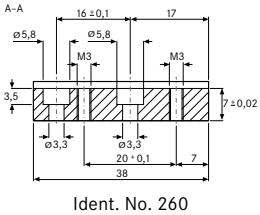

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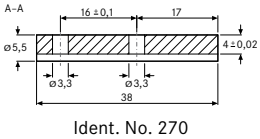

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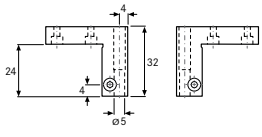

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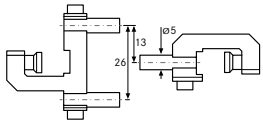

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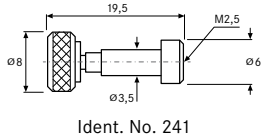


Ident. No. 241

	-		Gauge slides, bent, length 41 mm	
Type	31970... Ident. No.		31970... Ident. No.	
Extension 100 mm	101	○	-	-
Extension 200 mm	111	○	-	-
Extension 400 mm	121	○	-	-
Attachments pieces for external measurements	131	○	-	-
Measuring arms 35 mm | internal and external measurements	211	○	-	-
Measuring arms 70 mm | internal and external measurements	221	○	-	-
Depth stops for measuring arms	231	○	-	-
Shoulder indicator contact points for external measurements	141	○	-	-
Shoulder indicator contact points for internal measurements	151	○	-	-

	-		Gauge slides, bent, length 41 mm	
Type	31970... Ident. No.		31970... Ident. No.	
Indicator contact points with spherical contact surface | length 23 mm	160	○	-	-
Indicator contact points with spherical contact surface | length 53 mm	170	○	-	-
-	-	-	190	○
Cylindrical indicator contact points | length 52 mm	180	○	-	-
Disc indicator contact points | length 50 mm | disc 11 x 1 mm	201	○	-	-
Adapter M 2.5 for indicator contact points	241	○	-	-
Adapter for old indicator contact points on current device	260	○	-	-
Adapter for current indicator contact points on old device	270	○	-	-

Prod. Gr. 303

TESA UNIMASTER

Universal measuring instrument for large measuring ranges

Application:
For measuring particularly large internal and external dimensions. The TESA UNIMASTER is based on the general concept of an inside micrometer with two-point contact. By mounting extensions with built-in gauge blocks on the measuring element, any dimension within the vast application range can be measured directly.

Version:
- Hardened measuring spindle, thread ground from one piece
- Switch easily from internal to external measurement using adjusting screw
- Extensions can be connected via coupling system
- Impact-protected dial gauge with measuring range +/-0.4 mm
- Micrometer measuring difference 25 mm
- Error limit: 5 µm measuring element + extensions
- Gauge block extensions with stable protective tube, flat and spherical measuring surface

Advantage:
- Very high measuring range possible
- High accuracy
- Heat-resistant

Scope of delivery:
Ref. no. 010 UNIMASTER measuring element:
Measuring element with calibration certificate
Ref. no. 400 UNIMASTER set:
1 measuring element
1 pair measuring pins for internal measurements
1 pair measuring pins for internal and external measurements
1 pair measuring pins for external measurements
1 setting standard
25/50/75/100/125/150/300/450/600 mm extensions
Special screwdriver for extensions
1 set of support accessories
Transport case with rollers
With calibration certificate for each setting standard, measuring element and extension
Ref. no. 401 UNIMASTER set with 1,000 mm extension:
with additional 1,000 mm extension

Ident. No. 010
Measuring element

Ident. No. 400–401

Type		UNIMASTER measuring element	UNIMASTER set	UNIMASTER set with 1 mm extension
Min./max. external length measuring range		225-250 mm	225-1600 mm	225-2300 mm
Min./max internal length measuring range		250-275 mm	250-1625 mm	250-2325 mm
Measuring span (mm)		25	25	25
Scale value (mm)		0.01	0.01	0.01
Error limit (µm)		5	5	5
Min./max. measurement force		15-20 N	15-20 N	15-20 N
31870...	Ident. No.	010 ○	400 ○+	401 ○+

31870 010 = Prod. Gr. 362
31870 400 = Prod. Gr. 366
31870 401 = Prod. Gr. 366

ATORN Spring divider with replaceable carbide tips

HIGHLIGHT

Application:
For marking dimension lines, e.g. for hole circles.

Execution:
- With quick-action clamping nut and consistent spring tension
- Extra strong, square legs
- Continuous spindle

- Replaceable tips

Advantage:
- Carbide tips with longer service life

Technical data:
- Material: Carbide

Limb length (mm)		150	300
35012...	Ident. No.	150 ●	300 ●

Prod. Gr. 3AF

HELIOS·PREISSER Spring divider

Application:
For marking dimension lines, e.g. for hole circles.

Execution:
- Quick-action clamping nut and particularly strong legs

- Strong annular spring and hardened pivot pins for firm control of legs
- **No. 35015:** Replaceable tips

Technical data:
- Material: Hardened steel

No. 35010

No. 35015

Limb length (mm)		125	150	200	250	300
35010...	Ident. No.	127 ●	150 ●	200 ●	250 ●	301 ●
35015...	Ident. No.	126 ●	150 ●	200 ●	250 ●	301 ●

Prod. Gr. 3BG

ATORN Marking-off vernier callipers
with fine adjustment

A

Application:
For marking off on workpieces by directly setting the required dimensions

Execution:
- Gauge bar and marking ruler made from one piece
- Measuring faces very finely ground, made of alloyed steel, hard-chrome plated

- Scale and vernier scale with anti-glare, brushed chromium-plated finish

Technical data:
- Max. length of application area: 300 mm
- Vernier scale: 0.05 mm

35036...	Ident. No.	030 ●

Prod. Gr. 3AF

ORION® Marking gauge
with runner

Application:
For precise marking off parallel to the workpiece edge.

Execution:
- INOX steel beam
- Exchangeable cemented carbide marking-off needle
- Locking screw

Technical data:
- Min./max. length of application area: 0-200 mm
- Scale value: 0.1 mm

35052...	Ident. No.	011 ●

Prod. Gr. 3BG

ORION® Marking gauge
with flat slide

Application:
For precise marking off parallel to the workpiece edge

Execution:
- Flat, with millimetre pitch
- Anti-glare, brushed chromium-plated
- Hardened, wide marking-off edge

Technical data:
- Scale value: 1 mm

Min./max. length of application area		0-200 mm	0-250 mm	0-300 mm
35053...	Ident. No.	020 ●	025 ●	030 ●

Prod. Gr. 3BG

ORION® Height gauges
with sturdy cast iron base

M

Application:
For marking scale lines on workpiece surfaces.

Execution:
- Fine adjustment
- Carbide-tipped marking-off needle
- Ergonomically designed cast iron base

Max. length measuring range (mm)		300	600
Vernier scale		0.05 mm	0.05 mm
Base length x base width		136 x 91 mm	180 x 120 mm
35060...	Ident. No.	031 ●	061 ●

Prod. Gr. 3BE

ATORN Height gauges
with sliding scriber

M

Application:
For marking scale lines on workpiece surfaces.

Execution:
- Scale and vernier scale with anti-glare, brushed chromium-plated finish
- Parallax-free reading
- Stainless steel measuring arms
- Marking-off needle from base

Ident. No. 060

Max. length measuring range (mm)			300	600
Vernier scale			0.02 mm	0.02 mm
Base length x base width			145 x 90 mm	189 x 118 mm
35072...	fine adjustment	Ident. No.	030 ●	060 ○

Prod. Gr. 352

ORION® Height measuring and marking-off device
with dial and double guide

M

Application:
For marking scale lines on workpiece surfaces and for measuring heights and clearances.

Execution:
- Adjusted using hand wheel
- Carbide-tipped marking-off needle
- Ergonomically designed cast iron base
- Rotating scale dial
- Double counter, one positive counter, one negative counter

Delivery:
Basic device, 1 carbide-tipped measuring and marking-off blade, 1 clamping element for marking-off blade and gauge slides

Max. length measuring range (mm)		300	600
Scale value (mm)		0.01	0.01
Base length x base width		125 x 85 mm	180 x 120 mm
35140...	Ident. No.	031	061
		●	●

Prod. Gr. 3BE

ORION® Electronic height gauge

M

Application:
For marking scale lines on workpiece surfaces.

Execution:
- Guide column made from INOX steel
- Fine adjustment
- Carbide-tipped marking-off needle
- Ergonomically designed cast iron base
- ON/OFF
- Zero setting at any position
- mm/inch switch-over
- HOLD function
- ABS/TOL/SET

Delivery:
Battery included (type SR44)

Ident. No. 031

Max. length measuring range (mm)		300	600
Digit increment (mm)		0.01	0.01
Base length x base width		136 x 91 mm	136 x 91 mm
35125...	Ident. No.	031	061
		●	●

Prod. Gr. 3BE

Mahr Height measuring and marking-off device
Digimar 814 SR

M multiCOM

Application:
For marking scale lines on workpiece surfaces and for measuring heights and clearances.

Execution:
- Data output
- Fine adjustment
- Carbide-tipped marking-off needle
- Easy-grip, secure base
- Reset function
- Zero setting at any position
- mm/inch switch-over
- Auto off
- Preset function
- ABS function

Advantage:
- Key lock to prevent unintentional adjustment
- Switch on by moving the slider
- Large hand wheel for positioning and measuring

Delivery:
Marking-off tip, battery, box, operating instructions

Technical data:
- Digit increment: 0.01 mm
- Base length x base width: 180 x 80 mm
- Data transmission type: multiCOM

Ident. No. 035

Max. length measuring range (mm)		350	600
35132...	Ident. No.	035	060
		●	●

Prod. Gr. 306

ORION® Steel gauge block sets (ISO 3650)

In tolerance classes 0, 1 and 2

AF

Application:
For testing and calibrating measuring instruments and test equipment.

Execution:
- made from high-quality, aged special steel
- hardened
- hand-lapped
- Gauge blocks are marked with an identification number

Delivery:
in wooden case, without calibration

No. 32050 032

No. 32050 047

No. 32050 087

No. 32050 103

Number of pieces in assortment/set (PCS)			32	47	87	103
Nominal dimension in assortment			1.005 mm | 1.01-1.09 mm | increasing by 0.01 mm | 1.1-1.9 mm | increasing by 0.1 mm | 1-9 mm | increasing by 1 mm | 10-30 mm | increasing by 10 mm | 50 mm	1.005 mm | 1.01-1.2 mm | increasing by 0.01 mm | 1.3-1.9 mm | increasing by 0.1 mm | 1-9 mm | increasing by 1 mm | 10-100 mm | increasing by 10 mm	0.5-9.5 mm | increasing by 0.5 mm | 1.001-1.009 mm | increasing by 0.001 mm | 1.01-1.49 mm | increasing by 0.01 mm | 10-100 mm | increasing by 10 mm	1.005 mm | 1.01-1.49 mm | increasing by 0.01 mm | 0.5-24.5 mm | increasing by 0.5 mm | 25-100 mm | increasing by 25 mm
Material			Gauge steel	Gauge steel	Gauge steel	Gauge steel
	Tolerance class					
32050...	0	Ident. No.	032 ●	047 ●	087 ●	103 ●
32051...	1	Ident. No.	032 ●	047 ●	087 ●	103 ●
32052...	2	Ident. No.	032 ●	047 ●	087 ●	103 ●

Prod. Gr. 321

ATORN Ceramic gauge block sets (ISO 3650)

In tolerance classes 0 and 1

AF

Application:
For testing and calibrating measuring instruments and test equipment.

Execution:
- Gauge blocks are marked with an identification number
- made from high-quality ceramic

Advantage:
- Up to 10x longer service life than steel
- Corrosion-resistant
- Non-magnetic
- Very low maintenance

Delivery:
in wooden case, without calibration

No. 32070 032, 32071 032

No. 32070 047, 32071 047

No. 32070 087, 32071 087

No. 32070 103, 32071 103

Number of pieces in assortment/set (PCS)			32	47	87	103
Material			Ceramic / aluminium oxide	Ceramic / aluminium oxide	Ceramic / aluminium oxide	Ceramic / aluminium oxide
Nominal dimension in assortment			1.005 mm | 1.01-1.09 mm | increasing by 0.01 mm | 1.1-1.9 mm | increasing by 0.1 mm | 1-9 mm | increasing by 1 mm | 10-30 mm | increasing by 10 mm | 50 mm	1.005 mm | 1.01-1.2 mm | increasing by 0.01 mm | 1.3-1.9 mm | increasing by 0.1 mm | 1-9 mm | increasing by 1 mm | 10-100 mm | increasing by 10 mm	0.5-9.5 mm | increasing by 0.5 mm | 1.001-1.009 mm | increasing by 0.001 mm | 1.01-1.49 mm | increasing by 0.01 mm | 10-100 mm | increasing by 10 mm	1.005 mm | 1.01-1.49 mm | increasing by 0.01 mm | 0.5-24.5 mm | increasing by 0.5 mm | 25-100 mm | increasing by 25 mm
	Tolerance class					
32070...	0	Ident. No.	032 ○	047 ○	087 ○	103 ○
32071...	1	Ident. No.	032 ○	047 ○	087 ●	103 ○

Prod. Gr. 3DD

ATORN Carbide gauge block sets (ISO 3650)

In tolerance classes 0 and 1

AF

Application:
For testing and calibrating measuring instruments and test equipment.

Execution:
- Gauge blocks are marked with an identification number
- made from carbide

Advantage:
- Up to 20x longer service life than steel
- Very low thermal expansion

Delivery:
in wooden case, without calibration

No. 32100 032, 32101 032

No. 32100 047, 32101 047

No. 32100 087, 32101 087

No. 32100 103, 32101 103

Number of pieces in assortment/set (PCS)			32	47	87	103
Material			Carbide	Carbide	Carbide	Carbide
Nominal dimension in assortment			1.005 mm | 1.01-1.09 mm | increasing by 0.01 mm | 1.1-1.9 mm | increasing by 0.1 mm | 1-9 mm | increasing by 1 mm | 10-30 mm | increasing by 10 mm | 50 mm	1.005 mm | 1.01-1.2 mm | increasing by 0.01 mm | 1.3-1.9 mm | increasing by 0.1 mm | 1-9 mm | increasing by 1 mm | 10-100 mm | increasing by 10 mm	0.5-9.5 mm | increasing by 0.5 mm | 1.001-1.009 mm | increasing by 0.001 mm | 1.01-1.49 mm | increasing by 0.01 mm | 10-100 mm | increasing by 10 mm	1.005 mm | 1.01-1.49 mm | increasing by 0.01 mm | 0.5-24.5 mm | increasing by 0.5 mm | 25-100 mm | increasing by 25 mm
	Tolerance class					
32100...	0	Ident. No.	032 ○	047 ○	087 ○	103 ○
32101...	1	Ident. No.	032 ○	047 ○	087 ●	103 ○

Prod. Gr. 3DD

ORION Steel gauge block set (ISO 3650)

long version

Application:
For testing and calibrating measuring instruments and test equipment.

Execution:
- Made from high-quality, aged special steel
- Hardened
- Hand-lapped
- Gauge blocks are marked with an identification number

Delivery:
In wooden case, calibration on request

Number of pieces in assortment/set (PCS)			8
Nominal dimension in assortment			125 mm | 150 mm | 175 mm | 200 mm | 250 mm | 300 mm | 400 mm | 500 mm
Material			Gauge steel
	Tolerance class		
32112...	1	Ident. No.	010 ○

Prod. Gr. 321

ORION Steel gauge block sets (ISO 3650)

for calibrating and testing callipers and height gauges

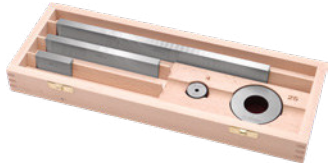
AF AC

Application:
For the specific testing and calibration of vernier callipers and height gauges.

Execution:
- made of high-quality, aged special steel
- hardened
- hand-lapped
- Gauge blocks are marked with an identification number

Delivery:
in wooden case, calibration available on request

Ident. No. 011



Ident. No. 021

Ident. No. 030–040

Number of pieces in assortment/set (PCS)			5	5	6	8
Nominal dimension in assortment			30 mm | 41.3 mm | 131.4 mm	41.3 mm | 131.4 mm | 243.5 mm	30 mm | 41.3 mm | 131.4 mm | 243.5 mm | 281.2 mm | 481.1 mm	30 mm | 41.3 mm | 131.4 mm | 243.5 mm | 481.1 mm | 550 mm | 700 mm
Material			Gauge steel	Gauge steel	Gauge steel	Gauge steel
Adjusting ring Ø			4 mm | 25 mm	4 mm | 25 mm	-	-
	Tolerance class					
32122...	1	Ident. No.	011 ●	021 ○	030 ○	040 ○

Prod. Gr. 321

ORION® Steel gauge block sets (ISO 3650)

for calibrating and testing outside micrometers

AF

Application:
Specially designed for testing and calibrating micrometers

Execution:
- made from high-quality, aged special steel
- hardened
- hand-lapped
- Gauge blocks are marked with an identification number
-
- Ref. no. 505: to meet the minimum requirements of micrometers
- Ref. no. 510: for the reliable testing of micrometers

Delivery:
in wooden case, without calibration

Ident. No. 505

Ident. No. 510

Number of pieces in assortment/set (PCS)			5	10
Nominal dimension in assortment			5.1 mm | 10.3 mm | 15 mm | 20.2 mm | 25 mm	2.5 mm | 5.1 mm | 7.7 mm | 10.3 mm | 12.9 mm | 15 mm | 17.6 mm | 20.2 mm | 22.8 mm | 25 mm
Material			Gauge steel	Gauge steel
	Tolerance class			
32051...	1	Ident. No.	505 ●	510 ●

Prod. Gr. 321

ATORN Ceramic gauge block sets (ISO 3650)

for calibrating and testing outside micrometers

AF

NEW

Application:
For testing, calibrating and setting outside micrometers

Execution:
- Gauge blocks are marked with an identification number
- made from high-quality ceramic

Advantage:
- up to 10x longer service life than steel
- corrosion-resistant
- non-magnetic
- very low maintenance

Delivery:
in case, without calibration

Ident. No. 505

Ident. No. 510

Number of pieces in assortment/set (PCS)			6	9
Material			Ceramic / aluminium oxide	Ceramic / aluminium oxide
Nominal dimension in assortment			5.1 mm | 10.3 mm | 15 mm | 20.2 mm | 25 mm	5.1 mm | 10.3 mm | 15 mm | 20.2 mm | 25 mm | 50 mm | 75 mm | 100 mm
	Tolerance class			
32071...	1	Ident. No.	505 ●	510 ○

Prod. Gr. 3DD

ORION® Individual steel gauge blocks (ISO 3650)

AF

Application:
For testing and calibrating measuring instruments and test equipment.

Execution:
- Gauge blocks are marked with an identification number

Tolerance class	0		1	
Material	Gauge steel		Gauge steel	
Nominal dimension (mm)	32169... Ident. No.		32170... Ident. No.	
0.5	005	●	005	●
0.6	006	○	006	○
0.7	007	○	007	○
0.8	008	○	008	○
0.9	009	○	009	○
1	010	●	010	●
1.0005	510	○	510	○
1.001	501	○	501	●
1.002	502	○	502	○
1.003	503	○	503	○
1.004	504	○	504	○
1.005	505	○	505	●
1.006	506	○	506	○
1.007	507	○	507	○
1.008	508	○	508	○
1.009	509	○	509	○
1.01	401	○	401	●
1.02	402	○	402	●
1.03	403	○	403	●
1.04	404	○	404	●
1.05	405	○	405	●
1.06	406	○	406	●
1.07	407	○	407	●
1.08	408	○	408	●
1.09	409	○	409	●
1.1	410	○	410	●
1.11	411	○	411	●
1.12	412	○	412	●
1.13	413	○	413	●
1.14	414	○	414	○
1.15	415	○	415	●
1.16	416	○	416	○
1.17	417	○	417	○
1.18	418	○	418	○
1.19	419	○	419	○
1.2	420	○	420	●
1.21	421	○	421	○
1.22	422	○	422	○
1.23	423	○	423	○
1.24	424	○	424	○
1.25	425	○	425	●
1.26	426	○	426	○

Tolerance class	0		1	
Material	Gauge steel		Gauge steel	
Nominal dimension (mm)	32169... Ident. No.		32170... Ident. No.	
1.27	427	○	427	○
1.28	428	○	428	●
1.29	429	○	429	○
1.3	430	○	430	●
1.31	431	○	431	○
1.32	432	○	432	○
1.33	433	○	433	○
1.34	434	○	434	○
1.35	435	○	435	●
1.36	436	○	436	○
1.37	437	○	437	○
1.38	438	○	438	○
1.39	439	○	439	○
1.4	440	○	440	●
1.41	441	○	441	○
1.42	442	○	442	○
1.43	443	○	443	○
1.44	444	○	444	○
1.45	445	○	445	●
1.46	446	○	446	○
1.47	447	○	447	○
1.48	448	○	448	●
1.49	449	○	449	●
1.5	450	●	450	●
1.6	016	○	016	●
1.7	017	○	017	●
1.8	018	○	018	●
1.9	019	○	019	●
2	020	●	020	●
2.5	025	○	025	●
3	030	●	030	●
3.5	035	○	035	●
4	040	○	040	●
4.5	045	○	045	●
5	050	●	050	●
5.5	055	○	055	●
6	060	○	060	●
6.5	065	○	065	●
7	070	○	070	●
7.5	075	○	075	●
8	080	○	080	●
8.5	085	○	085	●

Tolerance class	0		1	
Material	Gauge steel		Gauge steel	
Nominal dimension (mm)	32169... Ident. No.		32170... Ident. No.	
9	090	○	090	●
9.5	095	○	095	○
10	100	●	100	●
10.5	105	○	105	○
11	110	○	110	●
11.5	115	○	115	○
12	120	○	120	●
12.5	125	○	125	○
13	130	○	130	○
13.5	135	○	135	○
14	140	○	140	○
14.5	145	○	145	○
15	150	○	150	●
15.5	155	○	155	○
16	160	○	160	●
16.5	165	○	165	○
17	170	○	170	●
17.5	175	○	175	○
18	180	○	180	●
18.5	185	○	185	○
19	190	○	190	●
19.5	195	○	195	○
20	200	●	200	●
20.5	205	○	205	○
21	210	○	210	●
21.5	215	○	215	○
22	220	○	220	●
22.5	225	○	225	○
23	230	○	230	○
23.5	235	○	235	○
24	240	○	240	○
24.5	245	○	245	○
25	250	○	250	●
30	300	○	300	●
40	400	○	400	●
50	500	●	500	●
60	600	○	600	●
70	700	○	700	●
75	750	○	750	●
80	800	○	800	●
90	900	○	900	●
100	910	●	910	●

Prod. Gr. 321

ATORN Individual ceramic gauge blocks (ISO 3650)

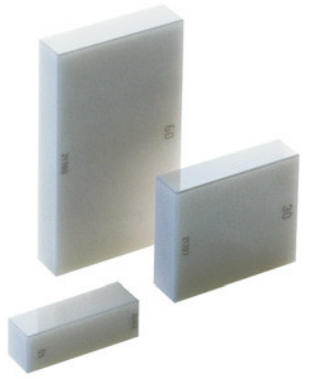
AF

Application:
For testing and calibrating measuring devices and test equipment.

Execution:
- Gauge blocks are marked with an identification number
- made from high-quality ceramic

Advantage:
- up to 10x longer service life than steel
- corrosion-resistant
- non-magnetic
- very low maintenance

Delivery:
in a case



Tolerance class	1		0	
Material	Ceramic		Ceramic	
Nominal dimension (mm)	32177... Ident. No.		32173... Ident. No.	
0.5	005	○	005	○
1	010	○	010	○
1.0005	015	○	015	○
1.001	020	○	020	○
1.002	025	○	025	○
1.003	030	○	030	○
1.004	035	○	035	○
1.005	040	○	040	○
1.006	045	○	045	○
1.007	050	○	050	○
1.008	055	○	055	○
1.009	060	○	060	○
1.01	065	○	065	○
1.02	070	○	070	○
1.03	075	○	075	○
1.04	080	○	080	○
1.05	085	○	085	○
1.06	090	○	090	○
1.07	095	○	095	○
1.08	100	○	100	○
1.09	105	○	105	○
1.1	110	○	110	○
1.11	115	○	115	○
1.12	120	○	120	○
1.13	125	○	125	○
1.14	130	○	130	○
1.15	135	○	135	○
1.16	140	○	140	○
1.17	145	○	145	○
1.18	150	○	150	○
1.19	155	○	155	○
1.2	160	○	160	○
1.21	165	○	165	○
1.22	170	○	170	○
1.23	175	○	175	○
1.24	180	○	180	○
1.25	185	○	185	○
1.26	190	○	190	○
1.27	195	○	195	○
1.28	200	○	200	○
1.29	205	○	205	○

Tolerance class	1		0	
Material	Ceramic		Ceramic	
Nominal dimension (mm)	32177... Ident. No.		32173... Ident. No.	
1.3	210	○	210	○
1.31	215	○	215	○
1.32	220	○	220	○
1.33	225	○	225	○
1.34	230	○	230	○
1.35	235	○	235	○
1.36	240	○	240	○
1.37	245	○	245	○
1.38	250	○	250	○
1.39	255	○	255	○
1.4	260	○	260	○
1.41	265	○	265	○
1.42	270	○	270	○
1.43	275	○	275	○
1.44	280	○	280	○
1.45	285	○	285	○
1.46	290	○	290	○
1.47	295	○	295	○
1.48	300	○	300	○
1.49	305	○	305	○
1.5	310	○	310	○
1.6	315	○	315	○
1.7	320	○	320	○
1.8	325	○	325	○
1.9	330	○	330	○
2	335	○	335	○
2.5	340	○	340	○
3	345	○	345	○
3.5	350	○	350	○
4	355	○	355	○
4.5	360	○	360	○
5	365	○	365	○
5.5	370	○	370	○
6	375	○	375	○
6.5	380	○	380	○
7	385	○	385	○
7.5	390	○	390	○
8	395	○	395	○
8.5	400	○	400	○
9	405	○	405	○
9.5	410	○	410	○

Tolerance class	1		0	
Material	Ceramic		Ceramic	
Nominal dimension (mm)	32177... Ident. No.		32173... Ident. No.	
10	415	○	415	○
10.5	420	○	420	○
11	425	○	425	○
11.5	430	○	430	○
12	435	○	435	○
12.5	440	○	440	○
13	445	○	445	○
13.5	450	○	450	○
14	455	○	455	○
14.5	460	○	460	○
15	465	○	465	○
15.5	470	○	470	○
16	475	○	475	○
16.5	480	○	480	○
17	485	○	485	○
17.5	490	○	490	○
18	495	○	495	○
18.5	500	○	500	○
19	505	○	505	○
19.5	510	○	510	○
20	515	○	515	○
20.5	520	○	520	○
21	525	○	525	○
21.5	530	○	530	○
22	535	○	535	○
22.5	540	○	540	○
23	545	○	545	○
23.5	550	○	550	○
24	555	○	555	○
24.5	560	○	560	○
25	565	○	565	○
30	570	○	570	○
40	575	○	575	○
50	580	○	580	○
60	585	○	585	○
70	590	○	590	○
75	595	○	595	○
80	600	○	600	○
90	605	○	605	○
100	610	○	610	○

Prod. Gr. 3DD

ATORN Individual tungsten carbide gauge blocks (ISO 3650)

AF

Application:
For testing and calibrating measuring devices and test equipment.

Execution:
- Gauge blocks are marked with an identification number
- tungsten carbide

Advantage:
- up to 20x longer service life than steel
- very low thermal expansion

Delivery:
in a case

Tolerance class	1		0	
Material	Carbide		Carbide	
Nominal dimension (mm)	32106... Ident. No.		32107... Ident. No.	
0.5	005	○	005	○
1	010	○	010	○
1.0005	015	○	015	○
1.001	020	○	020	○
1.002	025	○	025	○
1.003	030	○	030	○
1.004	035	○	035	○
1.005	040	○	040	○
1.006	045	○	045	○
1.007	050	○	050	○
1.008	055	○	055	○
1.009	060	○	060	○
1.01	065	○	065	○
1.02	070	○	070	○
1.03	075	○	075	○
1.04	080	○	080	○
1.05	085	○	085	○
1.06	090	○	090	○
1.07	095	○	095	○
1.08	100	○	100	○
1.09	105	○	105	○
1.1	110	○	110	○
1.11	115	○	115	○
1.12	120	○	120	○
1.13	125	○	125	○
1.14	130	○	130	○
1.15	135	○	135	○
1.16	140	○	140	○
1.17	145	○	145	○
1.18	150	○	150	○
1.19	155	○	155	○
1.2	160	○	160	○
1.21	165	○	165	○
1.22	170	○	170	○
1.23	175	○	175	○
1.24	180	○	180	○
1.25	185	○	185	○
1.26	190	○	190	○
1.27	195	○	195	○
1.28	200	○	200	○
1.29	205	○	205	○

Tolerance class	1		0	
Material	Carbide		Carbide	
Nominal dimension (mm)	32106... Ident. No.		32107... Ident. No.	
1.3	210	○	210	○
1.31	215	○	215	○
1.32	220	○	220	○
1.33	225	○	225	○
1.34	230	○	230	○
1.35	235	○	235	○
1.36	240	○	240	○
1.37	245	○	245	○
1.38	250	○	250	○
1.39	255	○	255	○
1.4	260	○	260	○
1.41	265	○	265	○
1.42	270	○	270	○
1.43	275	○	275	○
1.44	280	○	280	○
1.45	285	○	285	○
1.46	290	○	290	○
1.47	295	○	295	○
1.48	300	○	300	○
1.49	305	○	305	○
1.5	310	○	310	○
1.6	315	○	315	○
1.7	320	○	320	○
1.8	325	○	325	○
1.9	330	○	330	○
2	335	○	335	○
2.5	340	○	340	○
3	345	○	345	○
3.5	350	○	350	○
4	355	○	355	○
4.5	360	○	360	○
5	365	○	365	○
5.5	370	○	370	○
6	375	○	375	○
6.5	380	○	380	○
7	385	○	385	○
7.5	390	○	390	○
8	395	○	395	○
8.5	400	○	400	○
9	405	○	405	○
9.5	410	○	410	○

Tolerance class	1		0	
Material	Carbide		Carbide	
Nominal dimension (mm)	32106... Ident. No.		32107... Ident. No.	
10	415	○	415	○
10.5	420	○	420	○
11	425	○	425	○
11.5	430	○	430	○
12	435	○	435	○
12.5	440	○	440	○
13	445	○	445	○
13.5	450	○	450	○
14	455	○	455	○
14.5	460	○	460	○
15	465	○	465	○
15.5	470	○	470	○
16	475	○	475	○
16.5	480	○	480	○
17	485	○	485	○
17.5	490	○	490	○
18	495	○	495	○
18.5	500	○	500	○
19	505	○	505	○
19.5	510	○	510	○
20	515	○	515	○
20.5	520	○	520	○
21	525	○	525	○
21.5	530	○	530	○
22	535	○	535	○
22.5	540	○	540	○
23	545	○	545	○
23.5	550	○	550	○
24	555	○	555	○
24.5	560	○	560	○
25	565	○	565	○
30	570	○	570	○
40	575	○	575	○
50	580	○	580	○
60	585	○	585	○
70	590	○	590	○
75	595	○	595	○
80	600	○	600	○
90	605	○	605	○
100	610	○	610	○

Prod. Gr. 3DD

ORION® Steel gauge blocks (ISO 3650)

long version

Application:
For testing and calibrating measuring instruments and test equipment.

Execution:
- Gauge blocks are marked with an identification number

Delivery:
in wooden case, without calibration

Tolerance class	0		1	
Material	Gauge steel		Gauge steel	
Nominal dimension (mm)	32110... Ident. No.		32109... Ident. No.	
125	125	○	125	●
150	150	○	150	●
175	175	○	175	●
200	200	●	200	●
250	250	○	250	●
300	300	○	300	●
400	400	○	400	●

Tolerance class	0		1	
Material	Gauge steel		Gauge steel	
Nominal dimension (mm)	32110... Ident. No.		32109... Ident. No.	
500	500	○	500	●
600	600	○	600	○
700	700	○	700	○
800	800	○	800	○
900	900	○	900	○
1000	100	○	100	○

Prod. Gr. 321

ORION® Gauge block connector

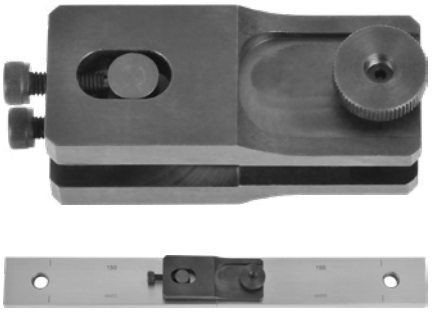
for long gauge blocks

Application:
For secure connection and fastening of long gauge blocks with holes

Execution:
- One side with knurled thumb screw
- Other side with slotted hole and two adjusting screws

Advantage:
- The slotted hole enables flexible use with gauge blocks from other manufacturers

NEW



	Type		
32281...	Gauge block connector	Ident. No.	030 ●

Prod. Gr. 321

ORION® Gauge block accessories set

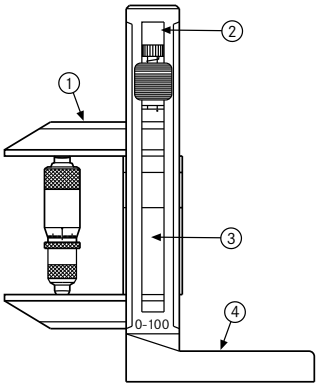
17 pieces

Application:
For the use of gauge blocks for measuring devices, marking instruments, etc.

Execution:
- Adjustable gauge block holder for measuring range 50/100/200 mm
- Scriber point
- Centring tip
- Straight edge
- Base for gauge block holders
- One pair of flat measuring jaws for external measurements
- One pair of blade tips for groove diameters
- One pair each of half-round measuring jaws with cylindrical attachment 4/10/20 mm

Advantage:
- Using this set cares for and preserves gauge blocks in

Delivery:
In a case



① Measuring arm
② Gauge block holder
③ Gauge blocks
④ Base

	Number of pieces in assortment/set (PCS)		
32281...	17	Ident. No.	020 ●

Prod. Gr. 321

Test pin holder

Application:
For holding 2 test pins (e.g. no. 32481) within a tolerance field (e.g. can be used as a limit plug gauge).

Min./max. nominal Ø		1-1.99 mm	2-4.5 mm	4.51-6.99 mm	7-9.5 mm	9.51-12 mm
Length (mm)		60	68	76	84	92
32485...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 3DA

ATORN Test pin sets in wooden box (DIN 2269)

made from stainless and acid-resistant steel

AE

NEW

Application:
For measuring bore spacings, bore diameters, angularity of bores etc.

Execution:
- ground and lapped
- hardened 58-62 HRC
- Rust- and acid-resistant steel
- Diameter from 0.300 to 0.999 mm with a length of 40 mm; diameter from 1.000 mm with a length of 70 mm
- diameter from 3.00 mm: One end with 30-45° chamfer; other end deburred with diameter marking on end face
- diameter from 1.5 to 2.999 mm: One end with 30-45° chamfer; other end deburred with diameter marking on outer surface
- diameter from 1.00 to 1.499 mm: One end with 30-45° chamfer; other end deburred without diameter marking
- up to 0.999 mm: Both ends deburred, without diameter marking

				Material	Stainless and acid proof steel	
				Tolerance class	1	
Min./max. Ø	Type	Number of pieces in assortment/set (PCS)	Length (mm)	Number of bins	32471... Ident. No.	
1.00-10 mm	in 0.5 mm increments	19	70	1	500	●
1.00-10 mm	in 0.1 mm increments	91	70	1	505	●
1.00-5 mm	in 0.05 mm increments	81	70	1	510	●
0.5-1 mm	in 0.01 mm increments	51	70	1	515	●
1.00-2 mm	in 0.01 mm increments	101	70	1	520	●
2.01-3 mm	in 0.01 mm increments	100	70	1	525	●
3.01-4 mm	in 0.01 mm increments	100	70	1	530	●
4.01-5 mm	in 0.01 mm increments	100	70	1	535	●
5.01-6 mm	in 0.01 mm increments	100	70	1	540	●
6.01-7 mm	in 0.01 mm increments	100	70	1	545	●
7.01-8 mm	in 0.01 mm increments	100	70	2	550	●
8.01-9 mm	in 0.01 mm increments	100	70	2	555	●
9.01-10 mm	in 0.01 mm increments	100	70	2	560	●

Prod. Gr. 3DD

ATORN Test pin sets in wooden box (DIN 2269)

0.1 mm increments

AE

Application:
For measuring bore hole clearances, bore diameters, angularity of bores etc.

Execution:
- Ground and lapped
- Hardened 60–64 HRC
- from diameter 3.00 mm: One end with 30-45° chamfer; other end deburred with diameter marking on end face
- diameter from 1.5 to 2.999 mm: One end with 30-45° chamfer; other end deburred with diameter marking on outer surface
- diameter from 1.00 to 1.499 mm: One end with 30-45° chamfer; other end deburred without diameter marking
- up to 0.999 mm: both ends deburred, without diameter marking

Delivery:
In wooden case

				Material	Gauge steel		Gauge steel	
				Tolerance class	1		2	
Min./max. Ø	Type	Number of pieces in assortment/set (PCS)	Length (mm)	Number of bins	32486... Ident. No.		32486... Ident. No.	
1.00-5 mm	in 0.1 mm increments	41	70	1	001	○	002	●
5.10-10 mm	in 0.1 mm increments	50	70	1	101	○	102	○
1.00-10 mm	in 0.1 mm increments	91	70	1	201	●	202	●

Prod. Gr. 3DD

ATORN Test pin sets in wooden box (DIN 2269)

0.05 mm increments

				Material	Gauge steel		Gauge steel	
				Tolerance class	1		2	
Min./max. Ø	Type	Number of pieces in assortment/set (PCS)	Length (mm)	Number of bins	32487... Ident. No.		32487... Ident. No.	
1.00-5 mm	in 0.05 mm increments	81	70	1	001	○	002	●
5.05-10 mm	in 0.05 mm increments	100	70	2	101	○	102	●

Prod. Gr. 3DD

ATORN Test pin sets in wooden box (DIN 2269)

0.01 mm increments

				Material	Gauge steel		Gauge steel	
				Tolerance class	1		2	
Min./max. Ø	Type	Number of pieces in assortment/set (PCS)	Length (mm)	Number of bins	32488... Ident. No.		32488... Ident. No.	
1.00-2 mm	in 0.01 mm increments	101	70	1	001	○	002	●
2.01-3 mm	in 0.01 mm increments	100	70	1	101	○	102	●
3.01-4 mm	in 0.01 mm increments	100	70	1	201	○	202	●
4.01-5 mm	in 0.01 mm increments	100	70	1	301	○	302	○
5.01-6 mm	in 0.01 mm increments	100	70	1	401	○	402	●
6.01-7 mm	in 0.01 mm increments	100	70	1	501	○	502	○
7.01-8 mm	in 0.01 mm increments	100	70	2	601	○	602	○
8.01-9 mm	in 0.01 mm increments	100	70	2	701	○	702	○
9.01-10 mm	in 0.01 mm increments	100	70	2	801	○	802	○
1.00-10 mm	in 0.01 mm increments	901	70	12	901	○	902	○

Prod. Gr. 3DD

ORION ATORN Individual test pins (DIN 2269)

Tolerance class 1 (+/- 0.001 mm) diameter 0.10 to 0.99 mm, 0.01 mm increments

AE

NEW EXTENDED PROGRAM

Application:
For measuring bore spacings, bore diameters, angularity of bores etc.

Version:
- Ground and lapped
- Up to 0.999 mm: both ends deburred, without diameter marking

- **No. 32470:**
  - hardened to 58-62 HRC
  - Rust- and acid-resistant steel
- **No. 32481:** hardened to 60-64 HRC

Note:
No. 32481: Only sizes above approx. 6 mm dia. can be engraved and only with a few characters.

No. 32481 030–32481 099

	ORION		ATORN	
Material	Gauge steel		Stainless and acid proof steel	
Tolerance class	1		1	
Ø x length	32481... Ident. No.		32470... Ident. No.	
0.1 x 40 mm	010	●	-	-
0.11 x 40 mm	011	○	-	-
0.12 x 40 mm	012	○	-	-
0.13 x 40 mm	013	○	-	-
0.14 x 40 mm	014	○	-	-
0.15 x 40 mm	015	○	-	-
0.16 x 40 mm	016	○	-	-
0.17 x 40 mm	017	○	-	-
0.18 x 40 mm	018	○	-	-
0.19 x 40 mm	019	○	-	-
0.2 x 40 mm	020	●	-	-
0.21 x 40 mm	021	○	-	-
0.22 x 40 mm	022	○	-	-
0.23 x 40 mm	023	○	-	-
0.24 x 40 mm	024	○	-	-
0.25 x 40 mm	025	○	-	-
0.26 x 40 mm	026	○	-	-
0.27 x 40 mm	027	○	-	-
0.28 x 40 mm	028	○	-	-
0.29 x 40 mm	029	○	-	-
0.3 x 40 mm	030	●	030	●
0.31 x 40 mm	031	●	031	○
0.32 x 40 mm	032	●	032	○
0.33 x 40 mm	033	●	033	○
0.34 x 40 mm	034	●	034	○
0.35 x 40 mm	035	●	035	○
0.36 x 40 mm	036	●	036	○
0.37 x 40 mm	037	●	037	○
0.38 x 40 mm	038	●	038	○
0.39 x 40 mm	039	●	039	○
0.4 x 40 mm	040	●	040	●
0.41 x 40 mm	041	●	041	○
0.42 x 40 mm	042	●	042	○
0.43 x 40 mm	043	●	043	○
0.44 x 40 mm	044	●	044	○
0.45 x 40 mm	045	●	045	○
0.46 x 40 mm	046	●	046	○
0.47 x 40 mm	047	●	047	○
0.48 x 40 mm	048	●	048	○
0.49 x 40 mm	049	●	049	○
0.5 x 40 mm	050	●	050	●
0.51 x 40 mm	051	●	051	○
0.52 x 40 mm	052	●	052	○
0.53 x 40 mm	053	●	053	○
0.54 x 40 mm	054	●	054	○

	ORION		ATORN	
Material	Gauge steel		Stainless and acid proof steel	
Tolerance class	1		1	
Ø x length	32481... Ident. No.		32470... Ident. No.	
0.55 x 40 mm	055	●	055	○
0.56 x 40 mm	056	●	056	○
0.57 x 40 mm	057	●	057	○
0.58 x 40 mm	058	●	058	○
0.59 x 40 mm	059	●	059	○
0.6 x 40 mm	060	●	060	●
0.61 x 40 mm	061	●	061	○
0.62 x 40 mm	062	●	062	○
0.63 x 40 mm	063	●	063	○
0.64 x 40 mm	064	●	064	○
0.65 x 40 mm	065	●	065	○
0.66 x 40 mm	066	○	066	○
0.67 x 40 mm	067	●	067	○
0.68 x 40 mm	068	○	068	○
0.69 x 40 mm	069	●	069	○
0.7 x 40 mm	070	●	070	●
0.71 x 40 mm	071	●	071	○
0.72 x 40 mm	072	●	072	○
0.73 x 40 mm	073	○	073	○
0.74 x 40 mm	074	●	074	○
0.75 x 40 mm	075	●	075	○
0.76 x 40 mm	076	●	076	○
0.77 x 40 mm	077	●	077	○
0.78 x 40 mm	078	●	078	○
0.79 x 40 mm	079	●	079	○
0.8 x 40 mm	080	●	080	●
0.81 x 40 mm	081	●	081	○
0.82 x 40 mm	082	●	082	○
0.83 x 40 mm	083	●	083	○
0.84 x 40 mm	084	●	084	○
0.85 x 40 mm	085	●	085	○
0.86 x 40 mm	086	●	086	○
0.87 x 40 mm	087	●	087	○
0.88 x 40 mm	088	●	088	○
0.89 x 40 mm	089	○	089	○
0.9 x 40 mm	090	●	090	●
0.91 x 40 mm	091	●	091	○
0.92 x 40 mm	092	●	092	○
0.93 x 40 mm	093	●	093	○
0.94 x 40 mm	094	●	094	○
0.95 x 40 mm	095	●	095	○
0.96 x 40 mm	096	●	096	○
0.97 x 40 mm	097	●	097	○
0.98 x 40 mm	098	●	098	○
0.99 x 40 mm	099	●	099	○

ORION = Prod. Gr. 3DA
ATORN = Prod. Gr. 3DD

ATORN ORION® Individual test pins (DIN 2269)

Tolerance class 1 (+/- 0.001 mm) diameter 1.00 to 1.99 mm, 0.01 mm increments

AE

NEW

No. 32481

Application:

No. 32470: For measuring bore spacings, bore diameters, angularity of bores etc.

No. 32481: For measuring bore hole clearances, bore diameters, angularity of bores etc.

Execution:

- **No. 32470:**
  - ground and lapped
  - hardened 58-62 HRC
  - Rust- and acid-resistant steel
  - Diameter from 0.300 to 0.999 mm with a length of 40 mm; diameter from 1.000 mm with a length of 70 mm
  - diameter from 3.00 mm: One end with 30-45° chamfer; other end deburred with diameter marking on end face
  - diameter from 1.5 to 2.999 mm: One end with 30-45° chamfer; other end deburred with diameter marking on outer surface
  - diameter from 1.00 to 1.499 mm: One end with 30-45° chamfer; other end deburred without diameter marking
  - up to 0.999 mm: Both ends deburred, without diameter marking
- **No. 32481:**
  - Ground and lapped
  - Hardened 60-64 HRC
  - Diameter of 0.300 to 0.999 mm with a length of 40 mm; diameter from 1.000 mm with a length of 70 mm
  - from diameter 3.00 mm: One end with 30-45° chamfer; other end deburred with diameter marking on end face
  - from dia. 1.5 to 2.999 mm: with 30-45° chamfer on both sides; diameter marking on the outer surface
  - from dia. 1.00 to 1.499 mm: with 30-45° chamfer on both sides; without diameter marking
  - up to 0.999 mm: both ends deburred, without diameter marking

Notes:

No. 32481: Engraving is only possible from approx. 6 mm diameter and only with a few characters.

	ORION®		ATORN®	
Material	Gauge steel		Stainless and acid proof steel	
Tolerance class	1		1	
Ø x length	32481... Ident. No.		32470... Ident. No.	
1 x 70 mm	100	●	100	●
1.01 x 70 mm	101	●	101	○
1.02 x 70 mm	102	●	102	○
1.03 x 70 mm	103	●	103	○
1.04 x 70 mm	104	●	104	○
1.05 x 70 mm	105	●	105	○
1.06 x 70 mm	106	●	106	○
1.07 x 70 mm	107	●	107	○
1.08 x 70 mm	108	○	108	○
1.09 x 70 mm	109	●	109	○
1.1 x 70 mm	110	●	110	●
1.11 x 70 mm	111	●	111	○
1.12 x 70 mm	112	●	112	○
1.13 x 70 mm	113	●	113	○
1.14 x 70 mm	114	●	114	○
1.15 x 70 mm	115	●	115	○
1.16 x 70 mm	116	●	116	○
1.17 x 70 mm	117	●	117	○
1.18 x 70 mm	118	●	118	○
1.19 x 70 mm	119	●	119	○
1.2 x 70 mm	120	●	120	●
1.21 x 70 mm	121	●	121	○
1.22 x 70 mm	122	●	122	○
1.23 x 70 mm	123	●	123	○
1.24 x 70 mm	124	●	124	○
1.25 x 70 mm	125	●	125	○
1.26 x 70 mm	126	●	126	○
1.27 x 70 mm	127	●	127	○
1.28 x 70 mm	128	●	128	○
1.29 x 70 mm	129	●	129	○
1.3 x 70 mm	130	●	130	●
1.31 x 70 mm	131	●	131	○
1.32 x 70 mm	132	●	132	○
1.33 x 70 mm	133	●	133	○

	ORION®		ATORN®	
Material	Gauge steel		Stainless and acid proof steel	
Tolerance class	1		1	
Ø x length	32481... Ident. No.		32470... Ident. No.	
1.34 x 70 mm	134	●	134	○
1.35 x 70 mm	135	●	135	○
1.36 x 70 mm	136	●	136	○
1.37 x 70 mm	137	○	137	○
1.38 x 70 mm	138	●	138	○
1.39 x 70 mm	139	●	139	○
1.4 x 70 mm	140	●	140	●
1.41 x 70 mm	141	●	141	○
1.42 x 70 mm	142	●	142	○
1.43 x 70 mm	143	●	143	○
1.44 x 70 mm	144	●	144	○
1.45 x 70 mm	145	●	145	○
1.46 x 70 mm	146	●	146	○
1.47 x 70 mm	147	●	147	○
1.48 x 70 mm	148	●	148	○
1.49 x 70 mm	149	●	149	○
1.5 x 70 mm	150	●	150	●
1.51 x 70 mm	151	●	151	○
1.52 x 70 mm	152	●	152	○
1.53 x 70 mm	153	●	153	○
1.54 x 70 mm	154	●	154	○
1.55 x 70 mm	155	●	155	○
1.56 x 70 mm	156	●	156	○
1.57 x 70 mm	157	●	157	○
1.58 x 70 mm	158	●	158	○
1.59 x 70 mm	159	●	159	○
1.6 x 70 mm	160	●	160	●
1.61 x 70 mm	161	●	161	○
1.62 x 70 mm	162	●	162	○
1.63 x 70 mm	163	○	163	○
1.64 x 70 mm	164	●	164	○
1.65 x 70 mm	165	●	165	○
1.66 x 70 mm	166	●	166	○
1.67 x 70 mm	167	●	167	○

	ORION®		ATORN®	
Material	Gauge steel		Stainless and acid proof steel	
Tolerance class	1		1	
Ø x length	32481... Ident. No.		32470... Ident. No.	
1.68 x 70 mm	168	●	168	○
1.69 x 70 mm	169	●	169	○
1.7 x 70 mm	170	●	170	●
1.71 x 70 mm	171	●	171	○
1.72 x 70 mm	172	●	172	○
1.73 x 70 mm	173	○	173	○
1.74 x 70 mm	174	●	174	○
1.75 x 70 mm	175	●	175	○
1.76 x 70 mm	176	●	176	○
1.77 x 70 mm	177	●	177	○
1.78 x 70 mm	178	●	178	○
1.79 x 70 mm	179	○	179	○
1.8 x 70 mm	180	●	180	○
1.81 x 70 mm	181	●	181	○
1.82 x 70 mm	182	●	182	○
1.83 x 70 mm	183	●	183	○
1.84 x 70 mm	184	○	184	○
1.85 x 70 mm	185	●	185	○
1.86 x 70 mm	186	○	186	○
1.87 x 70 mm	187	●	187	○
1.88 x 70 mm	188	○	188	○
1.89 x 70 mm	189	○	189	○
1.9 x 70 mm	190	●	190	●
1.91 x 70 mm	191	●	191	○
1.92 x 70 mm	192	●	192	○
1.93 x 70 mm	193	●	193	○
1.94 x 70 mm	194	●	194	○
1.95 x 70 mm	195	●	195	○
1.96 x 70 mm	196	●	196	○
1.97 x 70 mm	197	●	197	○
1.98 x 70 mm	198	●	198	○
1.99 x 70 mm	199	●	199	○

ORION = Prod. Gr. 3DA
ATORN® = Prod. Gr. 3DD

ORION ATORN Individual test pins (DIN 2269)

Tolerance class 1 (+/- 0.001 mm) diameter 2.00 to 3.99 mm, 0.01 mm increments

	No		Yes		-	
Material	Gauge steel		Gauge steel		Stainless and acid proof steel	
Tolerance class	1		1		1	
Ø x length	32481... Ident. No.		32481... Ident. No.		32470... Ident. No.	
2 x 70 mm	200	●	-	-	200	●
2.01 x 70 mm	201	●	-	-	201	○
2.02 x 70 mm	202	●	-	-	202	○
2.03 x 70 mm	203	●	-	-	203	○
2.04 x 70 mm	204	●	-	-	204	○
2.05 x 70 mm	205	●	-	-	205	○
2.06 x 70 mm	206	●	-	-	206	○
2.07 x 70 mm	207	●	-	-	207	○
2.08 x 70 mm	208	●	-	-	208	○
2.09 x 70 mm	209	●	-	-	209	○
2.1 x 70 mm	210	●	-	-	210	●
2.11 x 70 mm	211	●	-	-	211	○
2.12 x 70 mm	212	●	-	-	212	○
2.13 x 70 mm	213	●	-	-	213	○
2.14 x 70 mm	214	●	-	-	214	○
2.15 x 70 mm	215	●	-	-	215	○
2.16 x 70 mm	216	●	-	-	216	○
2.17 x 70 mm	217	●	-	-	217	○
2.18 x 70 mm	218	○	-	-	218	○
2.19 x 70 mm	219	●	-	-	219	○
2.2 x 70 mm	220	●	-	-	220	●
2.21 x 70 mm	221	●	-	-	221	○
2.22 x 70 mm	222	○	-	-	222	○
2.23 x 70 mm	223	○	-	-	223	○
2.24 x 70 mm	224	○	-	-	224	○
2.25 x 70 mm	225	●	-	-	225	○
2.26 x 70 mm	226	○	-	-	226	○
2.27 x 70 mm	227	●	-	-	227	○
2.28 x 70 mm	228	○	-	-	228	○
2.29 x 70 mm	229	○	-	-	229	○
2.3 x 70 mm	230	●	-	-	230	●
2.31 x 70 mm	231	●	-	-	231	○
2.32 x 70 mm	232	●	-	-	232	○
2.33 x 70 mm	233	●	-	-	233	○
2.34 x 70 mm	234	○	-	-	234	○
2.35 x 70 mm	235	●	-	-	235	○
2.36 x 70 mm	236	●	-	-	236	○
2.37 x 70 mm	237	●	-	-	237	○
2.38 x 70 mm	238	●	-	-	238	○
2.39 x 70 mm	239	○	-	-	239	○
2.4 x 70 mm	240	●	-	-	240	●
2.41 x 70 mm	241	●	-	-	241	○
2.42 x 70 mm	242	●	-	-	242	○
2.43 x 70 mm	243	●	-	-	243	○
2.44 x 70 mm	244	○	-	-	244	○
2.45 x 70 mm	245	●	-	-	245	○
2.46 x 70 mm	246	●	-	-	246	○
2.47 x 70 mm	247	●	-	-	247	○
2.48 x 70 mm	248	●	-	-	248	○
2.49 x 70 mm	249	●	-	-	249	○
2.5 x 70 mm	250	●	-	-	250	●
2.51 x 70 mm	251	●	-	-	251	○
2.52 x 70 mm	252	●	-	-	252	○
2.53 x 70 mm	253	●	-	-	253	○
2.54 x 70 mm	254	●	-	-	254	○
2.55 x 70 mm	255	●	-	-	255	○
2.56 x 70 mm	256	●	-	-	256	○
2.57 x 70 mm	257	●	-	-	257	○
2.58 x 70 mm	258	●	-	-	258	○
2.59 x 70 mm	259	○	-	-	259	○
2.6 x 70 mm	260	●	-	-	260	●
2.61 x 70 mm	261	●	-	-	261	○
2.62 x 70 mm	262	●	-	-	262	○
2.63 x 70 mm	263	○	-	-	263	○
2.64 x 70 mm	264	○	-	-	264	○
2.65 x 70 mm	265	●	-	-	265	○
2.66 x 70 mm	266	●	-	-	266	○

	No		Yes		-	
Material	Gauge steel		Gauge steel		Stainless and acid proof steel	
Tolerance class	1		1		1	
Ø x length	32481... Ident. No.		32481... Ident. No.		32470... Ident. No.	
2.67 x 70 mm	267	○	-	-	267	○
2.68 x 70 mm	268	●	-	-	268	○
2.69 x 70 mm	269	○	-	-	269	○
2.7 x 70 mm	270	●	-	-	270	●
2.71 x 70 mm	271	●	-	-	271	○
2.72 x 70 mm	272	○	-	-	272	○
2.73 x 70 mm	273	●	-	-	273	○
2.74 x 70 mm	274	●	-	-	274	○
2.75 x 70 mm	275	●	-	-	275	○
2.76 x 70 mm	276	○	-	-	276	○
2.77 x 70 mm	277	○	-	-	277	○
2.78 x 70 mm	278	○	-	-	278	○
2.79 x 70 mm	279	●	-	-	279	○
2.8 x 70 mm	280	●	-	-	280	●
2.81 x 70 mm	281	○	-	-	281	○
2.82 x 70 mm	282	○	-	-	282	○
2.83 x 70 mm	283	○	-	-	283	○
2.84 x 70 mm	284	○	-	-	284	○
2.85 x 70 mm	285	●	-	-	285	○
2.86 x 70 mm	286	○	-	-	286	○
2.87 x 70 mm	287	●	-	-	287	○
2.88 x 70 mm	288	○	-	-	288	○
2.89 x 70 mm	289	●	-	-	289	○
2.9 x 70 mm	290	●	-	-	290	●
2.91 x 70 mm	291	●	-	-	291	○
2.92 x 70 mm	292	○	-	-	292	○
2.93 x 70 mm	293	●	-	-	293	○
2.94 x 70 mm	294	○	-	-	294	○
2.95 x 70 mm	295	●	-	-	295	○
2.96 x 70 mm	296	●	-	-	296	○
2.97 x 70 mm	297	●	-	-	297	○
2.98 x 70 mm	298	●	-	-	298	○
2.99 x 70 mm	299	●	-	-	299	○
3 x 70 mm	-	-	300	●	300	●
3.01 x 70 mm	-	-	301	●	301	○
3.02 x 70 mm	-	-	302	●	302	○
3.03 x 70 mm	-	-	303	●	303	○
3.04 x 70 mm	-	-	304	●	304	○
3.05 x 70 mm	-	-	305	●	305	○
3.06 x 70 mm	-	-	306	●	306	○
3.07 x 70 mm	-	-	307	●	307	○
3.08 x 70 mm	-	-	308	●	308	○
3.09 x 70 mm	-	-	309	●	309	○
3.1 x 70 mm	-	-	310	●	310	●
3.11 x 70 mm	-	-	311	●	311	○
3.12 x 70 mm	-	-	312	●	312	○
3.13 x 70 mm	-	-	313	○	313	○
3.14 x 70 mm	-	-	314	●	314	○
3.15 x 70 mm	-	-	315	●	315	○
3.16 x 70 mm	-	-	316	●	316	○
3.17 x 70 mm	-	-	317	●	317	○
3.18 x 70 mm	-	-	318	●	318	○
3.19 x 70 mm	-	-	319	●	319	○
3.2 x 70 mm	-	-	320	●	320	●
3.21 x 70 mm	-	-	321	●	321	○
3.22 x 70 mm	-	-	322	●	322	○
3.23 x 70 mm	-	-	323	●	323	○
3.24 x 70 mm	-	-	324	○	324	○
3.25 x 70 mm	-	-	325	●	325	○
3.26 x 70 mm	-	-	326	○	326	○
3.27 x 70 mm	-	-	327	○	327	○
3.28 x 70 mm	-	-	328	●	328	○
3.29 x 70 mm	-	-	329	○	329	○
3.3 x 70 mm	-	-	330	●	330	●
3.31 x 70 mm	-	-	331	○	331	○
3.32 x 70 mm	-	-	332	○	332	○
3.33 x 70 mm	-	-	333	●	333	○

	No		Yes		-	
Material	Gauge steel		Gauge steel		Stainless and acid proof steel	
Tolerance class	1		1		1	
Ø x length	32481... Ident. No.		32481... Ident. No.		32470... Ident. No.	
3.34 x 70 mm	-	-	334	○	334	○
3.35 x 70 mm	-	-	335	●	335	○
3.36 x 70 mm	-	-	336	○	336	○
3.37 x 70 mm	-	-	337	●	337	○
3.38 x 70 mm	-	-	338	○	338	○
3.39 x 70 mm	-	-	339	○	339	○
3.4 x 70 mm	-	-	340	●	340	●
3.41 x 70 mm	-	-	341	○	341	○
3.42 x 70 mm	-	-	342	●	342	○
3.43 x 70 mm	-	-	343	○	343	○
3.44 x 70 mm	-	-	344	○	344	○
3.45 x 70 mm	-	-	345	●	345	○
3.46 x 70 mm	-	-	346	○	346	○
3.47 x 70 mm	-	-	347	○	347	○
3.48 x 70 mm	-	-	348	●	348	○
3.49 x 70 mm	-	-	349	●	349	○
3.5 x 70 mm	-	-	350	●	350	●
3.51 x 70 mm	-	-	351	●	351	○
3.52 x 70 mm	-	-	352	●	352	○
3.53 x 70 mm	-	-	353	●	353	○
3.54 x 70 mm	-	-	354	○	354	○
3.55 x 70 mm	-	-	355	●	355	○
3.56 x 70 mm	-	-	356	○	356	○
3.57 x 70 mm	-	-	357	●	357	○
3.58 x 70 mm	-	-	358	○	358	○
3.59 x 70 mm	-	-	359	●	359	○
3.6 x 70 mm	-	-	360	●	360	●
3.61 x 70 mm	-	-	361	○	361	○
3.62 x 70 mm	-	-	362	○	362	○
3.63 x 70 mm	-	-	363	○	363	○
3.64 x 70 mm	-	-	364	○	364	○
3.65 x 70 mm	-	-	365	●	365	○
3.66 x 70 mm	-	-	366	●	366	○
3.67 x 70 mm	-	-	367	○	367	○
3.68 x 70 mm	-	-	368	○	368	○
3.69 x 70 mm	-	-	369	○	369	○
3.7 x 70 mm	-	-	370	●	370	●
3.71 x 70 mm	-	-	371	●	371	○
3.72 x 70 mm	-	-	372	●	372	○
3.73 x 70 mm	-	-	373	○	373	○
3.74 x 70 mm	-	-	374	○	374	○
3.75 x 70 mm	-	-	375	●	375	○
3.76 x 70 mm	-	-	376	○	376	○
3.77 x 70 mm	-	-	377	○	377	○
3.78 x 70 mm	-	-	378	○	378	○
3.79 x 70 mm	-	-	379	○	379	○
3.8 x 70 mm	-	-	380	●	380	●
3.81 x 70 mm	-	-	381	●	381	○
3.82 x 70 mm	-	-	382	●	382	○
3.83 x 70 mm	-	-	383	○	383	○
3.84 x 70 mm	-	-	384	○	384	○
3.85 x 70 mm	-	-	385	●	385	○
3.86 x 70 mm	-	-	386	○	386	○
3.87 x 70 mm	-	-	387	○	387	○
3.88 x 70 mm	-	-	388	●	388	○
3.89 x 70 mm	-	-	389	●	389	○
3.9 x 70 mm	-	-	390	●	390	●
3.91 x 70 mm	-	-	391	●	391	○
3.92 x 70 mm	-	-	392	○	392	○
3.93 x 70 mm	-	-	393	○	393	○
3.94 x 70 mm	-	-	394	●	394	○
3.95 x 70 mm	-	-	395	●	395	○
3.96 x 70 mm	-	-	396	●	396	○
3.97 x 70 mm	-	-	397	●	397	○
3.98 x 70 mm	-	-	398	●	398	○
3.99 x 70 mm	-	-	399	●	399	○

ORION = Prod. Gr. 3DA
ATORN = Prod. Gr. 3DD

ATORN ORION® Individual test pins (DIN 2269)

Tolerance class 1 (+/- 0.001 mm) diameter 3.00 to 5.99 mm, 0.01 mm increments

	Yes		-	
Material	Gauge steel		Stainless and acid proof steel	
Tolerance class	1		1	
Ø x length	32481... Ident. No.		32470... Ident. No.	
4 x 70 mm	400	●	400	●
4.01 x 70 mm	401	●	401	○
4.02 x 70 mm	402	●	402	○
4.03 x 70 mm	403	●	403	○
4.04 x 70 mm	404	●	404	○
4.05 x 70 mm	405	●	405	○
4.06 x 70 mm	406	●	406	○
4.07 x 70 mm	407	●	407	○
4.08 x 70 mm	408	●	408	○
4.09 x 70 mm	409	●	409	○
4.1 x 70 mm	410	●	410	●
4.11 x 70 mm	411	●	411	○
4.12 x 70 mm	412	○	412	○
4.13 x 70 mm	413	○	413	○
4.14 x 70 mm	414	●	414	○
4.15 x 70 mm	415	●	415	○
4.16 x 70 mm	416	●	416	○
4.17 x 70 mm	417	●	417	○
4.18 x 70 mm	418	●	418	○
4.19 x 70 mm	419	○	419	○
4.2 x 70 mm	420	●	420	●
4.21 x 70 mm	421	○	421	○
4.22 x 70 mm	422	○	422	○
4.23 x 70 mm	423	●	423	○
4.24 x 70 mm	424	○	424	○
4.25 x 70 mm	425	●	425	○
4.26 x 70 mm	426	●	426	○
4.27 x 70 mm	427	○	427	○
4.28 x 70 mm	428	○	428	○
4.29 x 70 mm	429	●	429	○
4.3 x 70 mm	430	●	430	●
4.31 x 70 mm	431	○	431	○
4.32 x 70 mm	432	●	432	○
4.33 x 70 mm	433	○	433	○
4.34 x 70 mm	434	○	434	○
4.35 x 70 mm	435	●	435	○
4.36 x 70 mm	436	○	436	○
4.37 x 70 mm	437	○	437	○
4.38 x 70 mm	438	○	438	○
4.39 x 70 mm	439	○	439	○
4.4 x 70 mm	440	●	440	●
4.41 x 70 mm	441	○	441	○
4.42 x 70 mm	442	○	442	○
4.43 x 70 mm	443	○	443	○
4.44 x 70 mm	444	○	444	○
4.45 x 70 mm	445	●	445	○
4.46 x 70 mm	446	●	446	○
4.47 x 70 mm	447	●	447	○
4.48 x 70 mm	448	●	448	○
4.49 x 70 mm	449	●	449	○
4.5 x 70 mm	450	●	450	●
4.51 x 70 mm	451	●	451	○
4.52 x 70 mm	452	●	452	○
4.53 x 70 mm	453	○	453	○
4.54 x 70 mm	454	○	454	○
4.55 x 70 mm	455	●	455	○
4.56 x 70 mm	456	○	456	○
4.57 x 70 mm	457	○	457	○
4.58 x 70 mm	458	○	458	○
4.59 x 70 mm	459	○	459	○
4.6 x 70 mm	460	●	460	●
4.61 x 70 mm	461	○	461	○
4.62 x 70 mm	462	○	462	○
4.63 x 70 mm	463	○	463	○
4.64 x 70 mm	464	○	464	○
4.65 x 70 mm	465	●	465	○
4.66 x 70 mm	466	○	466	○

	Yes		-	
Material	Gauge steel		Stainless and acid proof steel	
Tolerance class	1		1	
Ø x length	32481... Ident. No.		32470... Ident. No.	
4.67 x 70 mm	467	○	467	○
4.68 x 70 mm	468	○	468	○
4.69 x 70 mm	469	○	469	○
4.7 x 70 mm	470	●	470	●
4.71 x 70 mm	471	○	471	○
4.72 x 70 mm	472	○	472	○
4.73 x 70 mm	473	○	473	○
4.74 x 70 mm	474	○	474	○
4.75 x 70 mm	475	●	475	○
4.76 x 70 mm	476	○	476	○
4.77 x 70 mm	477	○	477	○
4.78 x 70 mm	478	○	478	○
4.79 x 70 mm	479	○	479	○
4.8 x 70 mm	480	●	480	●
4.81 x 70 mm	481	○	481	○
4.82 x 70 mm	482	○	482	○
4.83 x 70 mm	483	○	483	○
4.84 x 70 mm	484	○	484	○
4.85 x 70 mm	485	●	485	○
4.86 x 70 mm	486	●	486	○
4.87 x 70 mm	487	○	487	○
4.88 x 70 mm	488	○	488	○
4.89 x 70 mm	489	○	489	○
4.9 x 70 mm	490	●	490	●
4.91 x 70 mm	491	●	491	○
4.92 x 70 mm	492	●	492	○
4.93 x 70 mm	493	○	493	○
4.94 x 70 mm	494	●	494	○
4.95 x 70 mm	495	●	495	○
4.96 x 70 mm	496	●	496	○
4.97 x 70 mm	497	●	497	○
4.98 x 70 mm	498	●	498	○
4.99 x 70 mm	499	●	499	○
5 x 70 mm	500	●	500	●
5.01 x 70 mm	501	●	501	○
5.02 x 70 mm	502	●	502	○
5.03 x 70 mm	503	●	503	○
5.04 x 70 mm	504	●	504	○
5.05 x 70 mm	505	●	505	○
5.06 x 70 mm	506	●	506	○
5.07 x 70 mm	507	●	507	○
5.08 x 70 mm	508	●	508	○
5.09 x 70 mm	509	●	509	○
5.1 x 70 mm	510	●	510	●
5.11 x 70 mm	511	●	511	○
5.12 x 70 mm	512	●	512	○
5.13 x 70 mm	513	○	513	○
5.14 x 70 mm	514	○	514	○
5.15 x 70 mm	515	●	515	○
5.16 x 70 mm	516	●	516	○
5.17 x 70 mm	517	○	517	○
5.18 x 70 mm	518	●	518	○
5.19 x 70 mm	519	●	519	○
5.2 x 70 mm	520	●	520	●
5.21 x 70 mm	521	●	521	○
5.22 x 70 mm	522	○	522	○
5.23 x 70 mm	523	○	523	○
5.24 x 70 mm	524	○	524	○
5.25 x 70 mm	525	●	525	○
5.26 x 70 mm	526	○	526	○
5.27 x 70 mm	527	○	527	○
5.28 x 70 mm	528	○	528	○
5.29 x 70 mm	529	○	529	○
5.3 x 70 mm	530	●	530	●
5.31 x 70 mm	531	○	531	○
5.32 x 70 mm	532	○	532	○
5.33 x 70 mm	533	○	533	○

	Yes		-	
Material	Gauge steel		Stainless and acid proof steel	
Tolerance class	1		1	
Ø x length	32481... Ident. No.		32470... Ident. No.	
5.34 x 70 mm	534	○	534	○
5.35 x 70 mm	535	●	535	○
5.36 x 70 mm	536	○	536	○
5.37 x 70 mm	537	○	537	○
5.38 x 70 mm	538	○	538	○
5.39 x 70 mm	539	○	539	○
5.4 x 70 mm	540	●	540	●
5.41 x 70 mm	541	●	541	○
5.42 x 70 mm	542	○	542	○
5.43 x 70 mm	543	○	543	○
5.44 x 70 mm	544	○	544	○
5.45 x 70 mm	545	●	545	○
5.46 x 70 mm	546	○	546	○
5.47 x 70 mm	547	○	547	○
5.48 x 70 mm	548	○	548	○
5.49 x 70 mm	549	●	549	○
5.5 x 70 mm	550	●	550	●
5.51 x 70 mm	551	●	551	○
5.52 x 70 mm	552	○	552	○
5.53 x 70 mm	553	○	553	○
5.54 x 70 mm	554	○	554	○
5.55 x 70 mm	555	●	555	○
5.56 x 70 mm	556	●	556	○
5.57 x 70 mm	557	○	557	○
5.58 x 70 mm	558	●	558	○
5.59 x 70 mm	559	○	559	○
5.6 x 70 mm	560	●	560	●
5.61 x 70 mm	561	○	561	○
5.62 x 70 mm	562	●	562	○
5.63 x 70 mm	563	○	563	○
5.64 x 70 mm	564	○	564	○
5.65 x 70 mm	565	●	565	○
5.66 x 70 mm	566	○	566	○
5.67 x 70 mm	567	○	567	○
5.68 x 70 mm	568	○	568	○
5.69 x 70 mm	569	○	569	○
5.7 x 70 mm	570	●	570	●
5.71 x 70 mm	571	○	571	○
5.72 x 70 mm	572	○	572	○
5.73 x 70 mm	573	○	573	○
5.74 x 70 mm	574	○	574	○
5.75 x 70 mm	575	●	575	○
5.76 x 70 mm	576	○	576	○
5.77 x 70 mm	577	○	577	○
5.78 x 70 mm	578	○	578	○
5.79 x 70 mm	579	○	579	○
5.8 x 70 mm	580	●	580	●
5.81 x 70 mm	581	○	581	○
5.82 x 70 mm	582	○	582	○
5.83 x 70 mm	583	○	583	○
5.84 x 70 mm	584	○	584	○
5.85 x 70 mm	585	●	585	○
5.86 x 70 mm	586	○	586	○
5.87 x 70 mm	587	○	587	○
5.88 x 70 mm	588	○	588	○
5.89 x 70 mm	589	○	589	○
5.9 x 70 mm	590	●	590	●
5.91 x 70 mm	591	○	591	○
5.92 x 70 mm	592	○	592	○
5.93 x 70 mm	593	○	593	○
5.94 x 70 mm	594	○	594	○
5.95 x 70 mm	595	●	595	○
5.96 x 70 mm	596	●	596	○
5.97 x 70 mm	597	●	597	○
5.98 x 70 mm	598	●	598	○
5.99 x 70 mm	599	●	599	○

ORION = Prod. Gr. 3DA
ATORN® = Prod. Gr. 3DD

ATORN ORION® Individual test pins (DIN 2269)

Tolerance class 1 (+/- 0.001 mm) diameter 6.00 to 7.99 mm, 0.01 mm increments

	Yes		-	
Material	Gauge steel		Stainless and acid proof steel	
Tolerance class	1		1	
Ø x length	32481... Ident. No.		32470... Ident. No.	
6 x 70 mm	600	●	600	●
6.01 x 70 mm	601	●	601	○
6.02 x 70 mm	602	●	602	○
6.03 x 70 mm	603	●	603	○
6.04 x 70 mm	604	●	604	○
6.05 x 70 mm	605	●	605	○
6.06 x 70 mm	606	●	606	○
6.07 x 70 mm	607	●	607	○
6.08 x 70 mm	608	●	608	○
6.09 x 70 mm	609	○	609	○
6.1 x 70 mm	610	●	610	●
6.11 x 70 mm	611	○	611	○
6.12 x 70 mm	612	○	612	○
6.13 x 70 mm	613	○	613	○
6.14 x 70 mm	614	○	614	○
6.15 x 70 mm	615	●	615	○
6.16 x 70 mm	616	○	616	○
6.17 x 70 mm	617	○	617	○
6.18 x 70 mm	618	○	618	○
6.19 x 70 mm	619	○	619	○
6.2 x 70 mm	620	●	620	●
6.21 x 70 mm	621	○	621	○
6.22 x 70 mm	622	○	622	○
6.23 x 70 mm	623	○	623	○
6.24 x 70 mm	624	○	624	○
6.25 x 70 mm	625	●	625	○
6.26 x 70 mm	626	○	626	○
6.27 x 70 mm	627	○	627	○
6.28 x 70 mm	628	○	628	○
6.29 x 70 mm	629	○	629	○
6.3 x 70 mm	630	●	630	●
6.31 x 70 mm	631	○	631	○
6.32 x 70 mm	632	○	632	○
6.33 x 70 mm	633	○	633	○
6.34 x 70 mm	634	○	634	○
6.35 x 70 mm	635	●	635	○
6.36 x 70 mm	636	○	636	○
6.37 x 70 mm	637	○	637	○
6.38 x 70 mm	638	○	638	○
6.39 x 70 mm	639	○	639	○
6.4 x 70 mm	640	●	640	●
6.41 x 70 mm	641	○	641	○
6.42 x 70 mm	642	○	642	○
6.43 x 70 mm	643	○	643	○
6.44 x 70 mm	644	○	644	○
6.45 x 70 mm	645	●	645	○
6.46 x 70 mm	646	○	646	○
6.47 x 70 mm	647	○	647	○
6.48 x 70 mm	648	○	648	○
6.49 x 70 mm	649	○	649	○
6.5 x 70 mm	650	●	650	●
6.51 x 70 mm	651	●	651	○
6.52 x 70 mm	652	○	652	○
6.53 x 70 mm	653	○	653	○
6.54 x 70 mm	654	○	654	○
6.55 x 70 mm	655	●	655	○
6.56 x 70 mm	656	○	656	○
6.57 x 70 mm	657	○	657	○
6.58 x 70 mm	658	○	658	○
6.59 x 70 mm	659	○	659	○
6.6 x 70 mm	660	●	660	●
6.61 x 70 mm	661	○	661	○
6.62 x 70 mm	662	○	662	○
6.63 x 70 mm	663	○	663	○
6.64 x 70 mm	664	○	664	○
6.65 x 70 mm	665	○	665	○
6.66 x 70 mm	666	○	666	○
6.67 x 70 mm	667	○	667	○
6.68 x 70 mm	668	○	668	○
6.69 x 70 mm	669	○	669	○
6.7 x 70 mm	670	●	670	○
6.71 x 70 mm	671	○	671	○
6.72 x 70 mm	672	○	672	○
6.73 x 70 mm	673	○	673	○
6.74 x 70 mm	674	○	674	○
6.75 x 70 mm	675	○	675	○
6.76 x 70 mm	676	○	676	○
6.77 x 70 mm	677	○	677	○
6.78 x 70 mm	678	○	678	○
6.79 x 70 mm	679	○	679	○
6.8 x 70 mm	680	●	680	●
6.81 x 70 mm	681	○	681	○
6.82 x 70 mm	682	○	682	○
6.83 x 70 mm	683	○	683	○
6.84 x 70 mm	684	○	684	○
6.85 x 70 mm	685	●	685	○
6.86 x 70 mm	686	○	686	○
6.87 x 70 mm	687	○	687	○
6.88 x 70 mm	688	○	688	○
6.89 x 70 mm	689	○	689	○
6.9 x 70 mm	690	●	690	●
6.91 x 70 mm	691	○	691	○
6.92 x 70 mm	692	○	692	○
6.93 x 70 mm	693	○	693	○
6.94 x 70 mm	694	○	694	○
6.95 x 70 mm	695	●	695	○
6.96 x 70 mm	696	○	696	○
6.97 x 70 mm	697	●	697	○
6.98 x 70 mm	698	○	698	○
6.99 x 70 mm	699	●	699	○
7 x 70 mm	700	●	700	●
7.01 x 70 mm	701	●	701	○
7.02 x 70 mm	702	●	702	○
7.03 x 70 mm	703	○	703	○
7.04 x 70 mm	704	○	704	○
7.05 x 70 mm	705	●	705	○
7.06 x 70 mm	706	○	706	○
7.07 x 70 mm	707	○	707	○
7.08 x 70 mm	708	○	708	○
7.09 x 70 mm	709	○	709	○
7.1 x 70 mm	710	●	710	●
7.11 x 70 mm	711	○	711	○
7.12 x 70 mm	712	○	712	○
7.13 x 70 mm	713	○	713	○
7.14 x 70 mm	714	○	714	○
7.15 x 70 mm	715	●	715	○
7.16 x 70 mm	716	○	716	○
7.17 x 70 mm	717	○	717	○
7.18 x 70 mm	718	○	718	○
7.19 x 70 mm	719	○	719	○
7.2 x 70 mm	720	●	720	●
7.21 x 70 mm	721	○	721	○
7.22 x 70 mm	722	○	722	○
7.23 x 70 mm	723	○	723	○
7.24 x 70 mm	724	○	724	○
7.25 x 70 mm	725	○	725	○
7.26 x 70 mm	726	○	726	○
7.27 x 70 mm	727	○	727	○
7.28 x 70 mm	728	○	728	○
7.29 x 70 mm	729	○	729	○
7.3 x 70 mm	730	●	730	●
7.31 x 70 mm	731	○	731	○
7.32 x 70 mm	732	○	732	○
7.33 x 70 mm	733	○	733	○
7.34 x 70 mm	734	○	734	○
7.35 x 70 mm	735	○	735	○
7.36 x 70 mm	736	○	736	○
7.37 x 70 mm	737	○	737	○
7.38 x 70 mm	738	○	738	○
7.39 x 70 mm	739	○	739	○
7.4 x 70 mm	740	●	740	●
7.41 x 70 mm	741	○	741	○
7.42 x 70 mm	742	○	742	○
7.43 x 70 mm	743	○	743	○
7.44 x 70 mm	744	○	744	○
7.45 x 70 mm	745	●	745	○
7.46 x 70 mm	746	○	746	○
7.47 x 70 mm	747	○	747	○
7.48 x 70 mm	748	○	748	○
7.49 x 70 mm	749	○	749	○
7.5 x 70 mm	750	●	750	●
7.51 x 70 mm	751	○	751	○
7.52 x 70 mm	752	○	752	○
7.53 x 70 mm	753	○	753	○
7.54 x 70 mm	754	○	754	○
7.55 x 70 mm	755	○	755	○
7.56 x 70 mm	756	○	756	○
7.57 x 70 mm	757	○	757	○
7.58 x 70 mm	758	○	758	○
7.59 x 70 mm	759	○	759	○
7.6 x 70 mm	760	●	760	●
7.61 x 70 mm	761	○	761	○
7.62 x 70 mm	762	○	762	○
7.63 x 70 mm	763	○	763	○
7.64 x 70 mm	764	○	764	○
7.65 x 70 mm	765	○	765	○
7.66 x 70 mm	766	○	766	○
7.67 x 70 mm	767	○	767	○
7.68 x 70 mm	768	○	768	○
7.69 x 70 mm	769	○	769	○
7.7 x 70 mm	770	●	770	●
7.71 x 70 mm	771	○	771	○
7.72 x 70 mm	772	○	772	○
7.73 x 70 mm	773	○	773	○
7.74 x 70 mm	774	○	774	○
7.75 x 70 mm	775	○	775	○
7.76 x 70 mm	776	○	776	○
7.77 x 70 mm	777	○	777	○
7.78 x 70 mm	778	○	778	○
7.79 x 70 mm	779	○	779	○
7.8 x 70 mm	780	●	780	●
7.81 x 70 mm	781	○	781	○
7.82 x 70 mm	782	○	782	○
7.83 x 70 mm	783	○	783	○
7.84 x 70 mm	784	○	784	○
7.85 x 70 mm	785	○	785	○
7.86 x 70 mm	786	○	786	○
7.87 x 70 mm	787	○	787	○
7.88 x 70 mm	788	○	788	○
7.89 x 70 mm	789	○	789	○
7.9 x 70 mm	790	●	790	●
7.91 x 70 mm	791	○	791	○
7.92 x 70 mm	792	○	792	○
7.93 x 70 mm	793	○	793	○
7.94 x 70 mm	794	○	794	○
7.95 x 70 mm	795	●	795	○
7.96 x 70 mm	796	●	796	○
7.97 x 70 mm	797	●	797	○
7.98 x 70 mm	798	●	798	○
7.99 x 70 mm	799	●	799	○

ORION = Prod. Gr. 3DA
ATORN® = Prod. Gr. 3DD

ATORN ORION® Individual test pins (DIN 2269)

Tolerance class 1 (+/- 0.001 mm) diameter 8.00 to 9.99 mm, 0.01 mm increments

	Yes		-	
Material	Gauge steel		Stainless and acid proof steel	
Tolerance class	1		1	
Ø x length	32481... Ident. No.		32470... Ident. No.	
8 x 70 mm	800	●	800	●
8.01 x 70 mm	801	●	801	○
8.02 x 70 mm	802	●	802	○
8.03 x 70 mm	803	●	803	○
8.04 x 70 mm	804	●	804	○
8.05 x 70 mm	805	●	805	○
8.06 x 70 mm	806	●	806	○
8.07 x 70 mm	807	○	807	○
8.08 x 70 mm	808	○	808	○
8.09 x 70 mm	809	●	809	○
8.1 x 70 mm	810	●	810	●
8.11 x 70 mm	811	○	811	○
8.12 x 70 mm	812	○	812	○
8.13 x 70 mm	813	○	813	○
8.14 x 70 mm	814	○	814	○
8.15 x 70 mm	815	●	815	○
8.16 x 70 mm	816	○	816	○
8.17 x 70 mm	817	○	817	○
8.18 x 70 mm	818	○	818	○
8.19 x 70 mm	819	○	819	○
8.2 x 70 mm	820	●	820	●
8.21 x 70 mm	821	○	821	○
8.22 x 70 mm	822	○	822	○
8.23 x 70 mm	823	○	823	○
8.24 x 70 mm	824	○	824	○
8.25 x 70 mm	825	○	825	○
8.26 x 70 mm	826	○	826	○
8.27 x 70 mm	827	○	827	○
8.28 x 70 mm	828	○	828	○
8.29 x 70 mm	829	○	829	○
8.3 x 70 mm	830	●	830	●
8.31 x 70 mm	831	○	831	○
8.32 x 70 mm	832	○	832	○
8.33 x 70 mm	833	○	833	○
8.34 x 70 mm	834	○	834	○
8.35 x 70 mm	835	●	835	○
8.36 x 70 mm	836	○	836	○
8.37 x 70 mm	837	○	837	○
8.38 x 70 mm	838	○	838	○
8.39 x 70 mm	839	○	839	○
8.4 x 70 mm	840	●	840	●
8.41 x 70 mm	841	○	841	○
8.42 x 70 mm	842	○	842	○
8.43 x 70 mm	843	○	843	○
8.44 x 70 mm	844	○	844	○
8.45 x 70 mm	845	●	845	○
8.46 x 70 mm	846	○	846	○
8.47 x 70 mm	847	○	847	○
8.48 x 70 mm	848	○	848	○
8.49 x 70 mm	849	○	849	○
8.5 x 70 mm	850	●	850	●
8.51 x 70 mm	851	○	851	○
8.52 x 70 mm	852	○	852	○
8.53 x 70 mm	853	○	853	○
8.54 x 70 mm	854	○	854	○
8.55 x 70 mm	855	●	855	○
8.56 x 70 mm	856	○	856	○
8.57 x 70 mm	857	○	857	○
8.58 x 70 mm	858	○	858	○
8.59 x 70 mm	859	○	859	○
8.6 x 70 mm	860	●	860	●
8.61 x 70 mm	861	○	861	○
8.62 x 70 mm	862	○	862	○
8.63 x 70 mm	863	○	863	○
8.64 x 70 mm	864	○	864	○
8.65 x 70 mm	865	○	865	○
8.66 x 70 mm	866	○	866	○
8.67 x 70 mm	867	○	867	○
8.68 x 70 mm	868	○	868	○
8.69 x 70 mm	869	○	869	○
8.7 x 70 mm	870	●	870	●
8.71 x 70 mm	871	○	871	○
8.72 x 70 mm	872	○	872	○
8.73 x 70 mm	873	○	873	○
8.74 x 70 mm	874	○	874	○
8.75 x 70 mm	875	○	875	○
8.76 x 70 mm	876	○	876	○
8.77 x 70 mm	877	○	877	○
8.78 x 70 mm	878	○	878	○
8.79 x 70 mm	879	○	879	○
8.8 x 70 mm	880	●	880	●
8.81 x 70 mm	881	○	881	○
8.82 x 70 mm	882	○	882	○
8.83 x 70 mm	883	○	883	○
8.84 x 70 mm	884	○	884	○
8.85 x 70 mm	885	○	885	○
8.86 x 70 mm	886	○	886	○
8.87 x 70 mm	887	○	887	○
8.88 x 70 mm	888	○	888	○
8.89 x 70 mm	889	○	889	○
8.9 x 70 mm	890	●	890	●
8.91 x 70 mm	891	○	891	○
8.92 x 70 mm	892	○	892	○
8.93 x 70 mm	893	○	893	○
8.94 x 70 mm	894	○	894	○
8.95 x 70 mm	895	○	895	○
8.96 x 70 mm	896	○	896	○
8.97 x 70 mm	897	●	897	○
8.98 x 70 mm	898	○	898	○
8.99 x 70 mm	899	○	899	○
9 x 70 mm	900	●	900	●
9.01 x 70 mm	901	○	901	○
9.02 x 70 mm	902	○	902	○
9.03 x 70 mm	903	○	903	○
9.04 x 70 mm	904	○	904	○
9.05 x 70 mm	905	○	905	○
9.06 x 70 mm	906	○	906	○
9.07 x 70 mm	907	○	907	○
9.08 x 70 mm	908	○	908	○
9.09 x 70 mm	909	○	909	○
9.1 x 70 mm	910	●	910	●
9.11 x 70 mm	911	○	911	○
9.12 x 70 mm	912	○	912	○
9.13 x 70 mm	913	○	913	○
9.14 x 70 mm	914	○	914	○
9.15 x 70 mm	915	○	915	○
9.16 x 70 mm	916	○	916	○
9.17 x 70 mm	917	○	917	○
9.18 x 70 mm	918	○	918	○
9.19 x 70 mm	919	○	919	○
9.2 x 70 mm	920	●	920	●
9.21 x 70 mm	921	○	921	○
9.22 x 70 mm	922	○	922	○
9.23 x 70 mm	923	○	923	○
9.24 x 70 mm	924	○	924	○
9.25 x 70 mm	925	○	925	○
9.26 x 70 mm	926	○	926	○
9.27 x 70 mm	927	○	927	○
9.28 x 70 mm	928	○	928	○
9.29 x 70 mm	929	○	929	○
9.3 x 70 mm	930	●	930	●
9.31 x 70 mm	931	○	931	○
9.32 x 70 mm	932	○	932	○
9.33 x 70 mm	933	○	933	○
9.34 x 70 mm	934	○	934	○
9.35 x 70 mm	935	○	935	○
9.36 x 70 mm	936	○	936	○
9.37 x 70 mm	937	○	937	○
9.38 x 70 mm	938	○	938	○
9.39 x 70 mm	939	○	939	○
9.4 x 70 mm	940	●	940	●
9.41 x 70 mm	941	○	941	○
9.42 x 70 mm	942	○	942	○
9.43 x 70 mm	943	○	943	○
9.44 x 70 mm	944	○	944	○
9.45 x 70 mm	945	○	945	○
9.46 x 70 mm	946	○	946	○
9.47 x 70 mm	947	○	947	○
9.48 x 70 mm	948	○	948	○
9.49 x 70 mm	949	○	949	○
9.5 x 70 mm	950	●	950	●
9.51 x 70 mm	951	○	951	○
9.52 x 70 mm	952	○	952	○
9.53 x 70 mm	953	○	953	○
9.54 x 70 mm	954	○	954	○
9.55 x 70 mm	955	○	955	○
9.56 x 70 mm	956	○	956	○
9.57 x 70 mm	957	○	957	○
9.58 x 70 mm	958	○	958	○
9.59 x 70 mm	959	○	959	○
9.6 x 70 mm	960	●	960	●
9.61 x 70 mm	961	○	961	○
9.62 x 70 mm	962	○	962	○
9.63 x 70 mm	963	○	963	○
9.64 x 70 mm	964	○	964	○
9.65 x 70 mm	965	○	965	○
9.66 x 70 mm	966	○	966	○
9.67 x 70 mm	967	○	967	○
9.68 x 70 mm	968	○	968	○
9.69 x 70 mm	969	○	969	○
9.7 x 70 mm	970	●	970	●
9.71 x 70 mm	971	○	971	○
9.72 x 70 mm	972	○	972	○
9.73 x 70 mm	973	○	973	○
9.74 x 70 mm	974	○	974	○
9.75 x 70 mm	975	○	975	○
9.76 x 70 mm	976	○	976	○
9.77 x 70 mm	977	○	977	○
9.78 x 70 mm	978	○	978	○
9.79 x 70 mm	979	○	979	○
9.8 x 70 mm	980	●	980	●
9.81 x 70 mm	981	○	981	○
9.82 x 70 mm	982	○	982	○
9.83 x 70 mm	983	○	983	○
9.84 x 70 mm	984	○	984	○
9.85 x 70 mm	985	○	985	○
9.86 x 70 mm	986	○	986	○
9.87 x 70 mm	987	○	987	○
9.88 x 70 mm	988	○	988	○
9.89 x 70 mm	989	○	989	○
9.9 x 70 mm	990	●	990	●
9.91 x 70 mm	991	○	991	○
9.92 x 70 mm	992	○	992	○
9.93 x 70 mm	993	○	993	○
9.94 x 70 mm	994	○	994	○
9.95 x 70 mm	995	●	995	○
9.96 x 70 mm	996	○	996	○
9.97 x 70 mm	997	●	997	○
9.98 x 70 mm	-	-	998	○
9.99 x 70 mm	-	-	999	○

ORION = Prod. Gr. 3DA
ATORN® = Prod. Gr. 3DD

ATORN Individual stainless and acid-resistant test pins (DIN 2269)

Tolerance class 1 (+/- 0.001 mm) diameter 10.00 to 11.99 mm, 0.01 mm increments

Material	Stainless and acid proof steel	
Tolerance class	1	
Ø x length	32471... Ident. No.	
10 x 70 mm	000	●
10.01 x 70 mm	001	○
10.02 x 70 mm	002	○
10.03 x 70 mm	003	○
10.04 x 70 mm	004	○
10.05 x 70 mm	005	○
10.06 x 70 mm	006	○
10.07 x 70 mm	007	○
10.08 x 70 mm	008	○
10.09 x 70 mm	009	○
10.1 x 70 mm	010	●
10.11 x 70 mm	011	○
10.12 x 70 mm	012	○
10.13 x 70 mm	013	○
10.14 x 70 mm	014	○
10.15 x 70 mm	015	○
10.16 x 70 mm	016	○
10.17 x 70 mm	017	○
10.18 x 70 mm	018	○
10.19 x 70 mm	019	○
10.2 x 70 mm	020	●
10.21 x 70 mm	021	○
10.22 x 70 mm	022	○
10.23 x 70 mm	023	○
10.24 x 70 mm	024	○
10.25 x 70 mm	025	○
10.26 x 70 mm	026	○
10.27 x 70 mm	027	○
10.28 x 70 mm	028	○
10.29 x 70 mm	029	○
10.3 x 70 mm	030	●
10.31 x 70 mm	031	○
10.32 x 70 mm	032	○
10.33 x 70 mm	033	○
10.34 x 70 mm	034	○
10.35 x 70 mm	035	○
10.36 x 70 mm	036	○
10.37 x 70 mm	037	○
10.38 x 70 mm	038	○
10.39 x 70 mm	039	○
10.4 x 70 mm	040	●
10.41 x 70 mm	041	○
10.42 x 70 mm	042	○
10.43 x 70 mm	043	○
10.44 x 70 mm	044	○
10.45 x 70 mm	045	○
10.46 x 70 mm	046	○
10.47 x 70 mm	047	○
10.48 x 70 mm	048	○
10.49 x 70 mm	049	○
10.5 x 70 mm	050	●
10.51 x 70 mm	051	○
10.52 x 70 mm	052	○
10.53 x 70 mm	053	○
10.54 x 70 mm	054	○
10.55 x 70 mm	055	○
10.56 x 70 mm	056	○
10.57 x 70 mm	057	○
10.58 x 70 mm	058	○
10.59 x 70 mm	059	○
10.6 x 70 mm	060	○
10.61 x 70 mm	061	○
10.62 x 70 mm	062	○
10.63 x 70 mm	063	○
10.64 x 70 mm	064	○
10.65 x 70 mm	065	○
10.66 x 70 mm	066	○

Material	Stainless and acid proof steel	
Tolerance class	1	
Ø x length	32471... Ident. No.	
10.67 x 70 mm	067	○
10.68 x 70 mm	068	○
10.69 x 70 mm	069	○
10.7 x 70 mm	070	●
10.71 x 70 mm	071	○
10.72 x 70 mm	072	○
10.73 x 70 mm	073	○
10.74 x 70 mm	074	○
10.75 x 70 mm	075	○
10.76 x 70 mm	076	○
10.77 x 70 mm	077	○
10.78 x 70 mm	078	○
10.79 x 70 mm	079	○
10.8 x 70 mm	080	●
10.81 x 70 mm	081	○
10.82 x 70 mm	082	○
10.83 x 70 mm	083	○
10.84 x 70 mm	084	○
10.85 x 70 mm	085	○
10.86 x 70 mm	086	○
10.87 x 70 mm	087	○
10.88 x 70 mm	088	○
10.89 x 70 mm	089	○
10.9 x 70 mm	090	●
10.91 x 70 mm	091	○
10.92 x 70 mm	092	○
10.93 x 70 mm	093	○
10.94 x 70 mm	094	○
10.95 x 70 mm	095	○
10.96 x 70 mm	096	○
10.97 x 70 mm	097	○
10.98 x 70 mm	098	○
10.99 x 70 mm	099	○
11 x 70 mm	100	●
11.01 x 70 mm	101	○
11.02 x 70 mm	102	○
11.03 x 70 mm	103	○
11.04 x 70 mm	104	○
11.05 x 70 mm	105	○
11.06 x 70 mm	106	○
11.07 x 70 mm	107	○
11.08 x 70 mm	108	○
11.09 x 70 mm	109	○
11.1 x 70 mm	110	●
11.11 x 70 mm	111	○
11.12 x 70 mm	112	○
11.13 x 70 mm	113	○
11.14 x 70 mm	114	○
11.15 x 70 mm	115	○
11.16 x 70 mm	116	○
11.17 x 70 mm	117	○
11.18 x 70 mm	118	○
11.19 x 70 mm	119	○
11.2 x 70 mm	120	●
11.21 x 70 mm	121	○
11.22 x 70 mm	122	○
11.23 x 70 mm	123	○
11.24 x 70 mm	124	○
11.25 x 70 mm	125	○
11.26 x 70 mm	126	○
11.27 x 70 mm	127	○
11.28 x 70 mm	128	○
11.29 x 70 mm	129	○
11.3 x 70 mm	130	●
11.31 x 70 mm	131	○
11.32 x 70 mm	132	○
11.33 x 70 mm	133	○

Material	Stainless and acid proof steel	
Tolerance class	1	
Ø x length	32471... Ident. No.	
11.34 x 70 mm	134	○
11.35 x 70 mm	135	○
11.36 x 70 mm	136	○
11.37 x 70 mm	137	○
11.38 x 70 mm	138	○
11.39 x 70 mm	139	○
11.4 x 70 mm	140	●
11.41 x 70 mm	141	○
11.42 x 70 mm	142	○
11.43 x 70 mm	143	○
11.44 x 70 mm	144	○
11.45 x 70 mm	145	○
11.46 x 70 mm	146	○
11.47 x 70 mm	147	○
11.48 x 70 mm	148	○
11.49 x 70 mm	149	○
11.5 x 70 mm	150	●
11.51 x 70 mm	151	○
11.52 x 70 mm	152	○
11.53 x 70 mm	153	○
11.54 x 70 mm	154	○
11.55 x 70 mm	155	○
11.56 x 70 mm	156	○
11.57 x 70 mm	157	○
11.58 x 70 mm	158	○
11.59 x 70 mm	159	○
11.6 x 70 mm	160	●
11.61 x 70 mm	161	○
11.62 x 70 mm	162	○
11.63 x 70 mm	163	○
11.64 x 70 mm	164	○
11.65 x 70 mm	165	○
11.66 x 70 mm	166	○
11.67 x 70 mm	167	○
11.68 x 70 mm	168	○
11.69 x 70 mm	169	○
11.7 x 70 mm	170	●
11.71 x 70 mm	171	○
11.72 x 70 mm	172	○
11.73 x 70 mm	173	○
11.74 x 70 mm	174	○
11.75 x 70 mm	175	○
11.76 x 70 mm	176	○
11.77 x 70 mm	177	○
11.78 x 70 mm	178	○
11.79 x 70 mm	179	○
11.8 x 70 mm	180	●
11.81 x 70 mm	181	○
11.82 x 70 mm	182	○
11.83 x 70 mm	183	○
11.84 x 70 mm	184	○
11.85 x 70 mm	185	○
11.86 x 70 mm	186	○
11.87 x 70 mm	187	○
11.88 x 70 mm	188	○
11.89 x 70 mm	189	○
11.9 x 70 mm	190	●
11.91 x 70 mm	191	○
11.92 x 70 mm	192	○
11.93 x 70 mm	193	○
11.94 x 70 mm	194	○
11.95 x 70 mm	195	○
11.96 x 70 mm	196	○
11.97 x 70 mm	197	○
11.98 x 70 mm	198	○
11.99 x 70 mm	199	○

Prod. Gr. 3DD

ATORN Individual stainless and acid-resistant test pins (DIN 2269)

Tolerance class 1 (+/- 0.001 mm) diameter 12.00 to 13.99 mm, 0.01 mm increments

Material	Stainless and acid proof steel	
Tolerance class	1	
Ø x length	32471... Ident. No.	
12 x 70 mm	200	●
12.01 x 70 mm	201	○
12.02 x 70 mm	202	○
12.03 x 70 mm	203	○
12.04 x 70 mm	204	○
12.05 x 70 mm	205	○
12.06 x 70 mm	206	○
12.07 x 70 mm	207	○
12.08 x 70 mm	208	○
12.09 x 70 mm	209	○
12.1 x 70 mm	210	●
12.11 x 70 mm	211	○
12.12 x 70 mm	212	○
12.13 x 70 mm	213	○
12.14 x 70 mm	214	○
12.15 x 70 mm	215	○
12.16 x 70 mm	216	○
12.17 x 70 mm	217	○
12.18 x 70 mm	218	○
12.19 x 70 mm	219	○
12.2 x 70 mm	220	●
12.21 x 70 mm	221	○
12.22 x 70 mm	222	○
12.23 x 70 mm	223	○
12.24 x 70 mm	224	○
12.25 x 70 mm	225	○
12.26 x 70 mm	226	○
12.27 x 70 mm	227	○
12.28 x 70 mm	228	○
12.29 x 70 mm	229	○
12.3 x 70 mm	230	●
12.31 x 70 mm	231	○
12.32 x 70 mm	232	○
12.33 x 70 mm	233	○
12.34 x 70 mm	234	○
12.35 x 70 mm	235	○
12.36 x 70 mm	236	○
12.37 x 70 mm	237	○
12.38 x 70 mm	238	○
12.39 x 70 mm	239	○
12.4 x 70 mm	240	●
12.41 x 70 mm	241	○
12.42 x 70 mm	242	○
12.43 x 70 mm	243	○
12.44 x 70 mm	244	○
12.45 x 70 mm	245	○
12.46 x 70 mm	246	○
12.47 x 70 mm	247	○
12.48 x 70 mm	248	○
12.49 x 70 mm	249	○
12.5 x 70 mm	250	●
12.51 x 70 mm	251	○
12.52 x 70 mm	252	○
12.53 x 70 mm	253	○
12.54 x 70 mm	254	○
12.55 x 70 mm	255	○
12.56 x 70 mm	256	○
12.57 x 70 mm	257	○
12.58 x 70 mm	258	○
12.59 x 70 mm	259	○
12.6 x 70 mm	260	●
12.61 x 70 mm	261	○
12.62 x 70 mm	262	○
12.63 x 70 mm	263	○
12.64 x 70 mm	264	○
12.65 x 70 mm	265	○
12.66 x 70 mm	266	○

Material	Stainless and acid proof steel	
Tolerance class	1	
Ø x length	32471... Ident. No.	
12.67 x 70 mm	267	○
12.68 x 70 mm	268	○
12.69 x 70 mm	269	○
12.7 x 70 mm	270	●
12.71 x 70 mm	271	○
12.72 x 70 mm	272	○
12.73 x 70 mm	273	○
12.74 x 70 mm	274	○
12.75 x 70 mm	275	○
12.76 x 70 mm	276	○
12.77 x 70 mm	277	○
12.78 x 70 mm	278	○
12.79 x 70 mm	279	○
12.8 x 70 mm	280	●
12.81 x 70 mm	281	○
12.82 x 70 mm	282	○
12.83 x 70 mm	283	○
12.84 x 70 mm	284	○
12.85 x 70 mm	285	○
12.86 x 70 mm	286	○
12.87 x 70 mm	287	○
12.88 x 70 mm	288	○
12.89 x 70 mm	289	○
12.9 x 70 mm	290	●
12.91 x 70 mm	291	○
12.92 x 70 mm	292	○
12.93 x 70 mm	293	○
12.94 x 70 mm	294	○
12.95 x 70 mm	295	○
12.96 x 70 mm	296	○
12.97 x 70 mm	297	○
12.98 x 70 mm	298	○
12.99 x 70 mm	299	○
13 x 70 mm	300	●
13.01 x 70 mm	301	○
13.02 x 70 mm	302	○
13.03 x 70 mm	303	○
13.04 x 70 mm	304	○
13.05 x 70 mm	305	○
13.06 x 70 mm	306	○
13.07 x 70 mm	307	○
13.08 x 70 mm	308	○
13.09 x 70 mm	309	○
13.1 x 70 mm	310	●
13.11 x 70 mm	311	○
13.12 x 70 mm	312	○
13.13 x 70 mm	313	○
13.14 x 70 mm	314	○
13.15 x 70 mm	315	○
13.16 x 70 mm	316	○
13.17 x 70 mm	317	○
13.18 x 70 mm	318	○
13.19 x 70 mm	319	○
13.2 x 70 mm	320	●
13.21 x 70 mm	321	○
13.22 x 70 mm	322	○
13.23 x 70 mm	323	○
13.24 x 70 mm	324	○
13.25 x 70 mm	325	○
13.26 x 70 mm	326	○
13.27 x 70 mm	327	○
13.28 x 70 mm	328	○
13.29 x 70 mm	329	○
13.3 x 70 mm	330	●
13.31 x 70 mm	331	○
13.32 x 70 mm	332	○
13.33 x 70 mm	333	○

Material	Stainless and acid proof steel	
Tolerance class	1	
Ø x length	32471... Ident. No.	
13.34 x 70 mm	334	○
13.35 x 70 mm	335	○
13.36 x 70 mm	336	○
13.37 x 70 mm	337	○
13.38 x 70 mm	338	○
13.39 x 70 mm	339	○
13.4 x 70 mm	340	●
13.41 x 70 mm	341	○
13.42 x 70 mm	342	○
13.43 x 70 mm	343	○
13.44 x 70 mm	344	○
13.45 x 70 mm	345	○
13.46 x 70 mm	346	○
13.47 x 70 mm	347	○
13.48 x 70 mm	348	○
13.49 x 70 mm	349	○
13.5 x 70 mm	350	●
13.51 x 70 mm	351	○
13.52 x 70 mm	352	○
13.53 x 70 mm	353	○
13.54 x 70 mm	354	○
13.55 x 70 mm	355	○
13.56 x 70 mm	356	○
13.57 x 70 mm	357	○
13.58 x 70 mm	358	○
13.59 x 70 mm	359	○
13.6 x 70 mm	360	●
13.61 x 70 mm	361	○
13.62 x 70 mm	362	○
13.63 x 70 mm	363	○
13.64 x 70 mm	364	○
13.65 x 70 mm	365	○
13.66 x 70 mm	366	○
13.67 x 70 mm	367	○
13.68 x 70 mm	368	○
13.69 x 70 mm	369	○
13.7 x 70 mm	370	●
13.71 x 70 mm	371	○
13.72 x 70 mm	372	○
13.73 x 70 mm	373	○
13.74 x 70 mm	374	○
13.75 x 70 mm	375	○
13.76 x 70 mm	376	○
13.77 x 70 mm	377	○
13.78 x 70 mm	378	○
13.79 x 70 mm	379	○
13.8 x 70 mm	380	●
13.81 x 70 mm	381	○
13.82 x 70 mm	382	○
13.83 x 70 mm	383	○
13.84 x 70 mm	384	○
13.85 x 70 mm	385	○
13.86 x 70 mm	386	○
13.87 x 70 mm	387	○
13.88 x 70 mm	388	○
13.89 x 70 mm	389	○
13.9 x 70 mm	390	●
13.91 x 70 mm	391	○
13.92 x 70 mm	392	○
13.93 x 70 mm	393	○
13.94 x 70 mm	394	○
13.95 x 70 mm	395	○
13.96 x 70 mm	396	○
13.97 x 70 mm	397	○
13.98 x 70 mm	398	○
13.99 x 70 mm	399	○

Prod. Gr. 3DD

ORION® Plane-parallel test glass

flatness tolerance 0.125 µm

AG

Application:
Optical flat for testing the flatness of a surface using the interference method

Execution:
- For testing the flatness of measuring surfaces on metal and glass objects such as gauge blocks.

Delivery:
in case

Technical data:
- Diameter: 45 mm
- Flatness tolerance: 0.03 µm
- Nominal dimension in assortment: 15 mm

41520...	Ident. No.	010 ●

Prod. Gr. 454

ORION® Plane-parallel test glasses sets

for measuring range 0-25 mm

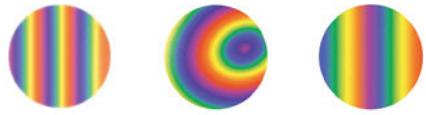
AQ

Application:
For simultaneously measuring the parallelism and flatness of flat measuring surfaces on outside micrometers and dial snap gauges using the interference method

Execution:
- four different thicknesses for parallelism testing in different spindle positions (for rotating measuring spindles)
- For outside micrometers with 0.5 mm thread pitch

Delivery:
In a case

Technical data:
- Diameter: 30 mm
- Flatness tolerance: 0.03 µm
- Alignment tolerance: 0.3 µm
- Nominal dimension in assortment: 15.62 mm | 15.75 mm | 15.87 mm | 16 mm



31419...	Plane-parallel test glasses	Ident. No.	100 ●

Prod. Gr. 3BC

ORION® Test spheres made of hardened gauge steel

Application:
For testing bore holes or internal cones.

Delivery:
Each 2 x diameter 1–25 mm, in a case.

Technical data:
- Number of pieces in assortment/set: 50 PCS
- Pitch: 1 mm
- Material: Gauge steel

32155...	Ident. No.	030 ●

Prod. Gr. 3BD

ORION® Test spheres in pack of 10 (DIN 5401)

Application:
For testing bore holes or internal cones.

Delivery:
10-pack

Technical data:
- Material: Gauge steel

Ø (mm)	32450... Ident. No.	
1	010	○
1.5	015	○
2	020	○
2.5	025	●
3	030	●
3.5	035	○
4.5	045	●
5	050	●
5.5	055	●

Ø (mm)	32450... Ident. No.	
6	060	●
6.5	065	○
7	070	●
7.5	075	○
8	080	●
8.5	085	○
9	090	○
9.5	095	○
10	100	●

Prod. Gr. 3BD

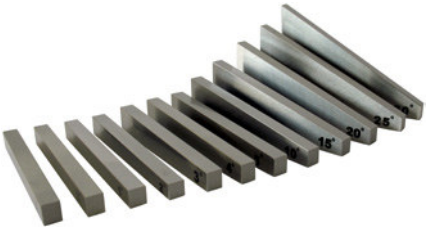
ORION® Angle standards made of hardened gauge steel

Application:
For precise setting and checking of angles.

Execution:
- Smallest graduation 15' (¼°)
- manufacturer tolerance ± 30"

Delivery:
Set: 15', 30', 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°, supplied in case.

Technical data:
- Number of pieces in assortment/set: 12 PCS
- Length: 76.4 mm
- Width: 6.35 mm



32155...	Ident. No.	020 ●

Prod. Gr. 3BF

TESA TECHNOLOGY Set of adjustable parallel rests

Application:
Parallel guide for use as a setting standard for measuring instruments or as a gauge for internal dimensions on plane-parallel surfaces.

Execution:
- Hardened steel
- The two wedge-shaped halves of each parallel are held together by a dovetail joint and secured with two screws
- Set with six versatile parallels

Advantage:
- Each dimension can be flexibly adjusted within the height range

Delivery:
with PH1 cross-head screwdriver in plastic case

Technical data:
- Number of pieces in assortment/set: 6 PCS
- Width: 7 mm
- Composition of set: Height 10-13 mm x length 44 mm; height 13-17 mm x length 54 mm; height 17-24 mm x length 68 mm; height 24-33 mm x length 90 mm; height 33-44 mm x length 106 mm; height 44-57 mm x length 129 mm

32156...	Ident. No.	010 ○

Prod. Gr. 362

ORION® Plug gauges made of gauge steel

Fits H6, H7, H8

Z

EXTENDED PROGRAM

Application:
For checking maximum and minimum dimensions of boreholes.

Execution:
- **Ident. No. 005–360:** Wear allowance in accordance with DIN EN ISO 1938-1
- **Ident. No. 500–834:** Wear allowance in line with DIN EN ISO 1938-1

Ident. No. 005–360
Illustration may be different

Ident. No. 500–634

Ident. No. 700–834

Tolerance class	H7		H6		H8	
Material of go side	Gauge steel		Gauge steel		Gauge steel	
Material of discharge side	Gauge steel		Gauge steel		Gauge steel	
Nominal Ø (mm)	32490... Ident. No.		32490... Ident. No.		32490... Ident. No.	
1	005	●	500	○	700	○
1.5	015	●	502	○	702	○
2	025	●	504	●	704	●
2.5	035	●	506	●	706	●
3	045	●	508	●	708	●
3.5	050	○	510	○	710	○
4	055	●	512	●	712	●
4.5	060	○	514	○	714	○
5	065	●	516	●	716	●
6	070	●	518	●	718	●
7	075	●	520	○	720	○
8	080	●	522	●	722	●
9	085	●	524	○	724	○
10	090	●	526	●	726	●
11	095	●	528	○	728	○
12	100	●	530	●	730	●
13	105	●	532	○	732	○
14	110	●	534	●	734	●
15	115	●	536	○	736	○
16	120	●	538	●	738	●
17	125	●	540	○	740	○
18	130	●	542	●	742	●
19	135	●	544	○	744	○
20	140	●	546	●	746	●
21	145	●	548	○	748	○
22	150	●	550	●	750	●
23	155	●	552	○	752	○
24	160	●	554	●	754	●
25	165	●	556	○	756	○
26	170	●	558	○	758	○
27	175	●	560	○	760	○
28	180	●	562	●	762	●
30	185	●	564	●	764	●
32	190	●	566	○	766	○

Tolerance class	H7		H6		H8	
Material of go side	Gauge steel		Gauge steel		Gauge steel	
Material of discharge side	Gauge steel		Gauge steel		Gauge steel	
Nominal Ø (mm)	32490... Ident. No.		32490... Ident. No.		32490... Ident. No.	
33	195	○	568	○	768	○
34	200	●	570	○	770	○
35	205	●	572	○	772	○
36	210	●	574	○	774	○
37	215	●	576	○	776	○
38	220	●	578	○	778	○
40	225	●	580	●	780	●
42	230	●	582	○	782	○
44	235	●	584	○	784	○
45	240	●	586	○	786	○
46	245	○	588	○	788	○
47	250	●	590	○	790	○
48	255	●	592	○	792	○
50	260	●	594	●	794	●
52	265	●	596	○	796	○
55	270	●	598	○	798	○
58	275	●	600	○	800	○
60	280	●	602	○	802	○
62	285	●	604	○	804	○
65	290	●	606	○	806	○
68	295	○	608	○	808	○
70	300	●	610	○	810	○
72	305	○	612	○	812	○
75	310	●	614	○	814	○
78	315	○	616	○	816	○
80	320	●	618	○	818	○
82	325	○	620	○	820	○
85	330	●	622	○	822	○
88	335	○	624	○	824	○
90	340	●	626	○	826	○
92	345	○	628	○	828	○
95	350	○	630	○	830	○
98	355	○	632	○	832	○
100	360	●	634	○	834	○

Prod. Gr. 3DB

ORION® Plug gauges made of gauge steel (DIN 2245)

ISO choice of fit

Z

Illustration may be different

Application:
For checking maximum and minimum dimensions of boreholes.

Execution:
- Wear allowance in accordance with DIN EN ISO 1938-1

- Selecting the fit: Fields A-ZC in quality 6-13
- Please specify the desired fit when submitting your enquiry/order

Notes:
Only for quality 6 and higher. A surcharge will be applied to fine fits smaller than 6. Not for intermediate dimensions or numerical tolerances.

Tolerance class	A-ZC/6-13	
Material of go side	Gauge steel	
Material of discharge side	Gauge steel	
Nominal Ø (mm)	32491... Ident. No.	
1	005	○
1.5	015	○
2	025	○
2.5	035	○
3	045	○
3.5	050	○
4	055	○
4.5	060	○
5	065	○
6	070	○
7	075	○
8	080	○
9	085	○
10	090	○
11	095	○
12	100	○
13	105	○
14	110	○
15	115	○
16	120	○
17	125	○
18	130	○
19	135	○

Tolerance class	A-ZC/6-13	
Material of go side	Gauge steel	
Material of discharge side	Gauge steel	
Nominal Ø (mm)	32491... Ident. No.	
20	140	○
21	145	○
22	150	○
23	155	○
24	160	○
25	165	○
26	170	○
27	175	○
28	180	○
30	185	○
32	190	○
33	195	○
34	200	○
35	205	○
36	210	○
37	215	○
38	220	○
40	225	○
42	230	○
44	235	○
45	240	○
46	245	○
47	250	○

Tolerance class	A-ZC/6-13	
Material of go side	Gauge steel	
Material of discharge side	Gauge steel	
Nominal Ø (mm)	32491... Ident. No.	
48	255	○
50	260	○
52	265	○
55	270	○
58	275	○
60	280	○
62	285	○
65	290	○
68	295	○
70	300	○
72	305	○
75	310	○
78	315	○
80	320	○
82	325	○
85	330	○
88	335	○
90	340	○
92	345	○
95	350	○
98	355	○
100	360	○

Prod. Gr. 3DB

ORION® Groove width gauge (DIN 7150)

Application:
For checking flat fits, e.g. of grooves.

Execution:
- Wear allowance in accordance with DIN EN ISO 1938-1

Notes:
No. 32516: When ordering, please remember to specify the workpiece fit or tolerance. For numerical tolerances (e.g. +/- 0.005), a surcharge is applicable.

Technical data:
- Material: Gauge steel

Tolerance class	P9		A-ZC/7-13	
Nominal dimension (mm)	32515... Ident. No.		32516... Ident. No.	
3	003	○	003	○
4	004	○	004	○
5	005	○	005	○
6	006	●	006	○
8	008	●	008	○
10	010	●	010	○
12	012	○	012	○
14	014	○	014	○
16	016	○	016	○
18	018	○	018	○
20	020	○	020	○
22	022	○	022	○
25	025	○	025	○

Prod. Gr. 3DB

ORION® Snap gauges, double-jaw/single-jaw (DIN 7150)

up to 100 mm with choice of diameter and tolerance

AD

EXTENDED PROGRAM

Application:
For checking the maximum and minimum dimensions of shanks.

Execution:
- Wear allowance in accordance with DIN EN ISO 1938-1
- Diameter selection within the specified diameter range
- Fit/tolerance IT6 or greater
- **No. 32545:** double-ended
- **No. 32546:** single-ended

Notes:
When making an enquiry or placing an order, please specify the diameter and fit or tolerance. Fits/tolerances below IT6 are subject to a surcharge

Technical data:
- Tolerance class: >= IT6
- Material: Gauge steel

No. 32545

No. 32546

Nominal dimension (mm)	Construction type Min./max. nominal Ø	Double opening 32545... Ident. No.		Single opening 32546... Ident. No.	
3	3.000-3.999 mm	021	O	021	O
4	4.000-4.999 mm	031	O	031	O
5	5.000-5.999 mm	041	O	041	O
6	6.000-6.999 mm	046	O	046	O
7	7.000-7.999 mm	051	O	051	O
8	8.000-8.999 mm	056	O	056	O
9	9.000-9.999 mm	061	O	061	O
10	10.000-10.999 mm	066	O	066	O
11	11.000-11.999 mm	071	O	071	O
12	12.000-12.999 mm	076	O	076	O
13	13.000-13.999 mm	081	O	081	O
14	14.000-14.999 mm	086	O	086	O
15	15.000-15.999 mm	091	O	091	O
16	16.000-16.999 mm	096	O	096	O
17	17.000-17.999 mm	101	O	101	O
18	18.000-18.999 mm	106	O	106	O
19	19.000-19.999 mm	111	O	111	O
20	20.000-20.999 mm	116	O	116	O
22	22.000-22.999 mm	126	O	126	O
23	23.000-23.999 mm	131	O	131	O
24	24.000-24.999 mm	136	O	136	O
25	25.000-25.999 mm	141	O	141	O
26	26.000-26.999 mm	146	O	146	O
27	27.000-27.999 mm	151	O	151	O
28	28.000-28.999 mm	156	O	156	O
30	30.000-30.999 mm	161	O	161	O
32	32.000-32.999 mm	166	O	166	O

Nominal dimension (mm)	Construction type Min./max. nominal Ø	Double opening 32545... Ident. No.		Single opening 32546... Ident. No.	
34	34.000-34.999 mm	176	O	176	O
35	35.000-35.999 mm	181	O	181	O
36	36.000-36.999 mm	186	O	186	O
38	38.000-38.999 mm	196	O	196	O
40	40.000-40.999 mm	201	O	201	O
42	42.000-42.999 mm	206	O	206	O
45	45.000-45.999 mm	216	O	216	O
46	46.000-46.999 mm	221	O	221	O
47	47.000-47.999 mm	226	O	226	O
48	48.000-48.999 mm	231	O	231	O
50	50.000-50.999 mm	236	O	236	O
52	52.000-52.999 mm	241	O	241	O
55	55.000-55.999 mm	246	O	246	O
58	58.000-58.999 mm	251	O	251	O
60	60.000-60.999 mm	256	O	256	O
62	62.000-62.999 mm	261	O	261	O
65	65.000-65.999 mm	266	O	266	O
68	68.000-68.999 mm	271	O	271	O
70	70.000-70.999 mm	276	O	276	O
75	75.000-75.999 mm	286	O	286	O
80	80.000-80.999 mm	296	O	296	O
85	85.000-85.999 mm	306	O	306	O
90	90.000-90.999 mm	316	O	316	O
95	95.000-95.999 mm	326	O	326	O
100	100.000-100 mm	336	O	-	-
100	100.000-100.999 mm	-	-	336	O

Prod. Gr. 3DB

ORION® Setting ring (DIN 2250)

made of hardened gauge steel

AC

Application:
For adjusting and testing measuring instruments.

Execution:
- Hardened
- Marked with dimensions
- Manufacturing tolerance in accordance with js4, other tolerances available on request at a surcharge

Technical data:
- Material: Gauge steel

Nominal Ø (mm)	32605... Ident. No.	
2	030	○
2.5	040	○
3	050	●
4	060	●
5	070	●
6	075	●
7	080	●
8	085	●
9	090	●
10	095	●
11	100	●
12	105	●
13	110	●
14	115	●
15	120	●
16	125	●
17	130	●
18	135	●
19	140	●
20	145	●
21	150	●

Nominal Ø (mm)	32605... Ident. No.	
22	155	●
23	160	●
24	165	●
25	170	●
26	175	●
27	180	●
28	185	●
30	190	●
32	195	●
33	200	●
34	205	○
35	210	●
36	215	●
37	220	●
38	225	●
40	230	●
42	235	●
44	240	●
45	245	●
46	250	●
47	255	●

Nominal Ø (mm)	32605... Ident. No.	
48	260	●
50	265	●
52	270	●
55	275	●
58	280	●
60	285	●
62	290	●
65	295	●
68	300	●
70	305	●
72	310	●
75	315	●
78	320	○
80	325	●
82	330	○
85	335	●
88	340	●
90	345	●
92	350	○
95	355	●
98	360	○

Nominal Ø (mm)	32605... Ident. No.	
100	365	●
105	370	○
110	375	●
115	380	●
120	385	●
125	390	●
130	395	●
135	400	○
140	405	●
145	410	○
150	415	●
155	420	○
160	425	●
165	430	○
170	435	●
175	440	●
180	445	●
190	455	●
200	465	●

Prod. Gr. 3DB

ORION® Morse taper gauges

Application:
No. 32635: For checking internal cones of tools and workpieces.
No. 32636: For testing external tapers on tools and workpieces.

Execution:
- Measuring surfaces are ground and finely lapped

Technical data:
- Tolerance class: AT4
- Material: Gauge steel

No. 32635

No. 32636

Construction type	Morse taper without tangs		Morse taper without tangs	
Taper type	32635... Ident. No.		32636... Ident. No.	
MK1	010	○	010	○
MK2	020	●	020	●
MK3	030	●	030	●
MK4	040	●	040	●
MK5	050	●	050	○

Prod. Gr. 3DB

ORION® Tapered gauges for steep tapers (SK)

Application:

No. 32650: For testing spindle heads in line with DIN 2079 and quick-release taper shafts in line with DIN 2080

No. 32651: For testing spindle heads in line with DIN 2079 and quick-release taper shanks in line with DIN 2081.

Execution:

- Measuring surfaces are ground and finely lapped

Technical data:

- Tolerance class: AT4
- Material: Gauge steel

No. 32650

No. 32651

Construction type	Steep-angled taper		Steep-angled taper	
Taper type	32650... Ident. No.		32651... Ident. No.	
SK30	030	○	030	●
SK40	040	●	040	○
SK50	050	○	050	●

Prod. Gr. 3DB

ORION® Thread pitch gauges made of gauge steel

for standard metric ISO thread

M AA AB

Application:

No. 32670: For testing the flank diameter of female threads and compliance with minimum dimensions of the external diameter.

No. 32675–32676: For testing the flank and core diameter of male threads.

Execution:

- for standard metric ISO thread
- **No. 32670:** Thread plug gauge
- **No. 32675:** Thread go ring gauge
- **No. 32676:** Thread no-go ring gauge

Notes:

No. 32670: Up to M 1.4 = tolerance class 5H

No. 32675–32676: Up to M 1.4 = tolerance class 6h

Technical data:

- Material: Gauge steel

No. 32670
Illustration may be different!

No. 32675

No. 32676

Thread type x nominal Ø x pitch	Thread limit plug gauge, 6H 32670... Ident. No.		Go ring gauge, 6g 32675... Ident. No.		No-go ring gauge, 6g 32676... Ident. No.	
M1 x 0.25	010	○	010	○	010	○
M1.2 x 0.25	012	●	012	○	012	○
M1.4 x 0.3	014	●	014	○	014	○
M1.6 x 0.35	016	●	016	○	016	○
M1.7 x 0.35	017	●	017	○	017	○
M1.8 x 0.35	018	○	018	○	018	○
M2 x 0.4	020	●	020	●	020	●
M2.3 x 0.45	023	○	023	○	023	○
M2.5 x 0.45	025	●	025	●	025	○
M2.6 x 0.45	026	●	026	○	026	○
M3 x 0.5	030	●	030	●	030	●
M3.5 x 0.6	035	●	035	●	035	○
M4 x 0.7	040	●	040	●	040	●
M5 x 0.8	050	●	050	●	050	●
M6 x 1	060	●	060	●	060	●
M7 x 1	070	●	070	●	070	●

Thread type x nominal Ø x pitch	Thread limit plug gauge, 6H 32670... Ident. No.		Go ring gauge, 6g 32675... Ident. No.		No-go ring gauge, 6g 32676... Ident. No.	
M8 x 1.25	080	●	080	●	080	●
M9 x 1.25	090	○	090	○	090	○
M10 x 1.5	100	●	100	●	100	●
M11 x 1.5	110	○	110	○	110	○
M12 x 1.75	120	●	120	●	120	●
M14 x 2	140	●	140	●	140	●
M16 x 2	160	●	160	●	160	●
M18 x 2.5	180	●	180	●	180	○
M20 x 2.5	200	●	200	●	200	●
M22 x 2.5	220	●	220	○	220	○
M24 x 3	240	●	240	●	240	●
M27 x 3	270	●	270	○	270	○
M30 x 3.5	300	●	300	●	300	○
M33 x 3.5	330	○	330	○	330	○
M36 x 4	360	●	360	●	360	○

Prod. Gr. 3DB

ORION® Thread pitch gauges made of gauge steel

for metric ISO fine thread MF4 to MF40

MF | AA | AB

Application:

No. 32700: For testing the flank diameter of female threads and compliance with minimum dimensions of the external diameter.

No. 32705–32706: For testing the flank and core diameter of male threads.

Execution:

- for metric ISO fine threads
- **No. 32700:** Thread plug gauge
- **No. 32705:** Thread go ring gauge
- **No. 32706:** Thread no-go ring gauge

Technical data:

- Material: Gauge steel

No. 32700
Illustration may be different!

No. 32705

No. 32706

Thread type x nominal Ø x pitch	Thread limit plug gauge, 6H 32700... Ident. No.		Go ring gauge, 6g 32705... Ident. No.		No-go ring gauge, 6g 32706... Ident. No.	
MF4 x 0.5	002	●	002	●	002	○
MF5 x 0.5	004	●	004	●	004	●
MF5 x 0.75	005	○	005	○	005	○
MF6 x 0.5	006	●	006	●	006	○
MF6 x 0.75	007	●	007	●	007	○
MF7 x 0.75	009	●	009	○	009	○
MF8 x 0.5	010	●	010	●	010	○
MF8 x 0.75	011	●	011	●	011	○
MF8 x 1	012	●	012	●	012	●
MF9 x 0.5	013	○	013	○	013	○
MF9 x 0.75	014	○	014	○	014	○
MF9 x 1	015	○	015	○	015	○
MF10 x 0.5	016	●	016	●	016	○
MF10 x 0.75	017	●	017	●	017	○
MF10 x 1	018	●	018	●	018	●
MF10 x 1.25	019	●	019	●	019	●
MF11 x 0.75	020	○	020	○	020	○
MF11 x 1	021	○	021	○	021	○
MF12 x 0.5	022	●	022	●	022	○
MF12 x 0.75	023	○	023	●	023	○
MF12 x 1	024	●	024	●	024	●
MF12 x 1.5	025	●	025	●	025	●
MF12 x 1.25	026	●	026	●	026	●
MF13 x 0.75	027	○	027	○	027	○
MF13 x 1	028	○	028	○	028	○
MF14 x 0.75	031	○	031	○	031	○
MF14 x 1	032	●	032	●	032	●
MF14 x 1.5	033	●	033	●	033	●
MF14 x 1.25	034	○	034	○	034	○
MF15 x 0.75	035	○	035	○	035	○
MF15 x 1	036	●	036	●	036	○
MF15 x 1.5	037	○	037	○	037	○
MF16 x 0.75	039	○	039	○	039	○
MF16 x 1	040	●	040	●	040	●
MF16 x 1.5	041	●	041	●	041	●
MF18 x 0.75	048	○	048	○	048	○
MF18 x 1	049	●	049	●	049	●
MF18 x 1.5	050	●	050	●	050	●

Thread type x nominal Ø x pitch	Thread limit plug gauge, 6H 32700... Ident. No.		Go ring gauge, 6g 32705... Ident. No.		No-go ring gauge, 6g 32706... Ident. No.	
MF18 x 2	051	○	051	○	051	○
MF20 x 0.75	058	○	058	○	058	○
MF20 x 1	059	●	059	●	059	○
MF20 x 1.5	060	●	060	●	060	●
MF20 x 2	061	○	061	○	061	○
MF22 x 1	069	●	069	●	069	●
MF22 x 1.5	070	●	070	●	070	●
MF22 x 2	071	○	071	○	071	○
MF24 x 1	079	●	079	●	079	○
MF24 x 1.5	080	●	080	●	080	●
MF24 x 2	081	●	081	●	081	○
MF25 x 1	084	○	084	●	084	○
MF25 x 1.5	085	●	085	●	085	○
MF26 x 1	089	○	089	○	089	○
MF26 x 1.5	090	●	090	●	090	●
MF27 x 1	094	○	094	○	094	○
MF27 x 1.5	095	●	095	●	095	○
MF27 x 2	096	●	096	○	096	○
MF28 x 1	099	○	099	●	099	○
MF28 x 1.5	100	●	100	●	100	○
MF28 x 2	101	○	101	○	101	○
MF30 x 1	109	●	109	●	109	○
MF30 x 1.5	110	●	110	●	110	●
MF30 x 2	111	●	111	●	111	○
MF30 x 3	112	○	112	○	112	○
MF32 x 1.5	120	●	120	●	120	○
MF33 x 1.5	126	○	126	○	126	○
MF33 x 2	127	●	127	○	127	○
MF35 x 1.5	138	●	138	●	138	○
MF36 x 1.5	144	●	144	●	144	○
MF36 x 2	145	●	145	●	145	○
MF36 x 3	146	○	146	○	146	○
MF38 x 1.5	154	●	154	●	154	○
MF39 x 1.5	160	○	160	○	160	○
MF39 x 2	161	○	161	○	161	○
MF40 x 1.5	166	●	166	●	166	○
MF40 x 2	167	○	167	○	167	○

Prod. Gr. 3DB

ORION® Thread pitch gauges made of gauge steel

for metric ISO fine thread >MF40

MF | AA | AB | AI

Application:

No. 32700–32704: For testing the flank diameter of female threads and compliance with minimum dimensions of the external diameter.

No. 32705–32706: For testing the flank and core diameter of male threads.

Execution:

- for metric ISO fine threads

- **No. 32700:** Thread plug gauge
- **No. 32703:** Thread go plug gauge
- **No. 32704:** Thread no-go plug gauge
- **No. 32705:** Thread go ring gauge
- **No. 32706:** Thread no-go ring gauge

Technical data:

- Material: Gauge steel

	Thread limit plug gauge, 6H		Thread go plug gauge 6H		Thread no-go plug gauge 6H		Go ring gauge, 6g		No-go ring gauge, 6g	
Thread type x nominal Ø x pitch	32700... Ident. No.		32703... Ident. No.		32704... Ident. No.		32705... Ident. No.		32706... Ident. No.	
MF42 x 1.5	178	●	178	○	178	○	178	●	178	○
MF42 x 2	179	○	179	○	179	○	179	●	179	○
MF42 x 3	180	○	180	○	180	○	180	○	180	○
MF45 x 1.5	197	●	197	○	197	○	197	●	197	●
MF45 x 2	198	○	198	○	198	○	198	○	198	○
MF45 x 3	199	○	199	○	199	○	199	○	199	○
MF48 x 1.5	217	○	217	○	217	○	217	●	217	○
MF48 x 2	218	○	218	○	218	○	218	●	218	○
MF48 x 3	219	○	219	○	219	○	219	○	219	○
MF50 x 1.5	230	●	230	○	230	○	230	●	230	○
MF50 x 2	231	○	231	○	231	○	231	○	231	○
MF52 x 1.5	242	○	242	○	242	○	242	○	242	○
MF52 x 2	243	○	243	○	243	○	243	○	243	○
MF56 x 1.5	269	○	269	○	269	○	269	○	269	○
MF56 x 2	270	○	270	○	270	○	270	○	270	○
MF60 x 1.5	294	○	294	○	294	○	294	●	294	○
MF60 x 2	295	○	295	○	295	○	295	●	295	○
MF62 x 1.5	307	○	307	○	307	○	307	○	307	○
MF62 x 2	308	○	308	○	308	○	308	○	308	○
MF64 x 1.5	320	○	320	○	320	○	320	○	320	○
MF64 x 2	321	○	321	○	321	○	321	○	321	○
MF68 x 1.5	347	○	347	○	347	○	347	○	347	○
MF68 x 2	348	○	348	○	348	○	348	○	348	○
MF70 x 1.5	360	○	360	○	360	○	360	○	360	○
MF70 x 2	361	○	361	○	361	○	361	○	361	○

Prod. Gr. 3DB

No. 32700
Illustration may be different!

No. 32703

No. 32704
Illustration may be different!

No. 32705

No. 32706

ORION® Thread pitch gauges made of gauge steel

for UNC American standard threads

UNC AA AB AI

Application:

No. 32730: For testing the flank diameter of female threads and compliance with minimum dimensions of the external diameter.

No. 32731–32732: For testing the flank diameter of female threads and compliance with minimum dimensions of the outer diameter.

No. 32733–32734: For testing the flank and core diameter of male threads.

Execution:

- for UNC American standard threads
- **No. 32730:** Thread plug gauge
- **No. 32731:** Thread GO plug gauge
- **No. 32732:** Thread NO-GO plug gauge
- **No. 32733:** Thread GO ring gauge
- **No. 32734:** Thread NO-GO ring gauge

No. 32730
Illustration may be different!

No. 32731

No. 32733

Thread type	UNC		UNC		UNC		UNC		UNC	
Tolerance class	2B		2B		2B		2A		2A	
UNC/UNF code	32730... Ident. No.		32731... Ident. No.		32732... Ident. No.		32733... Ident. No.		32734... Ident. No.	
No. 1-64 UNC	005	○	005	○	005	○	005	○	005	○
No. 2-56 UNC	010	○	010	○	010	○	010	○	010	○
No. 3-48 UNC	015	○	015	○	015	○	015	○	015	○
No. 4-40 UNC	020	●	020	○	020	○	020	○	020	○
No. 5-40 UNC	025	○	025	○	025	○	025	○	025	○
No. 6-32 UNC	030	○	030	○	030	○	030	○	030	○
No. 8-32 UNC	035	●	035	○	035	○	035	○	035	○
No. 10-24 UNC	040	○	040	○	040	○	040	○	040	○
No. 12-24 UNC	045	○	045	○	045	○	045	○	045	○
1/4"-20	080	●	080	○	080	○	080	○	080	○
5/16"-18	085	●	085	○	085	○	085	○	085	○
3/8"-16	090	●	090	○	090	○	090	○	090	○
7/16"-14	095	○	095	○	095	○	095	○	095	○
1/2"-13	100	●	100	○	100	○	100	○	100	○
9/16"-12	105	○	105	○	105	○	105	○	105	○
5/8"-11	110	●	110	○	110	○	110	○	110	○
3/4"-10	115	●	115	○	115	○	115	○	115	○
7/8"-9	120	●	120	○	120	○	120	○	120	○
1"-8	125	○	125	○	125	○	125	○	125	○
1 1/8"-7	130	○	130	○	130	○	130	○	130	○

Prod. Gr. 3DB

ORION® Thread pitch gauges made of gauge steel

for UNF American standard threads

UNF AA AB

Application:

No. 32730: For testing the flank diameter of female threads and compliance with minimum dimensions of the external diameter.

No. 32733–32734: For testing the flank and core diameter of male threads.

Execution:

- for UNF American standard threads
- **No. 32730:** Thread plug gauge
- **No. 32733:** Thread GO ring gauge
- **No. 32734:** Thread NO-GO ring gauge

No. 32730
Illustration may be different!

No. 32733

No. 32734

Thread type	UNF		UNF		UNF	
Tolerance class	2B		2A		2A	
UNC/UNF code	32730... Ident. No.		32733... Ident. No.		32734... Ident. No.	
No. 4-48 UNF	240	○	240	○	240	○
No. 5-44 UNF	245	○	245	○	245	○
No. 6-40 UNF	250	○	250	○	250	○
No. 8-36 UNF	255	○	255	○	255	○
No. 10-32 UNF	260	●	260	○	260	○
No. 12-28 UNF	265	○	265	○	265	○
1/4"-28	300	●	300	●	300	○
5/16"-24	305	●	305	○	305	○
3/8"-24	310	●	310	●	310	○
7/16"-20	315	●	315	○	315	○
1/2"-20	320	●	320	●	320	○
9/16"-18	325	●	325	●	325	●
5/8"-18	330	●	330	○	330	○
3/4"-16	335	●	335	●	335	○
7/8"-14	340	●	340	○	340	○
1"-12	345	○	345	○	345	○

Prod. Gr. 3DB

ORION® Thread pitch gauges made of gauge steel

for tapered NPT American pipe thread

NPT

Application:

No. 32740: For testing the flank diameter of female threads and compliance with minimum dimensions of the external diameter.

No. 32741: For testing the flank and core diameter of male threads.

Technical data:

- Material: Gauge steel
- ANSI: ANSI B 1.20.1
- Thread type: National pipe tapered thread

No. 32740 005–32740 090

No. 32741

	thread limit plug gauge		thread limit ring gauge	
Pipe thread code	32740... Ident. No.		32741... Ident. No.	
1/16"-27	005	○	005	○
1/8"-27	010	●	010	●
1/4"-18	020	●	020	●
3/8"-18	030	●	030	○
1/2"-14	040	●	040	○
3/4"-14	050	●	050	●
1"-11.5	060	○	060	○
1 1/4"-11.5	070	○	070	○
1 1/2"-11.5	080	○	080	○
2"-11.5	090	○	090	○
2 1/2"-8	100	○	100	○
3"-8	110	○	110	○
3 1/2"-8	120	○	120	○
4"-8	130	○	130	○

Prod. Gr. 3DB

ORION® Thread pitch gauges made of gauge steel

for Whitworth pipe thread R/Rp according to DIN 2999 and DIN EN 10226

R RP

Application:

No. 32743 005–32743 120, 32745 005–32745 120: For testing the flank diameter of female threads and compliance with minimum dimensions of the external diameter.

No. 32744 005–32744 120, 32746 005–32746 120: For testing the flank and core diameter of male threads.

Execution:

- **No. 32743–32744:** For threads that comply with the current standard DIN EN 102226
- **No. 32745–32746:** For threads that comply with the old and withdrawn standard DIN 2999

Technical data:

- Material: Gauge steel

No. 32743 005–32743 120, 32745 005–32745 120
Illustration may be different!

No. 32744 005–32744 120, 32746 005–32746 120

	Thread limit plug gauge Rp (2999)		Thread limit ring gauge R (2999)		Thread limit plug gauge Rp/Rc (10226)		Thread limit ring gauge R (10226)	
Pipe thread code	32745... Ident. No.		32746... Ident. No.		32743... Ident. No.		32744... Ident. No.	
1/16"-28	005	○	005	○	005	○	005	○
1/8"-28	010	●	010	●	010	●	010	●
1/4"-19	020	●	020	○	020	●	020	●
3/8"-19	030	●	030	○	030	●	030	●
1/2"-14	040	●	040	○	040	●	040	●
3/4"-14	050	●	050	○	050	○	050	●
1"-11	060	●	060	●	060	●	060	●
1 1/4"-11	070	○	070	○	070	○	070	○
1 1/2"-11	080	○	080	○	080	○	080	○
2"-11	090	○	090	○	090	○	090	○
2 1/2"-11	100	○	100	○	100	○	100	○
3"-11	110	○	110	○	110	○	110	○
4"-11	120	○	120	○	120	○	120	○

Prod. Gr. 3DB

ORION® Thread pitch gauges made of gauge steel (ISO 228)

for cylindrical pipe threads G

G AA AB

Application:

No. 32750: For testing the flank diameter of female threads and compliance with minimum dimensions of the external diameter.

No. 32754–32755: For testing the flank and core diameter of male threads.

Execution:

- for cylindrical pipe threads G
- **No. 32750:** Thread plug gauge
- **No. 32754:** Thread GO ring gauge
- **No. 32755:** Thread NO-GO ring gauge

Technical data:

- Material: Gauge steel

No. 32750
Illustration may be different!

No. 32754

No. 32755

	Thread limit plug gauge		Thread go ring gauge		Thread no-go ring gauge	
Tolerance class	Medium		A		A	
Pipe thread code	32750... Ident. No.		32754... Ident. No.		32755... Ident. No.	
1/8"-28	010	●	010	●	010	○
1/4"-19	015	●	015	●	015	●
3/8"-19	020	●	020	●	020	●
1/2"-14	025	●	025	●	025	●
5/8"-14	030	●	030	○	030	○
3/4"-14	035	●	035	●	035	●
7/8"-14	040	○	040	○	040	○

	Thread limit plug gauge		Thread go ring gauge		Thread no-go ring gauge	
Tolerance class	Medium		A		A	
Pipe thread code	32750... Ident. No.		32754... Ident. No.		32755... Ident. No.	
1"-11	045	●	045	●	045	●
1 1/8"-11	050	○	050	○	050	○
1 1/4"-11	-	-	055	●	055	○
1 1/2"-11	-	-	065	●	065	○
1 3/4"-11	-	-	075	○	075	○
2"-11	-	-	080	○	080	○

Prod. Gr. 3DB

ORION® Thread pitch gauges made of gauge steel (DIN 103)

for trapezoidal threads

Tr AA AB

Application:

No. 32820–32823: For testing the flank diameter of female threads and compliance with minimum dimensions of the external diameter.

No. 32824–32825: For testing the flank and core diameter of male threads.

Execution:

- **No. 32820:** Thread limit plug gauge
- **No. 32822:** Thread go plug gauge
- **No. 32823:** Thread no-go plug gauge
- **No. 32824:** Thread go ring gauge
- **No. 32825:** Thread no-go ring gauge

Technical data:

- DIN: 103

No. 32820

No. 32822

No. 32823

No. 32824

No. 32825

Tolerance class	7H		7H		7H		7e		7e	
Thread type x nominal Ø x pitch	32820... Ident. No.		32822... Ident. No.		32823... Ident. No.		32824... Ident. No.		32825... Ident. No.	
TR8 x 1.5	081	○	081	○	081	○	081	○	081	○
TR9 x 2	092	○	092	○	092	○	092	○	092	○
TR10 x 2	102	○	102	○	102	○	102	○	102	○
TR11 x 2	112	○	112	○	112	○	112	○	112	○
TR12 x 3	123	○	123	○	123	○	123	○	123	○
TR14 x 3	143	○	143	○	143	○	143	○	143	○
TR16 x 4	164	○	164	○	164	○	164	○	164	○
TR18 x 4	184	○	184	○	184	○	184	○	184	○
TR20 x 4	204	○	204	●	204	○	204	○	204	●
TR22 x 5	225	○	225	○	225	○	225	○	225	○
TR24 x 5	245	○	245	○	245	○	245	○	245	○
TR26 x 5	265	○	265	○	265	○	265	○	265	○
TR28 x 5	285	○	285	○	285	○	285	○	285	○
TR30 x 6	306	○	306	○	306	○	306	○	306	○
TR32 x 6	326	○	326	○	326	○	326	○	326	○
TR34 x 6	346	○	346	○	346	○	346	○	346	○
TR36 x 6	366	○	366	○	366	○	366	○	366	○
TR38 x 7	387	○	387	○	387	○	387	○	387	○
TR40 x 7	407	○	407	○	407	○	407	○	407	○
TR42 x 7	-	-	427	○	427	○	427	○	427	○
TR44 x 7	-	-	447	○	447	○	447	○	447	○
TR46 x 8	-	-	468	○	468	○	468	○	468	○
TR48 x 8	-	-	488	○	488	○	488	○	488	○
TR50 x 8	-	-	508	○	508	○	508	○	508	○
TR52 x 8	-	-	528	○	528	○	528	○	528	○
TR55 x 9	-	-	559	○	559	○	559	○	559	○
TR60 x 9	-	-	609	○	609	○	609	○	609	○

Prod. Gr. 3DB

leitech Thread plug gauges with depth measurement (DIN 13)

Standard metric ISO thread

M

Application:

No. 32850–32851: For testing threads and measuring thread depths in one pass.

No. 32853: For checking threads and measuring thread depths in one pass.

Execution:

- Direct reading of the thread depth
- **No. 32850:** Measuring depth gradation of 0.5 mm on the scale sleeve
- **No. 32850–32851:**
  - Thread inserts hardened and ground
  - Black anodised aluminium housing
- **No. 32851:** Measuring depth gradation of 0.1 mm using vernier scale, additional clamping of scale sleeve
- **No. 32853:**
  - Hardened and ground thread inserts
  - black anodised aluminium housing
  - Measurement depth reading via digital display 0.01 mm

Delivery:

No. 32853: incl. batteries and matching adjustment tool

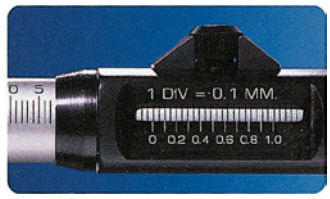
Technical data:

- Tolerance class: 6H

No. 32850

No. 32851

No. 32853



Depth reading with vernier scale

		Scale		Vernier scale		Digital	
	Reading Length Metrology	0,5 mm		0,1 mm		0,01 mm	
	Data transmission type	-		-		RS232 opto coupled	
Thread type x nominal Ø x pitch	Handle size	32850... Ident. No.		32851... Ident. No.		32853... Ident. No.	
M2 x 0.4	T 200	020	○	020	○	020	●
M2.5 x 0.45	T 200	025	○	025	○	040	●
M3 x 0.5	T 200	030	○	030	●	060	●
M3.5 x 0.6	T 200	035	○	035	○	080	●
M4 x 0.7	T 300	040	●	040	●	100	●
M5 x 0.8	T 300	050	●	050	●	140	○
M6 x 1	T 300	060	●	060	●	160	●
M7 x 1	T 400	070	○	070	○	180	○
M8 x 1.25	T 400	080	●	080	●	210	●
M9 x 1.25	T 400	090	○	090	○	240	○
M10 x 1.5	T 400	100	●	100	●	280	●
M12 x 1.75	T 400	120	●	120	●	340	●
M14 x 2	T 500	140	○	140	○	380	●
M16 x 2	T 500	160	○	160	○	430	●
M18 x 2.5	T 600	180	○	180	○	470	●
M20 x 2.5	T 600	200	○	200	○	500	○
M22 x 2.5	T 600	221	○	220	○	540	●

Prod. Gr. 324

leitech Thread plug gauges with depth measurement (DIN 13)

Metric fine thread

MF

Application:
For checking threads and measuring thread depths in one pass.

Execution:
- black anodised aluminium housing
- Direct reading of the thread depth
- **No. 32853:**
  - Hardened and ground thread inserts
  - Measurement depth reading via digital display 0.01 mm
- **No. 32855:** Measuring depth gradation of 0.5 mm on the scale sleeve
- **No. 32855–32856:** Thread inserts hardened and ground
- **No. 32856:** Measuring depth gradation of 0.1 mm using vernier scale, additional clamping of scale sleeve

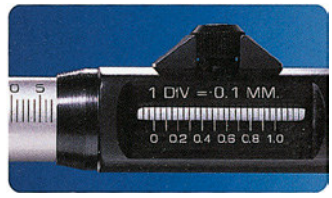
Delivery:
No. 32853: incl. batteries and matching adjustment tool

Technical data:
- Tolerance class: 6H

No. 32855

No. 32856

No. 32853



Depth reading with vernier scale

		Scale		Vernier scale		Digital	
	Reading Length Metrology	0,5 mm		0,1 mm		0,01 mm	
	Data transmission type	-		-		RS232 opto coupled	
Thread type x nominal Ø x pitch	Handle size	32855... Ident. No.		32856... Ident. No.		32853... Ident. No.	
MF2 x 0.25	T 200	021	○	020	○	010	○
MF2.2 x 0.25	T 200	022	○	022	○	030	○
MF2.2 x 0.45	T 200	024	○	024	○	-	-
MF3 x 0.35	T 200	030	○	030	○	050	○
MF3.5 x 0.35	T 200	035	○	035	○	070	○
MF4 x 0.5	T 300	040	○	040	○	090	○
MF4.5 x 0.5	T 300	045	○	045	○	110	○
MF5 x 0.35	T 300	053	○	053	○	120	○
MF5 x 0.5	T 300	055	○	055	○	130	○
MF6 x 0.75	T 300	060	○	060	○	150	○
MF7 x 0.75	T 400	070	○	070	○	170	○
MF8 x 0.75	T 400	080	○	080	○	190	○
MF8 x 1	T 400	085	○	085	○	200	○
MF9 x 0.75	T 400	090	○	090	○	220	○
MF9 x 1	T 400	095	○	095	○	230	○
MF10 x 1	T 400	100	○	100	○	250	○
MF10 x 1.25	T 400	101	○	101	○	260	○
MF10 x 0.75	T 400	107	○	107	○	270	○
MF11 x 1	T 400	110	○	110	○	290	○
MF11 x 1.5	T 400	115	○	115	○	300	○
MF12 x 1	T 400	120	○	120	○	310	○
MF12 x 1.25	T 400	122	○	122	○	320	○
MF12 x 1.5	T 400	125	○	125	○	330	○
MF14 x 1	T 500	140	○	140	○	350	○
MF14 x 1.25	T 500	142	○	142	○	360	○
MF14 x 1.5	T 500	145	○	145	○	370	○
MF15 x 1	T 500	150	○	150	○	390	○
MF15 x 1.5	T 500	155	○	155	○	400	○
MF16 x 1	T 500	161	○	160	○	410	○
MF16 x 1.5	T 500	165	○	165	○	420	○
MF18 x 1	T 600	180	○	180	○	440	○
MF18 x 1.5	T 600	185	○	185	○	450	○
MF18 x 2	T 600	188	○	188	○	460	○
MF20 x 1	T 600	200	○	200	○	-	-
MF20 x 1.5	T 600	205	○	205	○	480	○
MF20 x 2	T 600	208	○	208	○	490	○
MF22 x 1	T 600	220	○	220	○	510	○
MF22 x 1.5	T 600	225	○	225	○	520	○
MF22 x 2	T 600	228	○	228	○	530	○

Prod. Gr. 324

leitech Thread plug gauges with depth measurement

UNC thread

UNC

Application:
For checking threads and measuring thread depths in one pass.

Execution:
- black anodised aluminium housing
- Direct reading of the thread depth
- **Ident. No. 002–090:**
  - Thread inserts hardened and ground
  - Measuring depth gradation of 0.5 mm on the scale sleeve
- **Ident. No. 200–360:** Measuring depth gradation of 0.1 mm using vernier scale, additional clamping of scale sleeve
- **Ident. No. 200–560:** Hardened and ground thread inserts
- **Ident. No. 400–560:** Measurement depth reading via digital display 0.01 mm

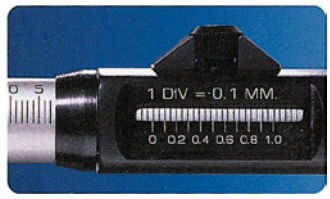
Delivery:
Ident. No. 400–560: incl. batteries and matching adjustment tool

Technical data:
- Tolerance class: 2B

Ident. No. 002–090

Ident. No. 200–360

Ident. No. 400–560



Depth reading with vernier scale

		Scale		Vernier scale		Digital	
	Reading Length Metrology	0,5 mm		0,1 mm		0,01 mm	
	Data transmission type	-		-		RS232 opto coupled	
UNC/UNF code	Handle size	32860... Ident. No.		32860... Ident. No.		32860... Ident. No.	
No. 2-56 UNC	T 200	002	○	200	○	400	○
No. 3-48 UNC	T 200	003	○	210	○	410	○
No. 4-40 UNC	T 200	010	○	220	○	420	○
No. 5-40 UNC	T 200	015	○	230	○	430	○
No. 6-32 UNC	T 200	016	○	240	○	440	○
No. 8-32 UNC	T 300	018	○	250	○	450	○
No. 10-24 UNC	T 300	020	○	260	○	460	○
No. 12-24 UNC	T 300	022	○	270	○	470	○
1/4”-20	T 300	030	○	280	○	480	○
5/16”-18	T 400	040	○	290	○	490	○
3/8”-16	T 400	050	○	300	○	500	○
7/16”-14	T 400	057	○	310	○	510	○
1/2”-13	T 400	060	○	320	○	520	○
9/16”-12	T 500	069	○	330	○	530	○
5/8”-11	T 500	070	○	340	○	540	○
3/4”-10	T 600	080	○	350	○	550	○
7/8”-9	T 600	090	○	360	○	560	○

Prod. Gr. 324

leitech Motorised thread test arbour DMG-Light (DIN 13)

Versions with Sylvac or Mahr electronics

M

NEW

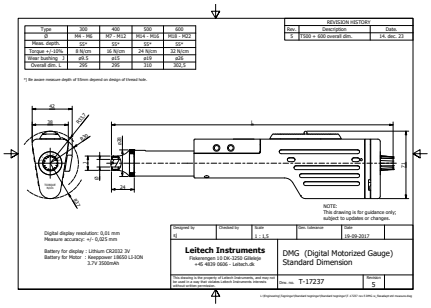
Application:
For checking threads and measuring thread depths in one step. Motorised screwing considerably reduces the working time compared to manual arbours.

Execution:
- Fast thread testing and thread depth measurement for series production
- The motorised drive with torque setting from 8 Ncm to 32 Ncm ensures process reliability
- Depth measurement accuracy +/- 0.025 mm
- Worn thread inserts can be replaced
- **Ident. No. 006–066:** Version with Sylvac electronics and cable interface
- **Ident. No. 106–166:** Version with Mahr electronics and MarConnect wireless data output

Advantage:
- Lightweight design for improved handling
- Flex adapter for easier screwing into the thread

Delivery:
incl. indicator contact point and matching flex adapter, wear bushings, adjustment tool, key for changing the adapter, charger with two Li-ion batteries (3.7 V, 3,500 mAh), in plastic case

Technical data:
- Tolerance class: 6H



		Reading Length Metrology		0,01 mm		0,01 mm	
		Data transmission type		MarConnect		RS232 opto coupled	
Thread type x nominal Ø x pitch	Handle size	32854... Ident. No.				32854... Ident. No.	
M4 x 0.7	T 300	106	○			006	○
M5 x 0.8	T 300	111	○			011	○
M6 x 1	T 300	116	○			016	○
M7 x 1	T 400	121	○			021	○

		Reading Length Metrology	0,01 mm		0,01 mm	
		Data transmission type	MarConnect		RS232 opto coupled	
Thread type x nominal Ø x pitch	Handle size		32854... Ident. No.		32854... Ident. No.	
M8 x 1.25	T 400		126	○	026	○
M9 x 1.25	T 400		131	○	031	○
M10 x 1.5	T 400		136	○	036	○
M12 x 1.75	T 400		141	○	041	○
M14 x 2	T 500		146	○	046	○
M16 x 2	T 500		151	○	051	○
M18 x 2.5	T 600		156	○	056	○
M20 x 2.5	T 600		161	○	061	○
M22 x 2.5	T 600		166	○	066	○

Prod. Gr. 3EF

TOLERATOR/FILETOR

HELIOS·PREISSER

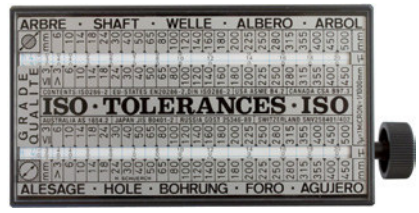
Display unit for tolerance values and thread data

Application:
Ident. No. 011: For direct reading of all ISO tolerances up to a nominal dimension of 500 mm
Ident. No. 020: For direct reading of all standard specifications for determining threads and core hole diameters.

Execution:
- **Ident. No. 011:** Printed in multiple languages

36095...	TOLERATOR	Ident. No.	011 ●
36095...	FILETOR	Ident. No.	020 ●

Prod. Gr. 361



Ident. No. 011

Ident. No. 020

DIN thread slide

for metric fine thread

Execution:
- Tables front and back
- For standard metric ISO fine threads (DIN 13), 1–420 mm
- Made of aluminium

36091...	Ident. No.	010 ●

Prod. Gr. 361

ORION® Twist drill bit grinding gauges

Application:
For inspecting the tip angle (118°) of twist drills

Execution:
- Suitable for drills up to 50 mm
- Grinding gauge angle 121° (produces tip angle 118°)

Technical data:
- Material: Steel

	Max. length of application area (mm)		
36001...	50	Ident. No.	012 ●

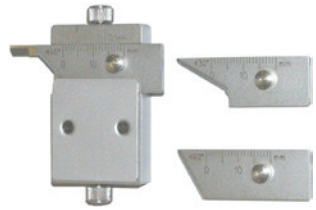
Prod. Gr. 3BF

ORION® Chamfer vernier callipers

Application:
For inspecting chamfer angles and dimensional accuracy

Execution:
- With interchangeable inspection straight edges for 30°, 45° and 60° chamfers

Delivery:
In wooden case



	Min./max. length measuring range	Vernier scale		
36030...	0-10 mm	0.1 mm	Ident. No.	010 ●

Prod. Gr. 3BF

ORION® Steel radius gauges
concave and convex

Application:
For testing inner and outer radii

Execution:
- Clamping screws for fixing the gauges
- Carbon steel

Technical data:
- Material: Steel

No. 36130

Number of sheets (PCS)	34		32		30	
Radius sizes in assortment	1-3 mm, increasing by 0.25 mm, 3.5-7 mm, increasing by 0.5 mm		7.5-15 mm, increasing by 0.5 mm		15.5-20 mm, increasing by 0.5 mm, 21-25 mm, increasing by 1 mm	
Cutting edge length (mm)	70		85		85	
	36130... Ident. No.		36131... Ident. No.		36132... Ident. No.	
	010	●	010	●	010	●

Prod. Gr. 3BF

ORION® Stainless radius gauges
concave and convex

Application:
For testing inner and outer radii

Execution:
- Clamping screws for fixing the gauges
- stainless steel

Technical data:
- Material: Steel, stainless

No. 36130

Number of sheets (PCS)	34		32		30	
Radius sizes in assortment	1-3 mm, increasing by 0.25 mm, 3.5-7 mm, increasing by 0.5 mm		7.5-15 mm, increasing by 0.5 mm		15.5-20 mm, increasing by 0.5 mm, 21-25 mm, increasing by 1 mm	
Cutting edge length (mm)	70		85		85	
	36130... Ident. No.		36131... Ident. No.		36132... Ident. No.	
	021	●	021	●	021	●

Prod. Gr. 3BF

ORION® Thread pitch gauges
milled

Application:
For testing thread pitch using the light gap method

Execution:
- For metric threads, Whitworth threads

	Number of sheets (PCS)		
36053...	52	Ident. No.	011 ●

Prod. Gr. 3BF

ORION® Thread lathe chisel gauge
for metric and Whitworth threads

Application:
For testing thread angles of thread cutting tools.

Technical data:
- Material: Steel

No. 36060

No. 36061

36060...	Withworth 55°	Ident. No.	012 ●
36061...	Metric 60°	Ident. No.	012 ●

Prod. Gr. 3BF

ORION® Thread lathe chisel gauge

Application:
For inspecting thread cutting tools

Execution:
- With recesses for square threads, 2–8 starts per 1”
- Trapezoidal thread in line with DIN 103, pitch 2–12 mm
- Flank angle 30°
- Sharp V thread 55° and 60°

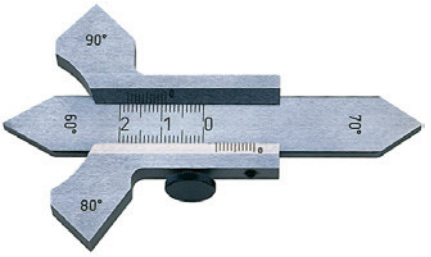
36075...	Ident. No.	010 ●

Prod. Gr. 3BF

Welding seam gauge

Application:
For measuring flat welded seams in corners and seam angles 60°, 80° and 90°

Execution:
- Made of hardened stainless steel
- Vernier scale and scale with brushed chromium-plated finish
- Locking screw



	Min./max. length measuring range	Vernier scale		
36155...	0-20 mm	0.1 mm	Ident. No.	010 ●

Prod. Gr. 361

Adjustable welding seam gauge

Application:
For rapid inspection of welded seam dimensions

Execution:
- Made of hardened stainless steel

	Scale value (mm)		
36160...	0.01	Ident. No.	010 ●

Prod. Gr. 361

ORION® Aluminium welding seam gauge

Application:
For quickly checking flat and corner welding seams

Execution:
- Made of aluminium
- Flat welding seams 0-5 mm
- Corner welding seams 2-15 mm

	Min./max. length measuring range	Scale value (mm)		
36160...	0-5 mm	0.5	Ident. No.	020 ●

Prod. Gr. 361

Digital welding seam gauge

Application:
For measuring flat welded seams in corners and seam angles 60°, 80° and 90°

Execution:
- Made of hardened stainless steel
- ON/OFF
- mm/inch switch-over
- Reading precision +/- 0.01 mm

	Min./max. length measuring range	Digit increment (mm)		
36165...	0-20 mm	0.01	Ident. No.	010 ●

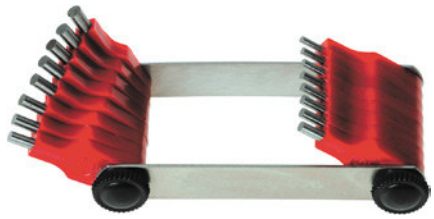
Prod. Gr. 361

ORION® Nozzle gauges

Application:
For inspecting all types of nozzles and small bores.

Execution:
- Steel pins mounted in plastic
- Nominal dimensions on plastic body
- Can be fixed in metal sheath

Technical data:
- Material: Steel



Min./max. length measuring range		0.45-1.5 mm	1.50-3 mm
Number of studs (PCS)		20	16
Nominal dimension in assortment		0.45-1.3 mm | increasing by 0.05 mm | 1.4 mm | 1.5 mm	1.5-3 mm | increasing by 0.1 mm
36295...	Ident. No.	010 ●	020 ●

Prod. Gr. 361

Precision nozzle gauge
with vernier scale

Application:
For exact measurement of all types of nozzles and small bores.

Execution:
- Hardened and round-ground needle
- Housing and protective sleeve with fine nickel-plated finish

Technical data:
- Min./max. length measuring range: 0-5 mm
- Scale value: 0.1 mm
- Vernier scale: 0.01 mm
- Material: Steel
- Surface: Nickel plated

36300...	Ident. No.	050 ●

Prod. Gr. 361

ORION® Tapered bore gauges

Application:
For measuring bores

Execution:
- Knurled handle
- Hardened and ground mandrel

Ident. No. 011

Min./max. length measuring range		1-6.5 mm	3-15 mm	15-30 mm	30-45 mm
Scale value (mm)		0.1	0.1	0.1	0.1
Material		Steel	Steel	Steel	Steel
36360...	Ident. No.	011 ●	041 ●	151 ●	301 ●

Prod. Gr. 361

ORION® Wedge gauge

Application:
For measuring gaps and clearances

Execution:
- **Ident. No. 010–020:** Made from hardened steel, hard-chrome plated
- **Ident. No. 110:** Made of plastic, particularly suitable for delicate or painted surfaces

Advantage:
- Fast and reliable reading of measured values

Ident. No. 010–020

Ident. No. 110

Min./max. length measuring range		0.5-7 mm	0.5-11 mm	0.5-11 mm
Scale value (mm)		0.1	0.1	0.1
Material		Steel	Steel	ABS
36370...	Ident. No.	010 ●	020 ●	110 ●

Prod. Gr. 361

ORION® Feeler gauges
Accuracy class TK 2

Application:
Suitable for inspecting gap dimensions and setting clearances.

Execution:
- Gauge blades made from hardened spring steel
- Tapered
- Can be clamped in place using a hexagon nut

Delivery:
In plastic box

Technical data:
- Length: 100 mm
- Width: 10 mm

	Min./max. length of application area	Nominal dimension in assortment	Number of sheets (PCS)		
36180...	0.04-0.15 mm	0.04-0.1 mm, increasing by 0.01 mm, 0.15 mm	8	Ident. No.	015 ●
36181...	0.05-0.5 mm	0.05-0.3 mm, increasing by 0.05 mm, 0.4 mm, 0.5 mm	8	Ident. No.	013 ●

	Min./max. length of application area	Nominal dimension in assortment	Number of sheets (PCS)		
36182...	0.05-1 mm	0.05-0.3 mm, increasing by 0.05 mm, 0.4-1 mm, increasing by 0.1 mm	13	Ident. No.	013 ●
36183...	0.05-1 mm	0.05-1 mm, increasing by 0.05 mm	20	Ident. No.	013 ●
36184...	0.1-2 mm	0.1-2 mm, increasing by 0.1 mm	20	Ident. No.	013 ●

Prod. Gr. 3BF

ORION® Feeler gauges

Application:
Suitable for inspecting gap dimensions and setting clearances.

Execution:
- Gauge blades made from hardened spring steel
- Tapered
- Can be clamped in place using a metal knurled thumb screw

Delivery:
In plastic box

Technical data:
- Length: 100 mm
- Width: 10 mm

No. 36189 016

	Min./max. length of application area	Nominal dimension in assortment	Number of sheets (PCS)		
36189...	0.05-1 mm	0.05-0.3 mm, increasing by 0.05 mm, 0.4-1 mm, increasing by 0.1 mm	13	Ident. No.	016 ●
36189...	0.05-1 mm	0.05-1 mm, increasing by 0.05 mm	20	Ident. No.	024 ●
36819...	0.05-0.5 mm	0.05-0.3 mm, increasing by 0.05 mm, 0.4 mm, 0.5 mm	8	Ident. No.	011 ●

Prod. Gr. 3BF

ORION® Feeler gauges
Anti-magnetic brass - accuracy class TK 2

Application:
Suitable for inspecting gap dimensions and setting clearances.

Execution:
- Brass gauge blades
- Tapered
- Can be clamped

Delivery:
In plastic box

Technical data:
- Length: 100 mm
- Width: 10 mm

	Min./max. length of application area	Nominal dimension in assortment	Number of sheets (PCS)		
36196...	0.1-0.8 mm	0.1-0.4 mm, increasing by 0.05 mm, 0.5 mm, 0.6 mm, 0.7 mm, 0.75 mm, 0.8 mm	12	Ident. No.	015 ●

Prod. Gr. 3BF

ORION® Feeler gauges
Long version - accuracy class TK 2

Application:
Suitable for inspecting gap dimensions and setting clearances.

Execution:
- Gauge blades made from hardened spring steel
- Tapered
- Can be clamped

Delivery:
In plastic box

Technical data:
- Length: 300 mm
- Width: 12.7 mm

No. 36201

	Min./max. length of application area	Nominal dimension in assortment	Number of sheets (PCS)		
36201...	0.05-1 mm	0.05-0.3 mm, increasing by 0.05 mm, 0.4-1 mm, increasing by 0.1 mm	13	Ident. No.	013 ●
36202...	0.1-2 mm	0.1-2 mm, increasing by 0.1 mm	20	Ident. No.	013 ●

Prod. Gr. 3BF

ORION® Feeler gauge strips, dimensions 12.7 mm x 5 m

Application:
For use in various areas of mechanical engineering, e.g. measuring dimensional tolerance between 2 components, as alignment references etc.

Execution:
- Made from high carbon steel, hardened
- Suitable for feeler gauge assortment in wall bracket
- **Ident. No. 008–100:** Gauge strip marked with dimensions

Delivery:
In can

Length x width	5000 x 12.7 mm	
Material	Plain steel	
Material number	1.1274	
Nominal thickness (mm)	36225... Ident. No.	
0.01	001	●
0.02	002	●
0.03	003	●
0.04	004	●
0.05	005	●
0.06	006	●
0.07	007	●
0.08	008	●
0.09	009	●
0.1	010	●
0.12	012	●
0.15	015	●
0.18	018	●
0.2	020	●
0.25	025	●

Length x width	5000 x 12.7 mm	
Material	Plain steel	
Material number	1.1274	
Nominal thickness (mm)	36225... Ident. No.	
0.3	030	●
0.35	035	●
0.4	040	●
0.45	045	●
0.5	050	●
0.55	055	●
0.6	060	●
0.65	065	●
0.7	070	●
0.75	075	●
0.8	080	●
0.85	085	●
0.9	090	●
0.95	095	●
1	100	●

Prod. Gr. 3BF

ORION® Feeler gauge strip assortment in wall bracket

the organisation system for your workshop

Application:
For use in various areas of mechanical engineering, e.g. measuring dimensional tolerance between 2 components, as alignment references etc.

Execution:
- Practical holder for clamping sections of feeler gauge strip
- 15 feeler gauge cans 12.7 mm x 5 m
- Wall-mounted holder made of sheet steel, paint: RAL 7035, light grey

Min./max. length of application area		0.01-0.25 mm	0.30-1 mm
Nominal dimension in assortment		0.01-0.1 mm | increasing by 0.01 mm | 0.12 mm | 0.15 mm | 0.18 mm | 0.2 mm | 0.25 mm	0.3-1 mm | increasing by 0.05 mm
Length x width x height		330 x 100 x 110 mm	330 x 210 x 220 mm
36225...	Ident. No.	400 ●	410 ●

Prod. Gr. 3BF

ORION® Feeler gauge strips, dimensions 12.7 mm x 5 m

INOX

Application:
For use in various areas of mechanical engineering, e.g. measuring dimensional tolerance between 2 components, as alignment references etc.

Execution:
- Stainless steel
- Suitable for feeler gauge assortment in wall bracket
- **Ident. No. 108–125:** Gauge strip marked with dimensions

Delivery:
In can

Ident. No. 110

Length x width	5000 x 12.7 mm	
Material	Chrome-nickel-steel	
Material number	Stainless steel A2, 1.4310	
Nominal thickness (mm)	36225... Ident. No.	
0.01	101	●
0.02	102	●
0.03	103	●
0.04	104	●
0.05	105	●
0.06	106	●
0.07	107	●
0.08	108	●

Length x width	5000 x 12.7 mm	
Material	Chrome-nickel-steel	
Material number	Stainless steel A2, 1.4310	
Nominal thickness (mm)	36225... Ident. No.	
0.09	109	●
0.1	110	●
0.12	112	●
0.15	115	●
0.18	118	●
0.2	120	●
0.25	125	●

Prod. Gr. 3BF

ORION® Feeler gauge strip assortment in wall bracket INOX

the organisation system for your workshop

Application:
For use in various areas of mechanical engineering, e.g. measuring dimensional tolerance between 2 components, as alignment references etc.

Execution:
- Practical bracket for clamping sections of feeler gauge strip
- 15 feeler gauge cans 12.7 mm x 5 m STAINLESS STEEL
- Wall-mounted holder made of sheet steel, paint: RAL 7035, light grey

Min./max. length of application area		0.01-0.25 mm
Nominal dimension in assortment		0.01-0.1 mm, increasing by 0.01 mm | 0.12 mm | 0.15 mm | 0.18 mm | 0.2 mm | 0.25 mm
Length x width x height		330 x 100 x 110 mm
36225...	Ident. No.	420
		●

Prod. Gr. 3BF

Shimming sheets in high-precision strip

unalloyed steel

Application:
For setting up tools, adjusting apparatuses, levelling tolerances, aligning devices, aligning workpieces etc.

Execution:
- Hardened spring steel
- Carbon content over 1%
- Magnetic

Delivery:
No. 36231: Held in ring

No. 36231

No. 36232

Length x width	5000 x 50 mm		5000 x 25 mm	
Material	Plain steel		Plain steel	
Material number	1.1274		1.1274	
Nominal thickness (mm)	36231... Ident. No.		36232... Ident. No.	
0.03	003	●	003	●
0.04	004	●	004	○
0.05	005	●	005	●
0.06	006	○	006	○
0.07	007	○	007	○
0.08	008	○	008	○
0.09	009	○	009	○
0.1	010	●	010	●
0.12	012	○	-	-
0.15	015	●	015	○
0.18	018	○	-	-

Length x width	5000 x 50 mm		5000 x 25 mm	
Material	Plain steel		Plain steel	
Material number	1.1274		1.1274	
Nominal thickness (mm)	36231... Ident. No.		36232... Ident. No.	
0.2	020	●	020	●
0.25	025	●	025	○
0.3	030	●	030	○
0.4	040	●	040	○
0.5	050	●	050	○
0.6	060	○	060	○
0.7	070	○	070	○
0.8	080	○	080	○
0.9	090	○	090	○
1	100	●	100	○

Prod. Gr. 360

Shimming sheets in high-precision strip

Chrome-nickel steel

Application:
For setting up tools, adjusting apparatuses, levelling tolerances, aligning devices, aligning workpieces etc.

Execution:
- Cold-rolled INOX spring steel
- Alloy with 17% chromium and 7% nickel
- Corrosion-resistant
- High strength
- Weakly magnetic

Delivery:
No. 36231: In can

No. 36231

No. 36232

Length x width	5000 x 50 mm		5000 x 25 mm	
Material	Chrome-nickel-steel		Chrome-nickel-steel	
Material number	Stainless steel A2 1.4310		Stainless steel A2 1.4310	
Nominal thickness (mm)	36231... Ident. No.		36232... Ident. No.	
0.01	001	●	001	○
0.02	002	●	002	●

Prod. Gr. 360

Shimming sheets in high-precision strip

Chrome-nickel steel

Application:
For setting up tools, adjusting appa-ratuses, levelling tolerances, aligning devices, aligning workpieces etc.

Execution:
- Cold-rolled INOX spring steel
- Alloy with 17% chromium and 7% nickel
- Corrosion-resistant
- High strength
- Weakly magnetic

Delivery:
No. 36230–36234: In can
No. 36236: Rolled in special packaging

No. 36230

No. 36234

No. 36236

Length x width	5000 x 12.7 mm		5000 x 100 mm		1000 x 300 mm	
Material	Chrome-nickel-steel		Chrome-nickel-steel		Chrome-nickel-steel	
Material number	Stainless steel A2 1.4310		Stainless steel A2 1.4310		Stainless steel A2 1.4310	
Nominal thickness (mm)	**36230...** Ident. No.		**36234...** Ident. No.		**36236...** Ident. No.	
0.01	**001**	●	**001**	○	-	-
0.02	**002**	●	**002**	○	-	-
0.03	**003**	●	**003**	○	**003**	○
0.04	**004**	●	**004**	○	**004**	○
0.05	**005**	●	**005**	●	**005**	○
0.06	**006**	○	**006**	○	**006**	○
0.07	**007**	●	**007**	○	**007**	○
0.08	**008**	○	**008**	○	**008**	○
0.09	**009**	○	**009**	○	**009**	○
0.1	**010**	●	**010**	●	**010**	○
0.15	**015**	●	**015**	○	**015**	○
0.18	**018**	○	-	-	-	-

Length x width	5000 x 12.7 mm		5000 x 100 mm		1000 x 300 mm	
Material	Chrome-nickel-steel		Chrome-nickel-steel		Chrome-nickel-steel	
Material number	Stainless steel A2 1.4310		Stainless steel A2 1.4310		Stainless steel A2 1.4310	
Nominal thickness (mm)	**36230...** Ident. No.		**36234...** Ident. No.		**36236...** Ident. No.	
0.2	**020**	●	**020**	●	**020**	○
0.25	**025**	●	**025**	●	**025**	○
0.3	**030**	●	**030**	●	**030**	○
0.4	**040**	●	**040**	●	**040**	○
0.5	**050**	●	**050**	●	**050**	○
0.6	**060**	○	**060**	○	-	-
0.7	**070**	○	**070**	○	-	-
0.8	**080**	○	**080**	○	-	-
0.9	**090**	○	**090**	○	-	-
1	**100**	●	**100**	○	-	-
0.12	-	-	**012**	○	-	-

Prod. Gr. 360

Shimming sheets in high-precision version

Format blanks

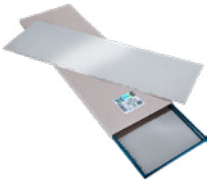
Application:
For setting up tools, adjusting apparatuses, levelling tolerances, aligning devices, aligning workpieces etc.

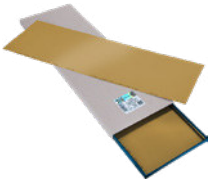
Execution:
- **No. 36240–36241:**
  - Cold-rolled INOX spring steel
  - Alloy with 17% chromium and 7% nickel
  - Corrosion-resistant
  - High strength
  - Weakly magnetic
- **No. 36244:**
  - Cold-rolled spring-hardened brass tape
  - 63% copper and 37% zinc
  - Non-magnetic

Advantage:
- Advantage over rolled materials: evenly aligned

Delivery:
In sturdy sliding carton

No. 36240


No. 36241


No. 36244

Length x width	500 x 100 mm		500 x 150 mm		500 x 150 mm	
Material	Chrome-nickel-steel		Chrome-nickel-steel		Brass	
Material number	Stainless steel A2 1.4310		Stainless steel A2 1.4310		2.0321	
Number of pieces in assortment/set	5		5		5	
Nominal thickness (mm)	36240... Ident. No.		36241... Ident. No.		36244... Ident. No.	
0.01	001	●	-	-	001	○
0.02	002	●	-	-	-	-
0.025	-	-	525	○	525	○
0.03	003	●	-	-	-	-
0.04	004	●	-	-	-	-
0.05	005	●	005	●	005	○
0.075	-	-	575	○	575	○
0.08	008	○	-	-	-	-
0.1	010	●	010	●	010	●
0.15	015	●	015	●	015	○

Length x width	500 x 100 mm		500 x 150 mm		500 x 150 mm	
Material	Chrome-nickel-steel		Chrome-nickel-steel		Brass	
Material number	Stainless steel A2 1.4310		Stainless steel A2 1.4310		2.0321	
Number of pieces in assortment/set	5		5		5	
Nominal thickness (mm)	36240... Ident. No.		36241... Ident. No.		36244... Ident. No.	
0.2	020	●	020	●	020	○
0.25	025	●	025	●	025	○
0.3	030	●	030	●	030	○
0.4	040	●	040	●	040	○
0.5	050	●	050	●	050	○
0.6	060	○	060	●	060	○
0.7	070	○	070	●	070	○
0.8	080	○	080	●	080	○
0.9	090	○	090	○	090	○
1	100	●	100	●	100	○

Prod. Gr. 360

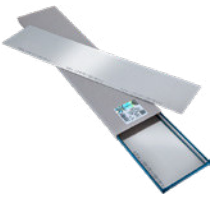
Shimming sheets in high-precision version

Assortment of format blanks

Application:
For setting up tools, adjusting apparatuses, levelling tolerances, aligning devices, aligning workpieces etc.

Execution:
- **Ident. No. 010–030:**
  - Hardened spring steel
  - Carbon content over 1%
  - Magnetic
- **Ident. No. 040:**
  - Cold-rolled INOX spring steel
  - Alloy with 17% chromium and 7% nickel
  - Corrosion-resistant
  - High strength
  - Weakly magnetic

Ident. No. 010–030


Ident. No. 040

Length x width		300 x 50 mm	300 x 50 mm	300 x 50 mm	500 x 100 mm
Number of pieces in assortment/set		25	23	11	9
Material		Plain steel	Plain steel	Plain steel	Chrome-nickel-steel
Material number		1.1274	1.1274	1.1274	Stainless steel A2 1.4310
Min./max. length of application area		0.01-1 mm	0.03-1 mm	0.02-1 mm	0.02-1 mm
Nominal dimension in assortment		0.01-0.1 mm | increasing by 0.01 mm | 0.12 mm | 0.15 mm | 0.18 mm | 0.2-0.5 mm | increasing by 0.05 mm | 0.6-1 mm | increasing by 0.1 mm	0.03-0.1 mm | increasing by 0.01 mm | 0.12 mm | 0.15 mm | 0.18 mm | 0.2-0.5 mm | increasing by 0.05 mm | 0.6-1 mm | increasing by 0.1 mm	0.02 mm | 0.03 mm | 0.05 mm | 0.1 mm | 0.15 mm | 0.2 mm | 0.25 mm | 0.3-0.5 mm | increasing by 0.1 mm | 1 mm	0.02 mm | 0.05 mm | 0.1 mm | 0.15 mm | 0.2-0.5 mm | increasing by 0.1 mm | 1 mm
36248...	Ident. No.	010 ●	020 ○	030 ●	040 ○

Prod. Gr. 360

ATORN Dial gauges (DIN 878)

CE

Application:
Ident. No. 030: For measuring lengths and differences in length, e.g. concentricity, flatness, position measurements.
Ident. No. 080: For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

Execution:
- **Ident. No. 030:**
  - Measuring pin and clamping shank are made from durable stainless steel
  - Coloured tolerance marks for clear identification of the set tolerance fields
  - Comfortable lifting sleeve with additional dust protection function
  - Concentric mm display for larger, clearer digits
- **Ident. No. 080:**
  - Measuring pin and clamping shank are made of durable stainless steel
  - No tolerance marks as standard
  - The dial gauges feature a clamping shank that has a lateral offset of 3.5 mm.
  - Without revolution counter

Advantage:
- Gauge slide with ceramic ball (minimum wear, not electrically conductive)

Delivery:
in a case

Ident. No. 030

Ident. No. 080

Length measuring range (mm)		10	10
Scale value (mm)		0.01	0.1
Measurement travel of one pointer revolution (mm)		1	10
Material of outer ring		Metal	Metal
Error limit (µm)		15	50
Outer Ø (mm)		40	58
Shock protection		No	No
Shank Ø (mm)		8	8
Type		Concentric mm display	without revolution indicator
33000...	Ident. No.	030 ●	080 ●

Prod. Gr. 3AE

ATORN Dial gauges with impact protection (DIN 878)

CE

Application:
Ident. No. 010–020: For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.
Ident. No. 040–050: For measuring lengths and differences in length, e.g. concentricity, flatness, position measurements.

Execution:
- Coloured tolerance marks for clear identification of the set tolerance fields
- Comfortable lifting sleeve with additional dust protection function
- **Ident. No. 010–020:** Measuring pin and clamping shaft made from durable stainless steel
- **Ident. No. 040–050:**
  - Measuring pin and clamping shank are made from durable stainless steel
  - Concentric mm display for larger, clearer digits

Advantage:
- **Ident. No. 010–020:** Gauge slides with ceramic balls (low wear, not electrically conductive)
- **Ident. No. 040–050:** Gauge slide with ceramic ball (minimum wear, not electrically conductive)

Delivery:
Ident. No. 010–020: In a case
Ident. No. 040–050: in a case

Ident. No. 010

Ident. No. 020

Ident. No. 040

Ident. No. 050

Length measuring range (mm)		5	10	10	25
Scale value (mm)		0.01	0.01	0.01	0.01
Measurement travel of one pointer revolution (mm)		0.5	1	1	1
Material of outer ring		Metal	Metal	Metal	Metal
Error limit (µm)		12	15	15	20
Outer Ø (mm)		40	58	58	58
Shock protection		Yes	Yes	Yes	Yes
Shank Ø (mm)		8	8	8	8
Type		Small indicator	Small indicator	Concentric mm display	Concentric mm display
33000...	Ident. No.	010 ●	020 ●	040 ●	050 ●

Prod. Gr. 3AE

ATORN Precision dial gauges with impact protection (DIN 878)

CE

Application:
For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

Execution:
- Measuring pin and clamping shank are made of durable stainless steel
- Tolerance marks for clear identification of the set tolerance fields
- Comfortable lifting sleeve with additional dust protection function

Advantage:
- Gauge slide with ceramic ball (minimum wear, not electrically conductive)

Delivery:
in a case

Ident. No. 060

Ident. No. 070

Length measuring range (mm)		1	1
Scale value (mm)		0.001	0.001
Measurement travel of one pointer revolution (mm)		0.2	0.2
Material of outer ring		Metal	Metal
Error limit (µm)		5	5
Outer Ø (mm)		40	58
Shock protection		Yes	Yes
Shank Ø (mm)		8	8
Type		Small indicator	Small indicator
33000...	Ident. No.	060 ●	070 ●

Prod. Gr. 3AE

ATORN Safety dial gauge with free stroke (DIN 878)

CE

Application:
For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

Execution:
- Measuring pin and clamping shank are made of durable stainless steel
- Tolerance marks for clear identification of the set tolerance fields
- Comfortable lifting sleeve with additional dust protection function

Advantage:
- Gauge slide with ceramic ball (minimum wear, not electrically conductive)

Delivery:
in a case

Length measuring range (mm)		0.8
Scale value (mm)		0.01
Material of outer ring		Metal
Error limit (µm)		7
Outer Ø (mm)		58
Shock protection		Yes
Shank Ø (mm)		8
Type		40-0-40 scale
33000...	Ident. No.	090 ●

Prod. Gr. 3AE

ORION Lightweight dial gauges with plastic housing (DIN 878)

CE

Application:
For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

Execution:
- Measuring pin and clamping shaft made from durable stainless steel
- Extra light so easy to handle
- The plastic housing is highly resistant to chemical influences

Delivery:
In a case

No. 33011

No. 33037

	Length measuring range (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Outer Ø (mm)		
33011...	3	0.01	0.5	40	Ident. No.	010 ●
33037...	10	0.01	1	58	Ident. No.	010 ●

Prod. Gr. 3BD

ORION® Dial gauges (DIN 878)

CE

Application:
For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

Execution:
- Measuring pin and clamping shaft made from durable stainless steel
- Particularly robust thanks to 5 mm reinforced measuring pins
- Housing made of zinc

Delivery:
In a case

	Length measuring range (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Outer Ø (mm)	Shock protection		
33020...	10	0.01	1	58	No	Ident. No.	010 ●
33020...	10	0.01	1	58	Yes	Ident. No.	020 ●

Prod. Gr. 3BD

ORION® Safety dial gauge with free stroke (DIN 878)

CE

Application:
For measuring lengths and differences in length, e.g. concentricity, flatness, position measurements.

Execution:
- Measuring pin and clamping shank are made from durable stainless steel
- Particularly robust thanks to 5 mm reinforced measuring pins
- Housing made of zinc
- Safety dial gauge with 7 mm free stroke

Delivery:
in case

	Length measuring range (mm)	Scale value (mm)	Outer Ø (mm)	Shock protection		
33020...	0.8	0.01	58	No	Ident. No.	100 ●

Prod. Gr. 3BD

Standard dial gauges, without impact protection

Measuring range 1-80 mm

C

Application:
For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

Execution:
- Measuring pin and clamping shaft made from durable stainless steel

Delivery:
In a case

No. 33001 010

No. 33001 020, 33038 010

No. 33013

No. 33018

No. 33031

No. 33032

No. 33040

No. 33044

No. 33046

No. 33080

No. 33085

	Length measuring range (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Outer Ø (mm)	Shock protection		
33044...	1	0.001	0.2	58	No	Ident. No.	010 ●
33013...	3	0.01	0.5	32	No	Ident. No.	010 ●
33001...	3	0.01	0.5	40	No	Ident. No.	010 ●
33001...	5	0.01	1	40	No	Ident. No.	020 ●
33046...	5	0.001	0.2	58	No	Ident. No.	010 ●
33085...	5	0.001	0.2	80	No	Ident. No.	010 ●
33018...	10	0.1	10	40	No	Ident. No.	010 ●
33031...	10	0.1	10	58	No	Ident. No.	010 ●
33038...	10	0.01	1	58	No	Ident. No.	010 ●
33080...	10	0.01	1	80	No	Ident. No.	010 ●
33081...	10	0.01	1	100	No	Ident. No.	010 ○
33032...	30	0.1	10	58	No	Ident. No.	010 ●
33040...	30	0.01	1	58	No	Ident. No.	010 ●
33041...	50	0.01	1	58	No	Ident. No.	010 ●
33042...	80	0.01	1	58	No	Ident. No.	010 ●

Prod. Gr. 331

Shockproof dial gauges

Measuring range 1-50 mm

C

Application:

No. 33003 010–33009 010, 33077 010–33078 020: For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

No. 33075: For measuring lengths and differences in length, e.g. concentricity, flatness, position measurements.

Execution:

- **No. 33003 010–33009 010, 33077 010–33078 020:** Measuring pin and clamping shaft made from durable stainless steel
- **No. 33075:**
- Measuring pin and clamping shank are made from durable stainless steel
- Fine point adjustment by turning the knurl button

Advantage:

- Impacts against the gauge slide are not transferred to the measuring mechanism; in this way, display accuracy is maintained for a long time.

Delivery:

No. 33003 010–33009 010, 33077 010–33078 020: In a case

No. 33075: in case

No. 33009

No. 33075

No. 33077

	Length measuring range (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Outer Ø (mm)	Shock protection		
33009...	1	0.001	0.2	40	Yes	Ident. No.	010 ●
33003...	3	0.01	0.5	40	Yes	Ident. No.	010 ●
33077...	10	0.01	1	58	Yes	Ident. No.	010 ●
33075...	10	0.01	1	58	Yes	Ident. No.	010 ●
33078...	30	0.01	1	58	Yes	Ident. No.	010 ●
33078...	50	0.01	1	58	Yes	Ident. No.	020 ●

Prod. Gr. 331

Small dial gauges, with long shank for SUBITO, with and without impact protection

Measuring range 1-3 mm

C

Application:

for measuring lengths and differences in length, e.g. concentricity, flatness, position measurements.

Execution:

- measuring pin and clamping shank are made from a durable stainless steel
- with long shaft for mounting in e.g. Subito, etc.

Delivery:

in case

No. 33002

No. 33004

No. 33010

	Length measuring range (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Outer Ø (mm)	Shock protection		
33010...	1	0.001	0.2	40	Yes	Ident. No.	010 ●
33002...	3	0.01	0.5	40	No	Ident. No.	010 ●
33004...	3	0.01	0.5	40	Yes	Ident. No.	010 ●

Prod. Gr. 331

Precision dial gauges with impact protection

Bore for measuring pin lift-off

C

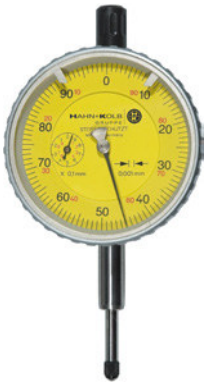
Application:
For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

Execution:
- Measuring pin and clamping shaft made from durable stainless steel
- Special stainless steel fine measuring mechanism
- Hole in housing for wire lifter

Advantage:
- Extremely high measurement accuracy

Delivery:
In a case

Notes:
For wire lifter accessories, see article number 33029120



	Length measuring range (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Outer Ø (mm)	Shock protection		
33118...	1	0.001	0.1	40	Yes	Ident. No.	010 ●
33119...	1	0.001	0.1	58	Yes	Ident. No.	010 ●

Prod. Gr. 331

Safety dial gauges

with free stroke and shock protection

C

Application:
For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

Execution:
- Measuring pin and clamping shaft made from durable stainless steel
- with impact protection and free stroke

Delivery:
In a case

No. 33112–33113

No. 33114

No. 33115

	Length measuring range (mm)	Scale value (mm)	Outer Ø (mm)	Shock protection		
33113...	0.4	0.01	40	Yes	Ident. No.	010 ●
33112...	0.4	0.005	58	Yes	Ident. No.	010 ○
33114...	0.8	0.01	58	Yes	Ident. No.	010 ●
33115...	1	0.01	61	Yes	Ident. No.	020 ○

Prod. Gr. 331

Dial gauges, shockproof and waterproof to IP53/IP67

C

Application:
No. 33050: For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.
No. 33051–33053: For measuring lengths and differences in length, e.g. concentricity, flatness, position measurements.

Execution:
- **No. 33050:**
  - Measuring pin and clamping shaft made from durable stainless steel
  - shadow-free display and mount (external ring and viewing window) made from one piece
  - Protection class IP53
- **No. 33051–33053:**
  - Measuring pin and clamping shank are made from durable stainless steel
  - With screwed-on metal ring for maximum impermeability
  - Protection class IP67

Delivery:
No. 33050: In a case
No. 33051–33053: in case

No. 33050

No. 33051

No. 33052

No. 33053

	Length measuring range (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Outer Ø (mm)	Shock protection		
33050...	3	0.01	1	32	Yes	Ident. No.	015 ●
33050...	10	0.01	1	58	Yes	Ident. No.	010 ●
33051...	3	0.01	0.5	44	Yes	Ident. No.	010 ●
33052...	10	0.01	1	61	Yes	Ident. No.	010 ●
33053...	30	0.01	1	61	Yes	Ident. No.	010 ●

Prod. Gr. 331

Dial gauge (DIN 878)
with magnetic back

C

Application:
For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

Execution:
- Measuring pin and clamping shaft made from durable stainless steel

Advantage:
- Back wall is designed as magnetic clamp (detachable)
- Can be used without stand
- The magnet does not affect dial gauge function

Delivery:
In a case

Ident. No. 010

	Length measuring range (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Outer Ø (mm)		
33100...	10	0.01	1	58	Ident. No.	010 ●
33100...	3	0.01	0.5	40	Ident. No.	020 ●

Prod. Gr. 331

Dial gauges
with a rear probe

C

Application:
Ideal for installation in gauges.

Execution:
- Measuring pin and clamping shaft made from durable stainless steel
- Read from above
- 2 clamping surfaces: Clamping shank diameter 8 mm h6 x 18 mm, diameter 28 mm clamping shaft 6 x 7 mm

Delivery:
In a case

	Length measuring range (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Outer Ø (mm)		
33110...	3	0.01	0.5	40	Ident. No.	010 ●
33111...	5	0.01	1	58	Ident. No.	020 ●

Prod. Gr. 331

ATORN Electronic dial gauge
with large high-contrast display, designed for production as well as for laboratory

multiCOM IP 52 CE

Application:
For static measurements of lengths and length differences

Execution:
- Zero setting at any position
- Large LCD display (12 mm)
- Keeptronic System
- mm/inch switch-over

Advantage:
- LOCK function (key lock)
- Switched on by the ON button or automatically switched on by moving the button
- Particularly energy-saving electronics (battery lifetime up to 3 years)

Delivery:
Battery (1 x 3 V lithium type CR 2032)

Technical data:
- Length measuring range: 12.5 mm
- Data transmission type: multiCOM
- IP protection class: IP 52
- Min./max. measurement force: 0.5-1.0 N
- Functions: With mm / inch switching | With zero setting at any position | Lock-function (Keybord lock) | Automatic switch-off | Absolute function | Preset function | Reversal of counting direction
- Connection thread: M2.5

Ident. No. 210

p. 1261

Length measuring range (mm)		12.5	12.5
Digit increment (mm)		0.01	0.001
Error limit (µm)		20	5
Repeat accuracy (µm)		10	2
33167...	Ident. No.	110 ●	210 ●

Prod. Gr. 303

ATORN Electronic dial gauge

PROXIMITY IP 54 CE

Application:
For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

Execution:
- Large LCD display (11 mm)
- Read display value
- Factor adjustable
- mm/inch switch-over

Advantage:
- Measured value classification: Display uses coloured LEDs to indicate when tolerance limits are exceeded

Delivery:
Battery (1 x 3 V lithium type CR 2032)

Technical data:
- Data transmission type: Proximity
- IP protection class: IP 54
- Functions: Rotatable housing | With mm / inch switching | Automatic switch-off | Absolute function | Dynamic Measurement | Colour reading classification | Preset function | Tolerance value entry | Reversal of counting direction | With zero setting at any position | Minimum / Maximum measurement | Automatic switch-on (movement of the slide/measuring bolt)
- Connection thread: M2.5

p. 1262

Length measuring range (mm)		12.5	25	50	100	12.5	25	50	100
Length measuring range (mm)		12.5	25	50	100	12.5	25	50	100
Digit increment (mm)		0.01	0.01	0.01	0.01	0.001	0.001	0.001	0.001
Error limit (µm)		10	10	20	20	3	4	5	6
Repeat accuracy (µm)		2	2	2	2	2	2	2	3
Min./max. measurement force		0.65-0.9 N	0.65-1.15 N	1.4-2.9 N	1.8-3.8 N	0.65-0.9 N	0.65-1.15 N	1.4-2.9 N	1.8-3.8 N
33172...	Ident. No.	001 ●	011 ●	021 ●	031 ●	101 ●	111 ●	121 ●	131 ●

Prod. Gr. 303

ORION® Electronic dial gauge

Static measuring tasks

IP 40 CD

NEW

Application:
For static measurements of lengths and length differences

Execution:
- Clear LCD display

Advantage:
- Cost-effective, entry-level device

Technical data:
- Length measuring range: 12.5 mm
- Digit increment: 0.01 mm
- Error limit: 0.03 mm
- IP protection class: IP 40
- Shank diameter: 8 mm
- Functions: On/Off | With zero setting at any position | With mm / inch switching | ABS function | TOL (Tolerance and warning limits input)
- Digit height: 11 mm

	Design	Data transmission type		
33168...	Metric	1 x micro USB 3.0	Ident. No.	015 ●

Prod. Gr. 3BK

ORION® Electronic dial gauge

with combined scale and digital display

IP 52 CE

Application:
For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

Execution:
- mm/inch switch-over

Delivery:
In a case

Technical data:
- Length measuring range: 12.5 mm
- IP protection class: IP 52
- Functions: Automatic switch-off | Absolute function | Dynamic Measurement | Combined indicator for figure/scale reading | Preset function | Tolerance value entry

Digit increment (mm)		0.01	0.001
Error limit (µm)		30	10
Repeat accuracy (µm)		10	4
33168...	Ident. No.	013 ●	023 ●

Prod. Gr. 3BK

Ident. No. 013

Ident. No. 023

DIALTRONIC COMPACT small electronic dial gauges

Static measuring tasks, with single-button operation

Application:
For measuring lengths and length differences.

Execution:
- Metal housing
- Large LCD display
- Single-button operation

Advantage:
- Permanent power supply without battery via Power RS

Delivery:
With battery (1 x 3 V lithium type CR 2032)

Notes:
Alternative power supply via data cable (optional)

Technical data:
- Length measuring range: 12.5 mm
- Repeat accuracy: 2 µm
- Shank diameter: 8 mm
- Functions: Absolute function | Preset function | Reversal of counting direction | With mm / inch switching

Ident. No. 001

Ident. No. 002

Ident. No. 003

Digit increment (mm)				0.01	0.001	0.001
Error limit (µm)				10	4	4
IP protection class				IP 54	IP 54	IP 67
Min./max. measurement force				0.5-0.9 N	0.5-0.9 N	0.6-1.3 N
	Type	Data transmission type				
33177...	DIALTRONIC Compact	Power RS	Ident. No.	001 ●	002 ○	003 ○

Prod. Gr. 362

MarCator 1086 electronic dial gauge

For static measurements

NEW

Application:
For static measurements of lengths and length differences

Execution:
- Hardened glass front with touch operating panels
- Clear tolerance symbols and coloured LED signals (red, green, yellow) for classifying measured values
- High-contrast LCD display
- Operating and display part can be rotated by 280°
- Clamping shank and measuring pin made of hardened stainless steel

Advantage:
- scratch- and shock-resistant surface, with wear-free control buttons
- excellent protection against dust, coolants and lubricants
- Improved measuring reliability in stands, no measurement errors caused by pressing buttons

Delivery:
Battery (CR 2450N), test report, operating instructions, cardboard packaging

Technical data:
- IP protection class: IP 42
- Shank diameter: 8 mm
- Functions: On/Off | With mm / inch switching | Reset (Zeroing the display) | Preset function | TOL (Tolerance and warning limits input) | ABS function | Reversal of counting direction | Lock-function (Keybord lock) | Data (Data transfer) | Hold-function (AE lock) | Colour reading classification | Factor (multiplier for measuring distance)
- Digit height: 11.5 mm
- Connection thread: M2.5

Ident. No. 811

Length measuring range (mm)					12.5	25	12.5	25	50	100
Digit increment (mm)					0.01	0.01	0.0005	0.0005	0.0005	0.0005
Error limit (mm)					0.02	0.02	0.004	0.004	0.007	0.008
Min./max. measurement force					0.65-0.9 N	0.65-1.15 N	0.65-0.9 N	0.65-1.15 N	1.25-2.7 N	1.8-3.5 N
	Type	Design	Data transmission type							
33166...	MarCator 1086 R	Metric	multiCOM	Ident. No.	111 ●	-	-	-	-	-
33166...		Metric	multiCOM	Ident. No.	-	121 ●	811 ●	821 ●	823 ○	826 ○

Prod. Gr. 305

MarCator 1087 electronic dial gauge

For static and dynamic measurements

NEW

Application:
For static and dynamic measurements of lengths and length differences, e.g. concentricity measurements, flatness measurements and position measurements.

Execution:
- Hardened glass front with touch operating panels
- Clear tolerance symbols and coloured LED signals (red, green, yellow) for classifying measured values
- High-contrast LCD display
- Operating and display part can be rotated by 280°
- Clamping shank and measuring pin made of hardened stainless steel
- Analogue scale display for visual tracking and detection of dynamic measuring movements

Advantage:
- scratch- and shock-resistant surface, with wear-free control buttons
- excellent protection against dust, coolants and lubricants
- Improved measuring reliability in stands, no measurement errors caused by pressing buttons

Delivery:
Battery (CR 2450N), test report, operating instructions, cardboard packaging

Technical data:
- Digit increment: 0.0005 mm
- Error limit: 0.004 mm
- IP protection class: IP 42
- Shank diameter: 8 mm
- Functions: On/Off | With mm / inch switching | Reset (Zeroing the display) | Preset function | TOL (Tolerance and warning limits input) | ABS function | Reversal of counting direction | Lock-function (Keybord lock) | Data (Data transfer) | Hold-function (AE lock) | Dynamic Measurement | Combined indicator for figure/scale reading | Colour reading classification | Factor (multiplier for measuring distance) | Min./max. memory for concentricity and level testing | Min./max. reverse point search memory
- Digit height: 11.5 mm
- Connection thread: M2.5

Ident. No. 631

Length measuring range (mm)				12.5	25
Min./max. measurement force				0.65-0.9 N	0.65-1.15 N
	Design	Data transmission type			
33166...	Metric	multiCOM	Ident. No.	631 ●	641 ●

Prod. Gr. 305

ID-S electronic dial gauges

For static measurements

Application:
For static measurements of lengths and length differences

Execution:
- Absolute linear encoder scale; absolute function retains the 0 setting
- LCD display, digit size 9 mm
- Extra-long battery life, approx. 18,000 hour at 0.001 mm reading, approx. 20,000 hours at 0.01 mm reading
- With Digimatic data output

Delivery:
incl. 1x SR44 battery

Notes:
This digital dial gauge is equipped with a data output, but does not feature an integrated data button. The USB Input Tool Direct cable (optional accessory) and the USB-ITPAK software are required for data transfer.

Technical data:
- Length measuring range: 12.7 mm
- Shank diameter: 8 mm
- Functions: Absolute function | Reversal of counting direction
- Digit height: 9 mm

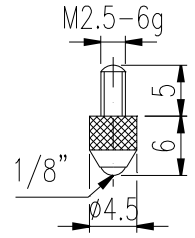
Ident. No. 010

Digit increment (mm)				0.01	0.001	0.001
Error limit (mm)				0.02	0.003	0.003
Repeat accuracy (mm)				0.01	0.002	0.002
IP protection class				IP 42	IP 42	IP 53
	Type	Data transmission type				
33181...	ID-S with lug	DIGIMATIC	Ident. No.	010 ○	020 ○	030 ○
33181...	ID-S without lug	DIGIMATIC	Ident. No.	080 ●	090 ○	100 ○

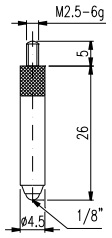
Prod. Gr. 3MA

M2.5 indicator contact points

for dial gauges, dial indicators and inductive length measuring probes



Ident. No. 090, 093–098



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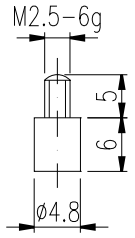

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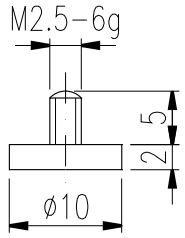

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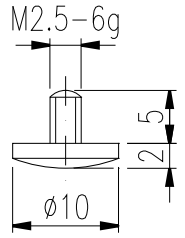

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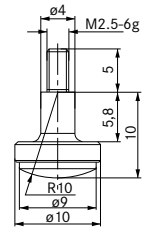

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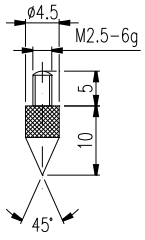

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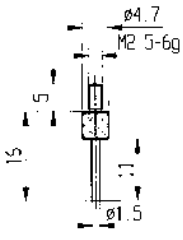

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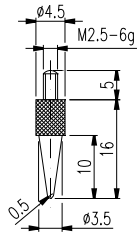

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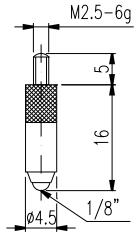

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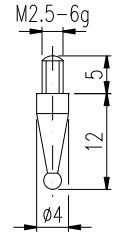

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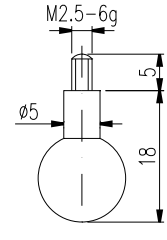

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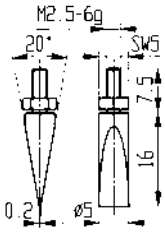

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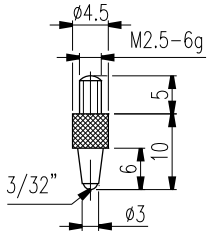

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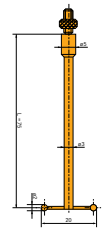
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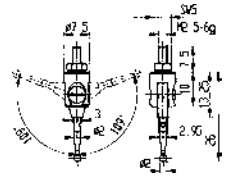
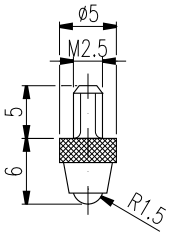

Ident. No. 310

Form	Design of measuring contact	Measuring surface Ø	Measuring surface width x Measuring surface depth	Type	Length (mm)	33149... Ident. No.	
Ball shape	Steel	1/8 in	-	9	6	090	●
Ball shape	Carbide	1/8 in	-	9 CC	6	093	●
Ball shape	Ruby	1/8 in	-	9 R	6	096	●
Ball shape	Ceramic	1/8 in	-	9K	6	098	●
Flat	Steel	4.8 mm	-	10	6	100	●
Flat	Carbide	4.8 mm	-	10	6	103	●
Flat	Steel	10 mm	-	11	2	110	●
Domed	Steel	10 mm	-	12	2	120	●
Domed	Carbide	10 mm	-	12	10	125	●
Conical pointed	Steel	0 mm	-	13	10	130	●
Cylinder	Steel	1.5 mm	-	14/11	16	140	●
Cylinder	Steel	1.5 mm	-	14/20	25	141	●
Cylinder	Steel	1.5 mm	-	14/30	35	142	●
Konisch	Steel	0.5 mm	-	15	16	150	●
Ball shape	Steel	1/8 in	-	16	16	160	●
Ball shape	Steel	1/8 in	-	17	26	170	●
Ball shape	Carbide	1/8 in	-	17 H	26	091	○
Ball shape	Steel	1 mm	-	18/1	12	178	●
Ball shape	Carbide	1 mm	-	18/1	12	179	●
Ball shape	Steel	2 mm	-	18/2	12	180	●
Ball shape	Carbide	2 mm	-	18/2	12	181	●
Ball shape	Steel	3 mm	-	18/3	12	182	●
Ball shape	Carbide	3 mm	-	18/3	12	183	●
Ball shape	Steel	4 mm	-	18/4	12	184	●
Ball shape	Carbide	4 mm	-	18/4	12	185	●
Ball shape	Steel	5 mm	-	18/5	12	186	●
Ball shape	Carbide	5 mm	-	18/5	12	187	○
Ball shape	Steel	6 mm	-	18/6	12	188	●
Ball shape	Carbide	6 mm	-	18/6	12	189	○
Ball shape	Steel	7 mm	-	19/7	18	194	●
Ball shape	Steel	8 mm	-	19/8	18	195	●
Ball shape	Steel	9 mm	-	19/9	18	196	●
Ball shape	Steel	10 mm	-	19/10	18	197	●
Ball shape	Steel	11 mm	-	19/11	18	198	○
Knife shape	Steel	-	5 x 0.2 mm	20	16	201	●
Ball shape	Steel	3/32 in	-	21	10	210	●
T	Ruby	2 mm	20 x 2 mm	T-probe	75	300	○
-	Carbide	2 mm	-	33	26	310	●

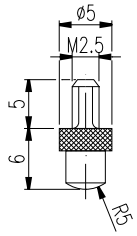
Prod. Gr. 331

M2.5 indicator contact points

for dial gauges, dial indicators and inductive length measuring probes



Ident. No. 010–020



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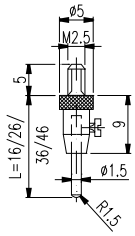
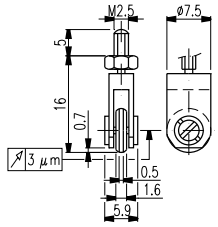


Ident. No. 050



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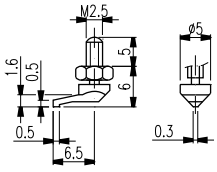
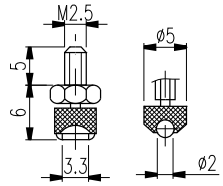


Ident. No. 070



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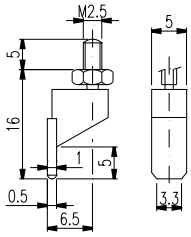
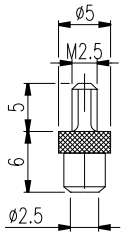
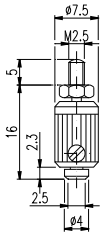


Ident. No. 090



Ident. No. 120



Ident. No. 130

Form	Design of measuring contact	Measuring surface Ø (mm)	Measuring surface width x Measuring surface depth	Type	Length (mm)	33150... Ident. No.	
Ball shape	Steel	3	-	TN 10	6	010	●
Ball shape	Carbide	3	-	TN 10 W	6	020	●
Domed	Steel	4.5	-	TN 11	6	030	●
Domed	Carbide	4.5	-	TN 11 W	6	040	●
Cylinder	Steel	1.5	-	TN 12	46	050	●
Roll	Steel	-	7.5 x 0.5 mm	TN 13	16	060	●
Cranked	Steel	-	0.5 x 0.3 mm	TN 20	6	070	●
Roll	Carbide	-	-	TN 30 W	6	080	●
Knife shape	Carbide	-	3.3 x 0.5 mm	TN 40 W	16	090	●
Flat	Carbide	2.5	-	TN 70 W	6	120	●
Flat	Carbide	2.5	-	TN 80 W	16	130	○

Prod. Gr. 362

M2.5 indicator contact points

miniature version with particularly small measuring contacts

Application:

For use in measuring instruments with M 2.5 mm thread, e.g. dial gauges, precision pointers, inductive measuring probes

Execution:

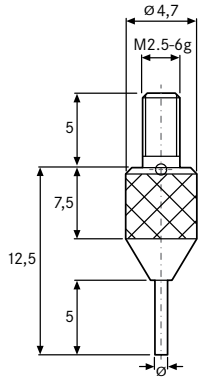
- With particularly small measuring contacts for measurements on very small components
- **Ident. No. 012–018:** Measuring contact: Carbide pin
- **Ident. No. 022–028:** Measuring contact: Carbide ball

Delivery:

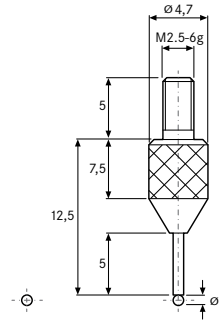
In shock-resistant plastic case

Technical data:

- Design of measuring contact: Carbide
- Length: 5 mm



Ident. No. 012–018



Ident. No. 022–028

Form	Measuring surface Ø (mm)	Type	33149... Ident. No.	
Cylinder	0.2	573/201 H 0.2	012	○
Cylinder	0.4	573/201 H 0.4	014	○
Cylinder	0.6	573/201 H 0.6	016	○
Cylinder	0.8	573/201 H 0.8	018	○
Ball shape	0.2	573/202 H 0.2	022	○
Ball shape	0.4	573/202 H 0.4	024	○
Ball shape	0.6	573/202 H 0.6	026	○
Ball shape	0.8	573/202 H 0.8	028	○

Prod. Gr. 331

Extension M 2.5

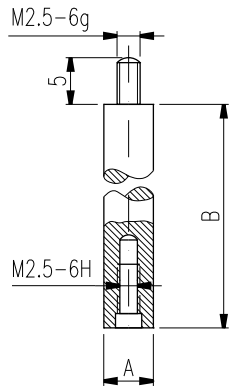
Application:
For bolting to gauge slides with M2.5 mm threads.

Technical data:
- Design of measuring contact: Steel
- Type: Extension

Length (mm)	33154... Ident. No.	
10	010	●
20	020	●
30	030	●
40	040	●
50	050	●

Length (mm)	33154... Ident. No.	
60	060	●
70	070	●
80	080	●
90	090	●
100	100	●

Prod. Gr. 331



TESA Extension M 2.5

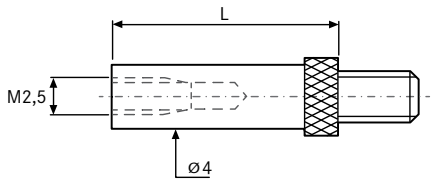
Application:
For screwing onto gauge slides with M2.5 mm threads.

Technical data:
- Design of measuring contact: Steel
- Type: Extension

Length (mm)	33155... Ident. No.	
10	090	●
15	091	●

Length (mm)	33155... Ident. No.	
20	092	●
40	093	●

Prod. Gr. 362



ATORN Sensikator dial indicator (DIN 879)

With extremely low measuring force

Application:
For measuring lengths. With extremely low measuring force of 0.14 N, making it especially ideal for measuring highly sensitive and delicate components

Execution:
- impact-resistant
- Precision-guided measuring pin
- Precision glass pointer reduces inertia and improves accuracy when reading the dial
- Pointer fine adjustment
- Adjustable tolerance marks
- Measuring mechanism mounted on ruby bearings
- Especially well suited to use in measuring stands and small measuring benches
- Gauge slide with ceramic ball; reduced wear, anti-magnetic and non-conductive

Delivery:
Includes manufacturer test record, delivered in padded plastic case 250 x 210 x 45 mm

Length measuring range (mm)		0.1
Scale value (mm)		0.001
With free stroke		Yes
Measurement force (N)		0.14
IP protection class		IP 40
Shank Ø (mm)		8
33163...	Ident. No.	040 ●

Prod. Gr. 3AE

ATORN Dial indicator (DIN 879)

Application:
For measuring lengths. Ideal for measuring instruments and flatness and straightness measurements

Execution:
- Precision-guided measuring pin
- Connection for wire lifter
- Pointer fine adjustment
- Adjustable tolerance marks
- Measuring mechanism on ruby bearings
- suitable for internal precision measuring instruments
- **Ident. No. 010–015:** Shock resistant
- **Ident. No. 020–025:**
  - Impact-resistant
  - With rubber bellows

Delivery:
Ident. No. 010–015: in case
Ident. No. 020–025: In case

Technical data:
- With free stroke: Yes
- Measurement force: 1 N
- Shank diameter: 8 mm

Length measuring range (mm)		0.1	0.5	0.1	0.5
Scale value (mm)		0.001	0.01	0.001	0.01
IP protection class		IP 40	IP 40	IP 53	IP 53
33163...	Ident. No.	010 ●	015 ●	020 ●	025 ●

Prod. Gr. 3AE

Ident. No. 010

Dial indicator (DIN 879)

Millimess

K

Application:
For measuring lengths. Ideal for measuring instruments and flatness and straightness measurements

Execution:
- Shock resistant
- Ball-guided measuring pin
- Connection for wire lifter
- Pointer fine adjustment
- Adjustable tolerance marks
- Measuring mechanism on ruby bearings

Delivery:
In case

Notes:
Article 33149160 is also required for use in internal precision measuring instruments.

Technical data:
- With free stroke: Yes
- Measurement force: 1 N
- Shank diameter: 8 mm

Ident. No. 110

Length measuring range (mm)		0.1	0.26	0.05	0.5
Scale value (mm)		0.001	0.002	0.0005	0.01
33163...	Ident. No.	130 ●	140 ●	150 ●	110 ○

Prod. Gr. 305

Dial indicator (DIN 879)

MYTAST

Application:
For measuring lengths. Ideal for measuring instruments and flatness and straightness measurements

Execution:
- Shock resistant
- Ball-guided measuring pin
- Connection for wire lifter
- Pointer fine adjustment
- Adjustable tolerance marks
- suitable for internal precision measuring instruments

Delivery:
in case

Technical data:
- With free stroke: Yes
- Measurement force: 1 N
- IP protection class: IP 40
- Shank diameter: 8 mm

Length measuring range (mm)		0.1	0.5
Scale value (mm)		0.001	0.01
33160...	Ident. No.	010 ●	-
33161...	Ident. No.	-	010 ●

Prod. Gr. 3EB

Mahr Inductive dial indicator

Millimess 2000W/Wi and 2001W/Wi

Application:

Ident. No. 110–120: For static measurements of lengths and length differences

Ident. No. 210–230: For static and dynamic measurements of lengths and length differences, e.g. concentricity measurements, flatness measurements and position measurements.

Execution:

- Measuring pin precision ball guide for small reversal range
- Adjustable lower end stop and replaceable measuring force spring
- **Ident. No. 110–120:**
  - Clamping shaft and measuring pin made of stainless, hardened steel
  - RANGE (switching the measuring range and scale interval)
- **Ident. No. 210–230:**
  - Clamping shank and measuring pin made of hardened stainless steel
  - RANGE (switching the measuring range and the scale interval)
  - MAX/MIN memory for reverse-point search
  - TIR (MAX-MIN) for concentricity and flatness testing

Advantage:

- Hardened glass front with touch operating panels
- Scratch- and impact-resistant surface
- High-contrast LCD display for clear and accurate readings
- Clear tolerance symbols and coloured LED signals (red, green, yellow) for classifying measured values

Delivery:

Operating instructions, USB data and charging cable type DK-U1, power adapter (with 4 interchangeable adapters) for USB, rubber bellows, screwdriver for prestroke adjustment (0.9 mm hex socket), case

Technical data:

- Length measuring range: 2 mm
- Digit increment: 0.001 mm
- Functions: On/Off | Lock-function (Keybord lock) | Hold-function (AE lock) | Preset function | Reset (Zeroing the display) | ABS function | Reversal of counting direction | Bi-directional data interface | TOL (Tolerance and warning limits input) | With mm / inch switching | Rotatable housing
- IP protection class: IP 64
- Error limit: 0.6 µm
- With free stroke: Yes
- Min./max. measurement force: 0.7-0.9 N
- Shank diameter: 8 mm

Ident. No. 110

Ident. No. 210

p. 1261 p. 1265

Type	Display	Design	Dynamic measurement	Data transmission type	33168... Ident. No.	
2000W	Digital	Metric | Imperial	No	multiCOM	110	●
2000Wi	Digital	Metric | Imperial	No	multiCOM/MarConnect	120	●
2001W	Digital | Analogue	Metric | Imperial	Yes	multiCOM	210	●
2001Wi	Digital | Analogue	Metric | Imperial	Yes	multiCOM/MarConnect	220	●
2001Wi	Digital | Analogue	Metric	Yes	multiCOM/MarConnect	230	●

Prod. Gr. 305

ATORN Dial test indicator (DIN 2270)

Application:

For measuring deviations in concentricity, axial run-out, parallelism and flatness. For centring shafts of boreholes and aligning workpieces.

Execution:

- metallic outer ring
- Anti-magnetic components
- Automatic switching of callipers direction
- Measuring mechanism on ruby bearings
- 3 dovetail mounting surfaces

Delivery:

Lever gauge probe, measuring probe with 2 mm diameter cemented carbide ball, 8 mm diameter clamping shaft for mounting on measuring stands, measuring probe wrench with case

Technical data:

- Ball diameter: 2 mm
- Material of measuring ball: Carbide
- Connection thread: M1.6
- Pivot range of measuring sensor: 240 Degree

Ident. No. 010

Ident. No. 030

Ident. No. 080

Length measuring range (mm)	Scale value (mm)	Ø (mm)	Measurement force (N)	Length of measuring sensor from centre of ball (mm)	33310... Ident. No.	
0.2	0.002	32	0.15	12.8	050	●
0.2	0.002	40	0.15	12.8	060	●
0.2	0.001	40	0.15	12.8	070	●
0.2	0.001	58	0.15	12.8	080	●
0.5	0.01	32	0.15	35.7	030	●
0.5	0.01	40	0.15	35.7	040	●
1	0.01	32	0.15	16.6	010	●
1	0.01	40	0.15	16.6	020	●

Prod. Gr. 3AE

TESA TESATAST dial test indicators (DIN 2270)

L

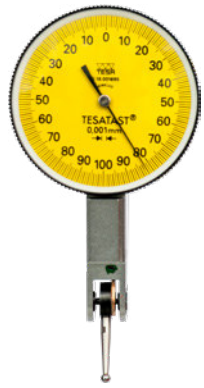
Application:
For measuring deviations in concentricity, axial run-out, parallelism and flatness. For centring shafts of boreholes and aligning workpieces.

Execution:
- Rotating dial
- Anti-magnetic components
- Automatic switching of callipers direction
- Measuring mechanism on ruby bearings
- Housing made from one piece, brushed chromium-plated
- Gauge slide with hard chrome-plated ball

Advantage:
- 3 dovetail mounting surfaces

Delivery:
Measuring probe with 2 mm ball diameter, clamping shaft diameter 8 mm, key disc, in plastic case

Technical data:
- Connection thread: M1.4
- Ball diameter: 2 mm
- Pivot range of measuring sensor: 240 Degree



No. 33345 110

		Length measuring range (mm)	Ø (mm)	Scale value (mm)	Length of measuring sensor from centre of ball (mm)	Measurement force (N)		
33344...	Standard	0.2	28	0.002	12.5	0.15	Ident. No.	010 ●
33345...	Standard	0.2	38	0.002	12.5	0.15	Ident. No.	010 ●
33345...	Standard	0.2	38	0.001	12.5	0.15	Ident. No.	110 ●
33342...	Standard	0.5	28	0.01	36.5	0.15	Ident. No.	010 ●
33343...	Standard	0.5	38	0.01	36.5	0.15	Ident. No.	010 ●
33340...	Standard	0.8	28	0.01	12.5	0.15	Ident. No.	010 ●
33341...	Standard	0.8	38	0.01	12.5	0.15	Ident. No.	010 ●

Prod. Gr. 362

TESA TESATAST dial test indicators (DIN 2270)
Lateral version

L

Application:
For measuring deviations in concentricity, axial run-out, parallelism and flatness. For centring shafts of boreholes and aligning workpieces.

Execution:
- Rotating dial
- Anti-magnetic components
- Automatic switching of callipers direction
- Measuring mechanism on ruby bearings
- Housing made from one piece, brushed chromium-plated
- Gauge slide with hard chrome-plated ball
- Lateral

Advantage:
- 3 dovetail mounting surfaces

Delivery:
TESATAST measuring probe with 2 mm ball diameter, clamping shaft diameter 8 mm, key disc, in plastic case

Technical data:
- Connection thread: M1.4
- Ball diameter: 2 mm
- Pivot range of measuring sensor: 240 Degree

Ident. No. 020–050

		Length measuring range (mm)	Ø (mm)	Scale value (mm)	Length of measuring sensor from centre of ball (mm)	Measurement force (N)		
33346...	Lateral	0.2	28	0.002	12.5	0.15	Ident. No.	020 ●
33346...	Lateral	0.8	28	0.01	12.5	0.15	Ident. No.	010 ●
33346...	Lateral	2	38	0.02	36.5	0.15	Ident. No.	050 ●

Prod. Gr. 362

TESA TESATAST dial test indicators (DIN 2270)

Perpendicular version

L

Application:
For measuring deviations in concentricity, axial run-out, parallelism and flatness. For centring shafts of boreholes and aligning workpieces.

Execution:
- Rotating dial
- Anti-magnetic components
- Automatic switching of callipers direction
- Measuring mechanism on ruby bearings
- Housing made from one piece, brushed chromium-plated
- Gauge slide with hard chrome-plated ball
- Perpendicular

Advantage:
- 3 dovetail mounting surfaces

Delivery:
TESATAST measuring probe with 2 mm ball diameter, clamping shaft diameter 8 mm, key disc, in plastic case

Notes:
Centring bracket not included in the scope of delivery

Technical data:
- Connection thread: M1.4
- Ball diameter: 2 mm
- Pivot range of measuring sensor: 240 Degree

		Length measuring range (mm)	Ø (mm)	Scale value (mm)	Length of measuring sensor from centre of ball (mm)	Measurement force (N)		
33348...	Perpendicular	0.2	38	0.002	12.5	0.15	Ident. No.	010 ●
33347...	Perpendicular	0.5	28	0.01	36.5	0.15	Ident. No.	050 ●
33347...	Perpendicular	0.8	28	0.01	12.5	0.15	Ident. No.	010 ●

Prod. Gr. 362

TESA RUBYTAST dial test indicators (DIN 2270)

L

Application:
For measuring deviations in concentricity, axial run-out, parallelism and flatness. For centring shafts of boreholes and aligning workpieces.

Execution:
- Rotating dial
- anti-magnetic components
- automatic switching of callipers direction
- Measuring mechanism on ruby bearings
- Housing made from one piece, brushed chromium-plated
- Gauge slide with ruby ball for greater durability and sensitive surfaces

Advantage:
- 3 dovetail mounting surfaces
- Large numbers for better readability
- Scale face is pure white for higher contrast
- Divides the scale face into segments for faster reading of the values

Delivery:
Measuring probe with 2 mm ball diameter, clamping shaft diameter 8 mm, key disc, in plastic case

Technical data:
- Connection thread: M1.4
- Ball diameter: 2 mm
- Pivot range of measuring sensor: 240 Degree

No. 33345

		Length measuring range (mm)	Ø (mm)	Scale value (mm)	Length of measuring sensor from centre of ball (mm)	Measurement force (N)		
33345...	RUBYTAST	0.2	38	0.002	12.5	0.15	Ident. No.	300 ●
33340...	RUBYTAST	0.8	28	0.01	12.5	0.15	Ident. No.	200 ●

Prod. Gr. 362

Electronic dial test indicator (DIN 2270)

EXTENDED PROGRAM

Application:
For measuring deviations in concentricity, axial run-out, parallelism and flatness. For centring borehole shanks and aligning workpieces.

Execution:
- Metal housing
- Large LCD display with tolerance display
- Zero setting at any position
- mm/inch changeover
- Dynamic measurements: Min/Max/Max-Min

Advantage:
- Three dovetail mounting surfaces
- Data transmission via Bluetooth(R) or cable

Delivery:
with battery (1x 3 V lithium, type CR 2032)

Notes:
Alternative power supply via data cable (optional)

Technical data:
- IP protection class: IP 54
- Digit increment: 0.001 mm

	Length measuring range (mm)	Ø (mm)	Length of measuring sensor from centre of ball (mm)	Measurement force (N)	Material of measuring ball		
33178...	0.8	45	12.5	0.15	Carbide	Ident. No.	500 ○

Prod. Gr. 362

P-Line lever gauge probes (DIN 2270)
with particularly large measuring range

Application:
For measuring deviations in concentricity, axial run-out, parallelism and flatness. For centring shafts of boreholes and aligning workpieces.

Execution:
- Successor models to the Compac series
- Particularly large measuring range, both overall and per revolution
- Rotating dial
- Automatic switching of probing direction
- Housing made from one piece, brushed chrome-plated

Advantage:
- 3 dovetail mounting surfaces
- Large numbers for better readability
- Scale face is pure white for higher contrast
- Divides the scale face into segments for faster reading of the values

Delivery:
Measuring probe with 2 mm ball diameter, 8 mm clamping shaft diameter, key disc, in plastic case

Technical data:
- Ball diameter: 2 mm

Ident. No. 013

Ident. No. 222

Ident. No. 232

		Length measuring range (mm)	Ø (mm)	Scale value (mm)	Length of measuring sensor from centre of ball (mm)	Measurement force (N)		
33300...	Model: 213	1.5	27	0.01	18	0.35	Ident. No.	013 ○
33300...	Model: 215	0.6	27	0.002	18	0.3	Ident. No.	015 ○
33300...	Model 212 L	3	27	0.01	36	0.2	Ident. No.	112 ○
33300...	Model 213 G	1.5	40	0.01	18	0.35	Ident. No.	113 ○
33300...	Model 215 G	0.6	40	0.002	18	0.3	Ident. No.	115 ○
33300...	Model 216 G	0.6	40	0.001	18	0.3	Ident. No.	116 ○
33300...	Model: 212 GL	3	40	0.01	36	0.2	Ident. No.	212 ●
33300...	Model: 215 GL	1.2	40	0.002	36	0.2	Ident. No.	215 ●
33300...	Model: 222 GL	3	40	0.01	36	0.2	Ident. No.	222 ●
33300...	Model: 232 GL	3	40	0.01	36	0.2	Ident. No.	232 ●

Prod. Gr. 362

Depth measurement instruments
with specialist dial gauge

Application:
For measuring hole depths, clearances etc.

Execution:
- Brushed chromium-plated measuring bridge
- Hardened and lapped support surface
- Flatness tolerance 0.004 mm
- **No. 33601–33602:** Replaceable gauge slide with collet chuck for perfect clamping of special dial gauge
- **No. 33604:**
- Bored measuring pin and gauge slide
- Movable measuring spindle

Delivery:
In a case

Technical data:
- Scale value: 0.01 mm
- Bridge length x bridge width: 80 x 16 mm
- Outer diameter: 58 mm

No. 33601

No. 33604

Min./max. length measuring range	Measuring depth (mm)	Measurement force (N)	33601... Ident. No.		33602... Ident. No.		33604... Ident. No.	
0-10 mm	10	1	015	●	-	-	-	-
0-30 mm	30	1	-	-	015	●	-	-
0-30 mm	200	1.4	-	-	-	-	100	○

Prod. Gr. 331

Depth gauge base
for dial gauges with diameter 8 h6

Application:
For placing on the workpiece being measured as a base for a dial gauge.

Execution:
- Brushed chromium-plated
- Support surface hardened, ground and lapped
- For dial gauges with shaft diameter 8 h6

Ident. No. 150

Length (mm)		50	80	100	150
Width (mm)		16	16	16	20
Flatness tolerance (mm)		0.004	0.004	0.004	0.006
33600...	Ident. No.	050 ●	080 ●	100 ●	150 ●

Prod. Gr. 331

Depth gauge base
with prismatic 120° support for diameter 8 h6

Application:
For measuring the depths of keyways in cylindrical shafts, for determining roundness deviations using dial gauges.

Execution:
- Brushed chromium-plated
- For shaft diameters 10–100 mm
- Support surface hardened, ground and lapped
- For dial gauges with shaft diameter 8 h6

Technical data:
- Length: 66 mm

33607...	Ident. No.	020 ●

Prod. Gr. 331

Mitutoyo DIGIMATIC depth measuring instrument
Series 547

Application:
For measuring hole depths, clearances etc.

Execution:
- Capacitive ABSOLUTE linear encoder
- Equipped with a hardened, precision-ground and finely lapped measuring bridge
- Extensions: 10, 20, 30 (2 pieces), 100 mm, to cover the complete range 0-200 mm
- Measuring range of the dial gauge used: 12.7 mm
- With lever for lifting the dial gauge
- Alarm function: Low voltage, adjustment fault, sensor fault, display overflow etc.

Delivery:
Including box and extensions 10, 20, 30 (2 pieces), 100 mm, gauge slide 21JAA224

Technical data:
- Min./max. length measuring range: 0-10 mm
- Measuring depth: 200 mm
- Measurement force: 1.5 N
- Outer diameter: 59 mm
- Functions: ABS function | Data (Data transfer) | Hold-function (AE lock) | Lock-function (Keybord lock) | Manual tolerance marks | With mm / inch switching | On/Off
- Digit height: 11 mm

Ident. No. 010

Scale value (mm)		0.01	0.01	0.0005	0.0005
Digit increment (mm)		0.01	0.01	0.0005	0.0005
Bridge length x bridge width		63.5 x 16 mm	101.6 x 16 mm	63.5 x 16 mm	101.6 x 16 mm
Error limit (mm)		0.04	0.04	0.01	0.01
33608...	Ident. No.	010 ○	020 ○	030 ○	040 ○

Prod. Gr. 3MA

ATORN Precision thickness gauges

Measuring force independent of user

Application:
For measuring the thickness of various materials, depending on the indicator contact point.

Execution:
- Sturdy metal handle
- Precision dial gauge
- Spring pressure measurement
- With lifting device
- Shape A indicator contact point (steel plate 30 mm): very soft materials such as rubber blankets, rubber sheets, felt, soft fabrics
- Shape C indicator contact point (steel plate 10 mm): soft materials such as soft leather, cardboard, paper, films
- Shape E indicator contact point (1/8 inch ceramic balls): hard materials such as metals, hard plastics
- **Ident. No. 035–060:** With stand attachment

Advantage:
- Measuring force independent of user
- **Ident. No. 035–060:** Stand attachment for stability

NEW

Notes:
The lowest measuring force is generated when the measuring contacts are closed. The further the measuring contacts are opened, the greater the measuring force.

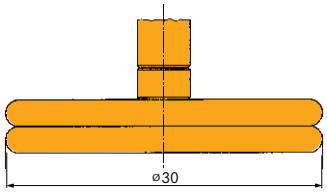
Technical data:
- Meter diameter: 58 mm

Ident. No. 005

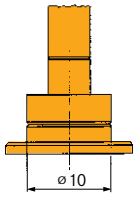
Ident. No. 020

Ident. No. 035

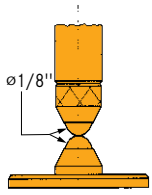
Ident. No. 050



Ident. No. 005, 020, 035, 050
Type A



Ident. No. 010, 025, 040, 055
Type C



Ident. No. 015, 030, 045, 060
Type E

					Form	A		C		E	
					Design of measuring contact	Steel		Steel		Ceramic	
					Measuring surface Ø	30 mm		10 mm		1/8 in	
Min./max. length measuring range	Scale value (mm)	mm / U (mm)	Bracket depth (mm)	Min./max. measurement force	33200... Ident. No.			33200... Ident. No.		33200... Ident. No.	
0-10 mm	0.01	1	50	0.8-1.6 N	005	●		010	●	015	●
0-30 mm	0.1	10	50	0.4-1.2 N	020	●		025	●	030	●
0-30 mm	0.1	10	200	1.3-2.9 N	035	●		040	●	045	●
0-30 mm	0.1	10	400	1.3-2.9 N	050	●		055	●	060	●

Prod. Gr. 3AH

Standard thickness gauges

Automatic lift

CF

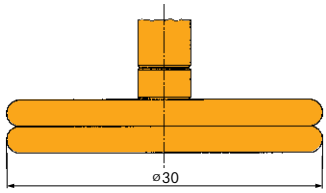
Application:
For measuring the thickness of different materials according to the indicator contact point.

Execution:
- Robust throat
- Precision measuring element
- Measuring pressure applied by the user
- Shapes A and B: rubber blankets, rubber sheets, felt, soft fabrics
- Shape C: soft leather, cardboard, paper, films
- Shape E: sheet metal, hard material

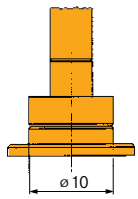
Advantage:
- Automatic lifting: The measuring contact is raised when not in use

Technical data:
- Meter diameter: 58 mm

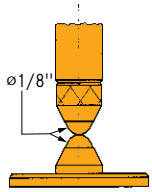
Bow depth 50 mm



No. 33195
Type A



No. 33197
Type C



No. 33199
Type E

	Form	Measuring surface Ø	Min./max. length measuring range	Scale value (mm)	Bracket depth (mm)		
33195...	A	30 mm	0-30 mm	0.1	50	Ident. No.	050 ●
33197...	C	10 mm	0-30 mm	0.1	50	Ident. No.	050 ○
33199...	E	1/8 in	0-30 mm	0.1	50	Ident. No.	050 ●

Prod. Gr. 331

Pocket thickness gauge

CF

Application:
For measuring the thickness of different materials such as paper, rubber, glass, sheet metal, films, plywood and plastics

Execution:
- Pocket thickness measuring device in compact design
- Precision measuring element

Advantage:
- Extremely compact

Ident. No. 110
Pocket thickness gauge

Flat Ø 10 mm

	Measuring surface Ø (mm)	Min./max. length measuring range	Scale value (mm)	Bracket depth (mm)		
33185...	6.35	0-10 mm	0.01	18	Ident. No.	110 ●
33185...	6.35	0-10 mm	0.01	45	Ident. No.	135 ●

Prod. Gr. 331

Film thickness gauge
with lifting device

CF

Application:
For measuring the thickness of films.

Execution:
- Glass and external ring made from one piece
- Insulated handles

Delivery:
in a cardboard case

Technical data:
- Meter diameter: 58 mm

Ident. No. 020

	Measuring surface Ø (mm)	Min./max. length measuring range	Scale value (mm)	mm / U (mm)	Bracket depth (mm)		
33212...	6.35	0-1 mm	0.001	0.2	30	Ident. No.	010 ●
33212...	6.35	0-1 mm	0.001	0.1	30	Ident. No.	020 ●

Prod. Gr. 331

Electronic thickness gauge

multiCOM CF

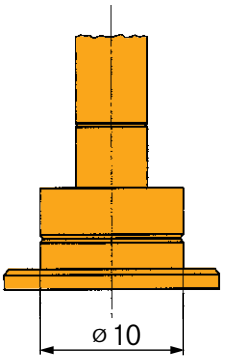
Application:
For measuring the thickness of rubber blankets, rubber sheets, felt and soft materials.

Execution:
- Zero setting at any position
- mm/inch switch-over
- Replaceable gauge slides
- Preset function
- Spring pressure measurement
- With lifting device

Advantage:
- Measuring force independent of the user

Delivery:
3-V lithium battery (type RS 2032), in a cardboard case

Technical data:
- Data transmission type: multiCOM



Type C

	Form	Measuring surface Ø (mm)	Min./max. length measuring range	Scale value (mm)	Bracket depth (mm)		
33211...	C	10	0-12.5 mm	0.01	50	Ident. No.	011 ●

Prod. Gr. 331

IFM internal chamfer measuring instrument

Application:
For measuring the largest diameter of a conical bore or groove.

Execution:
- For measuring tapers of 90° or less

Delivery:
complete with shock-resistant special dial gauge in a case

Technical data:
- Scale value: 0.01 mm

Min./max. length measuring range		0.5-20 mm	20-40 mm
33597...	Ident. No.	110 ●	120 ○

Prod. Gr. 339

Crankshaft test device

CE

Application:
For detecting bends in crankshafts

Execution:
- Dial gauge scale interval: 0.01 mm
- Pendulum weight for positioning dial gauge horizontally

Delivery:
In a wooden case

Technical data:
- Scale value: 0.01 mm

Min./max. length of application area		60-300 mm	60-500 mm
33590...	Ident. No.	310 ●	510 ●

Prod. Gr. 308

Kroeplin Längenmesstechnik — Electronic measuring gauge for external and internal measurements

with charging station

IP 67

Application:

Ident. No. 010–020: For measuring thicknesses, wall thicknesses and external grooves.

Ident. No. 030–050: For measuring bores, recesses and internal grooves

Execution:

- Large and high-contrast LCD display
- Combined digit and scale display
- mm/inch changeover
- Measuring mode ABSOLUTE
- Measured value classification (red/green display)
- 1 fixed and 1 movable measuring arm

Advantage:

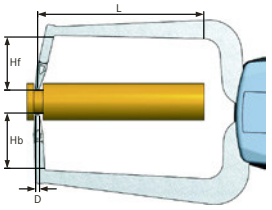
- Measured result can be read directly
- no need to change the battery
- Internal memory for 100 measured values
- Manufacturer's warranty extension: If registered on the manufacturer's website within three months of the date of purchase, the manufacturer's warranty is extended by one year. Instructions for this are included in the scope of delivery.
- Reversible scale interval 0.002 mm/0.005 mm/0.01 mm

Delivery:

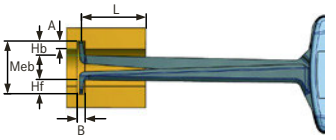
With traceable test certificate in box, power supply not included

Notes:

Data interfaces for Digimatic, USB and Bluetooth(R) available on request. Suitable accessories: article 33242000 charging station



Ident. No. 010



Ident. No. 030

Min./max. length measuring range		0-15 mm	0-15 mm	2.5-12.5 mm	5-20 mm	10-25 mm
Digit increment (mm)		0.001	0.001	0.001	0.001	0.001
Display		Digital	Digital	Digital	Digital	Digital
Measuring depth (mm)		45	45	12	44	46
Type		C015	C015S	G002	G005	G010
Measuring arrangement		6	7	1	3	3
Hb (mm)		17	12	0.9	2.2	4.4
Hf (mm)		17	12	0.9	2.2	4.4
IP protection class		IP 67	IP 67	IP 67	IP 67	IP 67
Data transmission type		USB/Bluetooth	USB/Bluetooth	USB/Bluetooth	USB/Bluetooth	USB/Bluetooth
33242...	Ident. No.	010	020	030	040	050
		●	●	●	●	●

Prod. Gr. 332

Kroeplin Längenmesstechnik — Measuring gauge for external measurement of grooves and thicknesses

IP 65 IP 67

Application:

For measuring thicknesses, wall thicknesses and external grooves.

Version:

- 1 fixed and 1 movable measuring arm
- **Digital:**
  - large, high-contrast LCD display (digit height: 8.5 mm)
  - combined digit and scale display
  - mm/inch changeover
  - ABSOLUTE measuring mode
- Measured value classification (red/green display)
- Digital version: Graduation can be switched: 0.001/0.002/0.005/0.01/0.02/0.05 mm
- **Analogue:**
  - adjustable tolerance marks
  - easy adjustment with rotating housing

Advantage:

- Manufacturer's warranty extension: If registered on the manufacturer's website within three months of the date of purchase, the manufacturer's warranty is extended by one year. Instructions for this are included in the scope of delivery.
- **Ref. no. 011, 031, 066, 086:** Measured result can be read directly

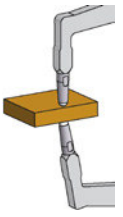
Scope of delivery:

with traceable test certificate in the cardboard box

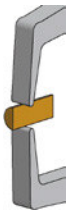
Note:

Digital: data interfaces for Digimatic, USB and Bluetooth® available on request

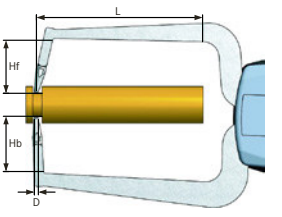
Ident. No. 031



Measuring contact 6



Measuring contact 7



Min./max. length measuring range	Scale value (mm)	Digit increment (mm)	Display	Measuring depth (mm)	Type	Measuring arrangement	Hb (mm)	Hf (mm)	IP protection class	Data transmission type	33241... Ident. No.	
0-10 mm	-	0.005	Digital	35	K110	6	19.1	18.6	IP 67	Cable	011	●
0-10 mm	0.005	-	Analogue	35	D110	6	19.1	18.6	IP 65	No	020	●
0-20 mm	-	0.01	Digital	85	K220	6	24.7	24.6	IP 67	Cable	031	●
0-20 mm	0.01	-	Analogue	85	D220	6	24.7	24.6	IP 65	No	040	●
0-20 mm	0.01	-	Analogue	85	D220S	7	24.7	24.6	IP 65	No	050	●

Min./max. length measuring range	Scale value (mm)	Digit increment (mm)	Display	Measuring depth (mm)	Type	Measuring arrangement	Hb (mm)	Hf (mm)	IP protection class	Data transmission type	33241... Ident. No.	
0-30 mm	-	0.01	Digital	114	K330	6	30	30	IP 67	Cable	066	●
0-50 mm	0.05	-	Analogue	167	D450	6	30	30	IP 65	No	075	●
0-50 mm	-	0.01	Digital	167	K450	6	30	30	IP 67	Cable	086	●

Prod. Gr. 332

Kroeplin Längenmesstechnik

Electronic measuring gauge for internal measurements

with 3-point probe

IP 67

Application:
For measuring bore holes and internal grooves.

Execution:
- Large, high-contrast LCD display (digit size 8.5 mm)
- Combined digit and scale display
- mm/inch switch-over
- Measuring mode ABSOLUTE
- Measured value classification (red/green display)
- 1 fixed and 1 movable measuring arm
- Digital version: Scale interval can be switched: 0.001/0.002/0.005/0.01/0.02/0.05 mm

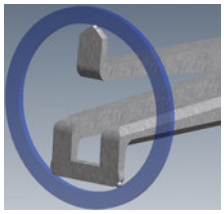
Advantage:
- Measured result can be read directly
- Manufacturer's warranty extension: If registered on the manufacturer's website within three months of the date of purchase, the manufacturer's warranty is extended by one year. Instructions for this are included in the scope of delivery.

Delivery:
With traceable test certificate in box

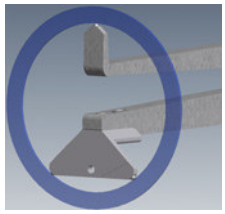
Notes:
Data interfaces for Digimatic, USB and Bluetooth(R) available on request

Technical data:
- Display: Digital
- IP protection class: IP 67
- Data transmission type: Cable

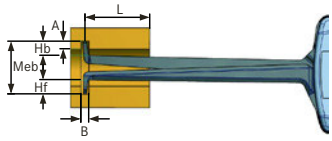
Measuring contact 1



Measuring contact 2



Measuring contact 3



Ident. No. 500

Min./max. length measuring range	Digit increment (mm)	Measuring depth (mm)	Type	Measuring arrangement	Hb (mm)	Hf (mm)	33261... Ident. No.	
7-14 mm	0.002	34	L107P3	1	2.5	2.4	500	○
10-20 mm	0.005	75	L210P3	2	4.6	3.7	510	●
15-30 mm	0.005	77	L215P3	2	5.8	5.5	520	●
25-45 mm	0.005	84	L225P3	3	7.3	6	530	●
40-60 mm	0.005	84	L240P3	3	12.2	6	540	●
55-75 mm	0.005	84	L255P3	3	12.2	6	550	●
70-90 mm	0.005	84	L270P3	3	12.2	6	560	○
85-105 mm	0.005	84	L285P3	3	12.2	6	570	○

Prod. Gr. 332

Kroeplin Längenmesstechnik — Measuring gauge for pipe wall measurements

IP 65 IP 67

Application:
For measuring wall thicknesses of pipes and hollow bodies.

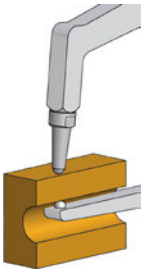
Version:
- 1 fixed and 1 movable measuring arm
- **Digital:**
  - large, high-contrast LCD display (digit height: 8.5 mm)
  - combined digit and scale display
  - mm/inch changeover
  - ABSOLUTE measuring mode
  - Measured value classification (red/green display)
- **Analogue:**
  - adjustable tolerance marks
  - easy adjustment with rotating housing

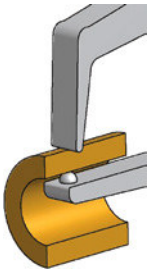
Advantage:
- Measured result can be read directly
- Manufacturer's warranty extension: If registered on the manufacturer's website within three months of the date of purchase, the manufacturer's warranty is extended by one year. Instructions for this are included in the scope of delivery.

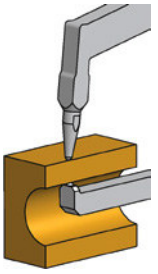
Scope of delivery:
with traceable test certificate in the cardboard box

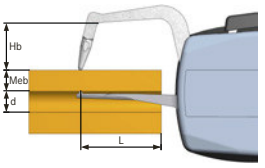
Note:
Digital: data interfaces for Digimatic, USB and Bluetooth® available on request

Ident. No. 011


Measuring contact 8


Measuring contact 9


Measuring contact 10



Min./max. length measuring range	Scale value (mm)	Digit increment (mm)	Display	Measuring depth (mm)	Type	Measuring arrangement	Hb (mm)	Hf (mm)	IP protection class	Data transmission type	33243... Ident. No.	
0-10 mm	-	0.005	Digital	35	K1R10	8	19.1	0.9	IP 67	Cable	011	●
0-10 mm	0.005	-	Analogue	35	D1R10	8	19.1	0.9	IP 65	No	020	●
0-10 mm	0.005	-	Analogue	35	D1R10S	9	18.8	0.9	IP 65	No	030	○
0-20 mm	-	0.01	Digital	85	K2R20	10	24.7	2.5	IP 67	Cable	041	●
0-20 mm	0.01	-	Analogue	85	D2R20	10	24.7	2.5	IP 65	No	050	●
0-50 mm	0.05	-	Analogue	169	D4R50	10	30	4.3	IP 65	No	065	●
0-50 mm	-	0.01	Digital	169	K4R50	8	30	4.3	IP 67	Cable	076	○

Prod. Gr. 332

Kroeplin Längenmesstechnik — Measuring gauge for internal measurements of bores, recesses and internal grooves

L2G20, L2G30, L2G40, L2G50

IP 67

Application:
For measuring bores, recesses and internal grooves.

Execution:
- Large, high-contrast LCD display (digit size 8.5 mm)
- Combined digit and scale display
- mm/inch switch-over
- Measuring mode ABSOLUTE
- Measured value classification (red/green display)
- 1 fixed and 1 movable measuring arm
- Digital version: Scale interval can be switched: 0.001/0.002/0.005/0.01/0.02/0.05 mm

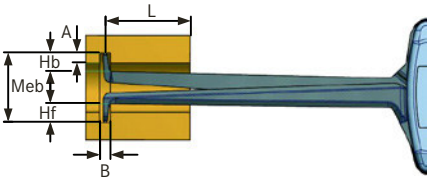
Advantage:
- Measured result can be read directly
- Manufacturer's warranty extension: If registered on the manufacturer's website within three months of the date of purchase, the manufacturer's warranty is extended by one year. Instructions for this are included in the scope of delivery.

Delivery:
With traceable test certificate in box

Notes:
Data interfaces for Digimatic, USB and Bluetooth(R) available on request

Technical data:
- Digit increment: 0.01 mm
- Display: Digital
- Measuring depth: 85 mm
- Measuring arrangement: 5
- Hb: 5 mm
- Hf: 5 mm
- IP protection class: IP 67
- Data transmission type: Cable

Ident. No. 021



Min./max. length measuring range		20-40 mm	30-50 mm	40-60 mm	50-70 mm
Type		L2G20	L2G30	L2G40	L2G50
33262...	Ident. No.	021 ○	031 ○	041 ○	051 ○

Prod. Gr. 332

Kroeplin Längenmesstechnik

Measuring gauge for internal measurements of bores, recesses and internal grooves

IP 65 IP 67

Application:
For measuring bores, recesses and internal grooves.

Version:
- 1 fixed and 1 movable measuring arm
- **Digital:**
  - large, high-contrast LCD display (digit height: 8.5 mm)
  - combined digit and scale display
  - mm/inch changeover
  - ABSOLUTE measuring mode
  - Measured value classification (red/green display)
  - Digital version: Graduation can be switched: 0.001/0.002/0.005/0.01/0.02/0.05 mm
- **Analogue:**
  - adjustable tolerance marks
  - easy adjustment with rotating housing

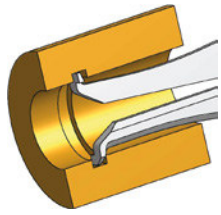
Advantage:
- Measured result can be read directly
- Manufacturer's warranty extension: If registered on the manufacturer's website within three months of the date of purchase, the manufacturer's warranty is extended by one year. Instructions for this are included in the scope of delivery.

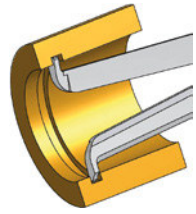
Scope of delivery:
with traceable test certificate in the cardboard box

Note:
Digital: data interfaces for Digimatic, USB and Bluetooth® available on request

Ident. No. 060

Ident. No. 011


Measuring contact 1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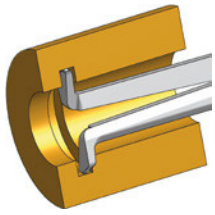
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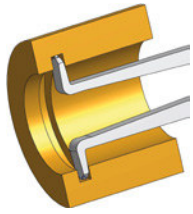
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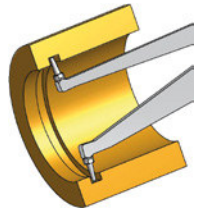
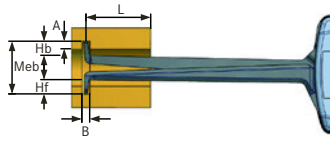

Measuring contact 5



Min./max. length measuring range	Scale value (mm)	Digit increment (mm)	Display	Measuring depth (mm)	Type	Measuring arrangement	Hb (mm)	Hf (mm)	IP protection class	Data transmission type	33261... Ident. No.	
2.5-12.5 mm	-	0.005	Digital	12	L102	1	0.9	0.9	IP 67	Cable	011	●
2.5-12.5 mm	0.005	-	Analogue	35	H102	1	0.9	0.9	IP 65	No	020	●
5-15 mm	-	0.005	Digital	35	L105	2	2.5	2.5	IP 67	Cable	031	●
5-15 mm	0.005	-	Analogue	35	H105	3	2.5	2.5	IP 65	No	040	●
10-30 mm	-	0.01	Digital	85	L210	3	5.3	5.3	IP 67	Cable	051	●
10-30 mm	0.01	-	Analogue	85	H210	3	5.3	5.3	IP 65	No	060	●
20-40 mm	-	0.01	Digital	85	L220	4	7.3	7.3	IP 67	Cable	071	●
20-40 mm	0.01	-	Analogue	85	H220	4	7.3	7.3	IP 65	No	080	●
30-50 mm	-	0.01	Digital	85	L230	4	7.3	7.3	IP 67	Cable	091	●
30-50 mm	0.01	-	Analogue	85	H230	4	7.3	7.3	IP 65	No	100	●
40-60 mm	-	0.01	Digital	85	L240	5	8.5	8.5	IP 67	Cable	111	○
40-60 mm	0.01	-	Analogue	85	H240	5	8.5	8.5	IP 65	No	120	●
50-70 mm	-	0.01	Digital	85	L250	5	8.5	8.5	IP 67	Cable	131	○
50-70 mm	0.01	-	Analogue	85	H250	5	8.5	8.5	IP 65	No	140	●
60-80 mm	-	0.01	Digital	85	L260	5	8.5	8.5	IP 67	Cable	151	○
60-80 mm	0.01	-	Analogue	85	H260	5	8.5	8.5	IP 65	No	160	●
70-90 mm	-	0.01	Digital	85	L270	5	8.5	8.5	IP 67	Cable	171	○
70-90 mm	0.01	-	Analogue	85	H270	5	8.5	8.5	IP 65	No	180	●
80-100 mm	-	0.01	Digital	85	L280	5	8.5	8.5	IP 67	Cable	191	○
80-100 mm	0.01	-	Analogue	85	H280	5	8.5	8.5	IP 65	No	200	●
13-43 mm	-	0.01	Digital	127	L313	2	5.5	5.5	IP 67	Cable	216	●
30-60 mm	-	0.01	Digital	132	L330	5	6.5	6.5	IP 67	Cable	226	○
15-65 mm	0.05	-	Analogue	188	H415	2	6	6	IP 65	No	235	●
15-65 mm	-	0.01	Digital	188	L415	2	6	6	IP 67	Cable	246	●
40-90 mm	0.05	-	Analogue	192	H440	5	8.5	8.5	IP 65	No	255	○
40-90 mm	-	0.01	Digital	192	L440	5	8.5	8.5	IP 67	Cable	266	●
70-120 mm	0.05	-	Analogue	192	H470	5	8.5	8.5	IP 65	No	275	●
100-150 mm	0.05	-	Analogue	192	H4100	5	8.5	8.5	IP 67	No	285	●

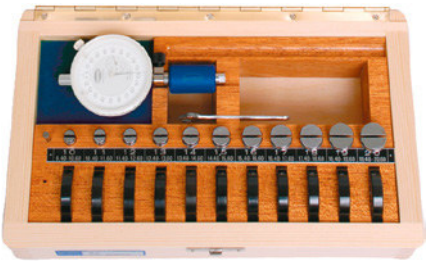
Prod. Gr. 332

Bore gauges with probe heads

Application:
For measuring bore holes using comparison measuring instruments.

Execution:
- Repeatability < 1 µm
- One holder for all measuring ranges
- Hardened and DLC-coated probe heads, black
- Zero using setting master
- **No. 33450:** For through holes
- **No. 33453:** For blind holes

Delivery:
Holder with probe heads and drive needles in wooden case, dial gauge and setting rings not included.



				Through hole		Blind hole	
Design of measuring contact	Min./max. Ø of measuring range	Number of probe heads (PCS)	Number of measurement needles (PCS)	33450... Ident. No.		33453... Ident. No.	
DLC	0.47-0.97 mm	6	2	010	○	-	-
DLC	0.95-1.55 mm	5	1	025	○	-	-
DLC	1.50-3.95 mm	9	2	030	○	-	-
DLC	1.50-9.8 mm	21	3	080	●	082	○
DLC	3.70-9.8 mm	12	1	040	○	045	○
DLC	9.40-20.6 mm	11	1	050	●	055	○
DLC	20.40-30.6 mm	10	1	065	○	065	○
DLC	28.90-41.1 mm	6	1	075	○	075	○

Prod. Gr. 337

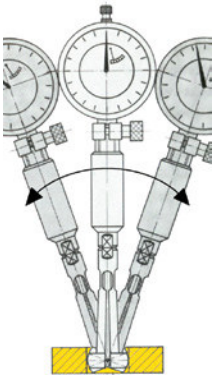
Setting ring sets

Flat version, suitable for expansion probe sets

Application:
For adjusting internal measuring instruments

Execution:
- Flat design in accordance with Diatest factory standard
- **Ident. No. 010–020:** Sapphire insert
- **Ident. No. 030–080:** Made from hardened gauge steel

Ident. No. 010–020


Measurement of borehole diameters and detection of possible form errors.

Number of pieces in assortment/set (PCS)	Min./max. Ø	33455... Ident. No.	
6	0.500-0.9 mm	010	○
5	1.000-1.4 mm	020	○
9	1.750-3.75 mm	030	○
12	4.000-9.5 mm	040	●
11	10.000-20 mm	050	●
10	21.000-30 mm	060	○
6	30.000-40 mm	070	○
21	1.750-9.5 mm	080	○

Prod. Gr. 337

SUBITO bore gauges

SU series

Application:
For precise measuring of bores using the 2-point method. Turning and/or moving the device in the hole makes it possible to detect deviations from roundness or cylindricity.

Execution:
- Movable carbide-tipped measuring pin
- **No. 33520:** Fixed, interchangeable measuring pin made of hardened steel
- **No. 33521:** Fixed, interchangeable carbide-tipped measuring pin

Advantage:
- High repeatability 0.5–1.5 µm
- Self-centring in the bore hole
- INVAR pipe (special nickel alloy) guarantees minimum thermal expansion caused by body heat from hands or high ambient temperatures

Delivery:
Without precision pointer, with calibration certificate, in wooden case

Technical data:
- Type: SU

Determine the reversal point

							Design of measuring contact		Carbide		Steel	
Min./max. Ø of measuring range	Measuring depth (mm)	Number of measuring pins	Nominal dimension of spindle	Number of measurement heads	Number of measurement discs	Measurement disc thickness	33521... Ident. No.		33520... Ident. No.			
4.5-6 mm	80	9	4.5 mm | 4.6 mm | 4.8 mm | 5 mm | 5.2 mm | 5.4 mm | 5.6 mm | 5.8 mm | 6 mm	1	-	-	010	●	-	-		

						Design of measuring contact	Carbide		Steel	
Min./max. Ø of measuring range	Measuring depth (mm)	Number of measuring pins	Nominal dimension of spindle	Number of measurement heads	Number of measurement discs	Measurement disc thickness	33521... Ident. No.		33520... Ident. No.	
6-8 mm	100	7	6 mm | 6.4 mm | 6.8 mm | 7 mm | 7.2 mm | 7.6 mm | 8 mm	1	-	-	020	●	-	-
8-12 mm	100	9	8-12 mm | increasing every 0.5 mm	1	-	-	030	●	-	-
12-20 mm	110	9	12-20 mm | increasing every 1 mm	1	1	0.5 mm	040	●	-	-
18-35 mm	110	9	18-34 mm | increasing every 2 mm	1	2	0.5 mm | 1 mm	050	●	050	●
35-60 mm	140	6	35-59 mm | increasing every 5 mm	1	2	1 mm | 2 mm	060	●	060	●
50-100 mm	180	11	50-100 mm | increasing every 5 mm	1	3	1 mm | 2 mm | 3 mm	070	●	070	●
100-160 mm	230	7	100-160 mm | increasing every 10 mm	1	4	1 mm | 2 mm | 3 mm | 6 mm	090	●	090	●
160-290 mm	230	7	160-220 mm | increasing every 10 mm | 1 extension up to 70 mm	1	4	1 mm | 2 mm | 3 mm | 6 mm	110	●	110	●
280-510 mm	400	7	280-340 mm | increasing every 10 mm | 1 extension 70 and 100 mm	1	4	1 mm | 2 mm | 3 mm | 6 mm	120	●	120	○
18-100 mm	180	27	18-34 mm | increasing every 2 mm | 35-59 mm | increasing every 5 mm | 50-100 mm | increasing every 5 mm	3	7	0.5 mm | 1 mm | 2 mm | 3 mm	080	●	080	○
50-160 mm	230	18	50-100 mm | increasing every 5 mm | 100-160 mm | increasing every 10 mm	2	7	1 mm | 2 mm | 3 mm | 6 mm	100	●	100	○

Prod. Gr. 338
Suitable dial indicator page1167

SUBITO bore gauges for blind holes

SS/SSV series

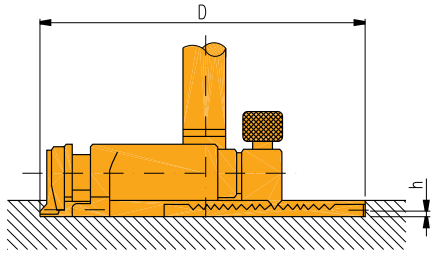
T

Application:
For precise measuring of boreholes using the 2-point method.
For measuring blind boreholes, pilots etc.

Execution:
- Measurements close to the base
- Setting via ring or ESU setting device 33580 .../33582...
- Dial gauges or precision pointers can be used as display units
- **Ident. No. 020–110, 300:**
  - Carbide-tipped vernier callipers and moving probe bolt
  - High measurement reliability, repeat limit 0.001 mm
- **Ident. No. 140:**
  - Carbide-tipped callipers and movable probe bolt
  - High measurement reliability, repeat limit 0.001 mm
  - SSV version with 2 interchangeable measuring heads to cover a wider range of applications

Advantage:
- No reversal-point search required.
- Self-centring in the borehole
- INVAR pipe (special nickel alloy) guarantees minimum thermal expansion caused by body heat from hands or high ambient temperatures

Delivery:
without precision pointer, in a wooden box



Type			SS	SS	SS	SS	SSV
Min./max. Ø of measuring range			20-50 mm	50-110 mm	110-300 mm	300-600 mm	20-140 mm
Measuring depth (mm)			80	60	90	90	60
Number of measurement heads			1	1	1	1	2
	Design of measuring contact						
33560...	Carbide	Ident. No.	020 ●	050 ●	110 ●	300 ○	140 ○

Prod. Gr. 338
Suitable dial indicator page1167

OD plug gauges for series inspection

T

Application:
For quick comparison measurements of bores during series inspections.
The slightly undersized, ground sleeve is used to guide and centre the plug gauge in the bore.

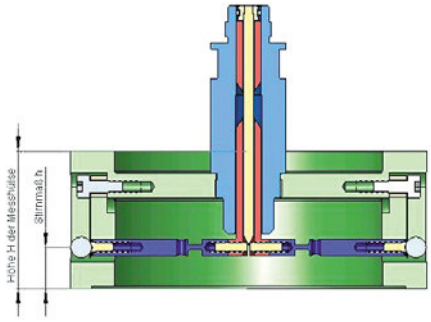
Execution:
- Cemented carbide measuring contacts and measuring needles (wear-resistant)
- Plug gauge from dia. 130 mm can be supplied as a cross-shaped sleeves or cross-shaped sleeves with skids
- Version for blind holes with reduced face size

Advantage:
- Easy to use
- Minimum measuring times
- Maximum measuring accuracy
- Robust and reliable
- Adapted to the desired bore diameter and tolerance

Notes:
In order to carry out measurements, an additional device holder no. 33561, a display unit (dial gauge, precision pointer or inductive measuring probe) and an adjustment tool are required. Please indicate the required diameter, measuring height and tolerance when ordering. **Surcharge for tolerance range below 9 µm or above 200 µm on request.**
Version for through holes with enlarged front dimensions available on request
For diameters below 15 mm, the maximum measuring depth cannot be increased via the device holder or via standard measuring depth extensions.

Technical data:
- Design of measuring contact: Carbide
- Material of sleeve: Steel
- Repeat accuracy: 1 µm
- Connection thread: M11 x 0.75

Plug gauge OD with holder and precision pointer



					Standard		Blind hole	
Min./max. Ø of measuring range	Measurement travel (mm)	Front size (mm)	Sleeve length (mm)	Measuring depth max. (mm)	33562... Ident. No.		33566... Ident. No.	
2.0-2.5 mm	0.15	1	17.5	17.5	002	○	-	-
2.5-6 mm	0.15	1.5	10	26	003	○	-	-
6.1-12 mm	0.2	2.5	15	39	005	○	-	-
12.1-20 mm	0.2	2.5	15	-	010	○	-	-
20.1-30 mm	0.2	3.5	20	-	520	○	-	-
30.1-40 mm	0.2	3.5	20	-	530	○	-	-
40.1-60 mm	0.2	3.5	28	-	540	○	-	-
60.1-80 mm	0.2	4	33	-	560	○	-	-
80.1-100 mm	0.2	4	33	-	580	○	-	-
2.0-2.5 mm	0.15	0.7	17.5	17.5	-	-	002	○
2.5-6 mm	0.15	1	10	26	-	-	006	○
6.1-12 mm	0.2	1	15	39	-	-	012	○
12.1-20 mm	0.2	1	15	-	-	-	020	○
20.1-30 mm	0.2	1.2	20	-	-	-	030	○
30.1-40 mm	0.2	1.2	20	-	-	-	040	○
40.1-60 mm	0.2	1.2	28	-	-	-	060	○
60.1-80 mm	0.2	1.2	33	-	-	-	080	○
80.1-100 mm	0.2	1.2	33	-	-	-	100	○

Prod. Gr. 334
Suitable dial indicator page1167

Device holder for plug gauges OD

For mounting a gauge with shank dia. 8 mm

Application:
For connecting an OD bore plug gauge and display unit.

Execution:
- **Ident. No. 025, 031:** For plug gauges Ø 60 mm
- **Ident. No. 050:** Special holder for electronic measuring probes
- **Ident. No. 060:** With retractor for blind hole plug gauges or easily-scratched parts

Length (mm)	Pipe Ø (mm)	33561... Ident. No.	
50	12	010	●
105	12	020	●
145	18	025	●
235	12	030	●

Length (mm)	Pipe Ø (mm)	33561... Ident. No.	
235	18	031	○
110	12	050	○
70	12	060	○

Prod. Gr. 334

3D articulated measuring stands

Model series with high-quality, light metal components for the mounting arm

Application:
For clamping dial gauges, precision pointers, lever gauge probes etc.

Execution:
- Mechanical, maintenance-free central clamping
- **Ident. No. 003–010:**
  - Dovetail mount and 8-mm dia. mount (6-mm dia. possible with adapter)
  - Strong adhesive magnet with prismatic base
- **Ident. No. 015:** Cylindrical mounting spigot, diameter 10 mm, for clamping in collet chucks or drill chucks
- **Ident. No. 015–018:** Dovetail mount and holder Ø 8 mm
- **Ident. No. 018:** Switching magnet base with contour bond. The steel slats adjust to fit the support surface, suitable for uneven surfaces

Advantage:
- Simple, quick operation
- Highly flexible, exact positioning

Delivery:
Without dial gauge and lever gauge probe

Ident. No. 003

Ident. No. 015

Ident. No. 005

Ident. No. 010

Ident. No. 018

Height (mm)		220	310	390	200	310
Operation radius (mm)		130	200	280	130	200
Retaining force (N)		20	32	36	20	32
Adherence strength (N)		300	750	750	-	600
Base size		36 x 30 x 35 mm	60 x 50 x 55 mm	60 x 50 x 55 mm	-	91 x 50 x 55 mm
Base Ø (mm)		-	-	-	10	-
34060...	Ident. No.	003 ●	005 ●	010 ●	015 ●	018 ○

Prod. Gr. 3AB

3D articulated measuring stands

In transport case

Application:
For clamping dial gauges, precision pointers, lever gauge probes etc. Available as a case set for assembly or other mobile applications e.g. maintenance, mobile calibrations etc. The case offers space for carrying up to two dial gauges or lever gauge probes.

Execution:
- Mechanical, maintenance-free central clamping mechanism
- Dovetail mount and 8 mm dia. mount (6 mm dia. possible with adapter)
- Powerful holding magnet with prismatic base
- In plastic case with foam insert
- Foam insert has recesses for a dial gauge with an external diameter of 40 mm and a dial gauge with an external diameter of 60 mm

Advantage:
- simple, quick operation
- high degree of manoeuvrability, exact positioning

Height (mm)		390
Operation radius (mm)		280
Retaining force (N)		36
Adherence strength (N)		800
Base size		60 x 50 x 55 mm
34060...	Ident. No.	110 ●

Prod. Gr. 3AB

3D articulated measuring stand

Model series with chrome-plated arm components

Application:
For clamping dial gauges, precision pointers, lever gauge probes etc.

Execution:
- Mechanical, maintenance-free central clamping
- Dovetail mount and 8-mm dia. mount (6-mm dia. possible with adapter)
- Strong adhesive magnet with prismatic base

Advantage:
- Simple, quick operation
- Highly flexible, exact positioning

Delivery:
Without dial gauge

Ident. No. 027

Ident. No. 021

Ident. No. 023

Ident. No. 025

Height (mm)		310	390	568	740
Operation radius (mm)		200	288	450	630
Retaining force (N)		40	29	56	90
Adherence strength (N)		750	750	1000	1500
Base size		60 x 50 x 55 mm	60 x 50 x 55 mm	75 x 50 x 55 mm	120 x 60 x 55 mm
34060...	Ident. No.	027	021	023	025
		●	●	●	●

Prod. Gr. 3AB

3D articulated measuring stand µ-Line

with precision adjustment and high-quality, light metal arms

Application:
in high-precision range for clamping dial gauges, precision pointers, lever gauge probes etc.

Execution:
- Mechanical, maintenance-free central clamping
- Dovetail mount and 8-mm dia. mount (6-mm dia. possible with adapter)
- Strong adhesive magnet with prismatic base

Advantage:
- Simple, quick operation
- Highly flexible, exact positioning
- Precision adjustment with high repeat accuracy for measurements in the µ-range

Delivery:
Without precision pointer

Ident. No. 070

Ident. No. 100

Height (mm)		225	310	395	444
Operation radius (mm)		130	200	287	330
Retaining force (N)		30	32	56	45
Adherence strength (N)		600	800	800	1000
Base size		40 x 40 x 40 mm	60 x 50 x 55 mm	60 x 50 x 55 mm	75 x 50 x 55 mm
34060...	Ident. No.	070	080	090	100
		●	●	●	●

Prod. Gr. 3AB

ATORN 3D articulated arm with steel clamps

as an assembly aid

Application:
For holding and freely positioning most parts, even those with difficult-to-hold shapes. Parts can be held and fixed in any position to keep both hands free to work on your task. Useful for measuring, assembling, soldering, welding, cutting, gluing and more

Execution:
- Mechanical, maintenance-free central clamping mechanism

- Includes additional clamping screw. The lower half of the arm can be fixed independently of the central clamping mechanism, making it easier to precisely position the top half.
- With two solid steel clamps, one with a clamping width of 75 mm, one with a clamping width of 100 mm

Advantage:
- simple, quick operation
- high degree of manoeuvrability, exact positioning

Operation radius (mm)		620
Retaining force (N)		90
34060...	Ident. No.	250 ●

Prod. Gr. 3AB

ATORN 3D articulated arm with spring clip

as holder for PCBs, sheet metal, plates

Application:
For holding and freely positioning flat components e.g. PCBs, sheet metal components or other plate materials

Execution:
- Mechanical, maintenance-free central clamping mechanism

- Features a heavy steel base with a diameter of 150 mm, non-slip thanks to the rubber feet
- An earthing wire can be connected to the steel base
- Strong, rubberised spring clip, 50 mm jaw width

Advantage:
- simple, quick operation
- high degree of manoeuvrability, exact positioning

Operation radius (mm)		280
Retaining force (N)		36
Base Ø (mm)		150
34060...	Ident. No.	200 ●

Prod. Gr. 3AB

ATORN 3D articulated measuring stand set

Holding system for small parts in the workshop

Application:
For holding objects such as light sources, circuit boards etc.

Delivery:
Articulated stand, steel base, clamp base, clamp holder with plastic jaws, extension, adapter, toping thread and open end spanner

Operation radius (mm)		200
Socket Ø (mm)		100
Max. extension (mm)		200
Retaining force (N)		32
34060...	Ident. No.	150 ●

Prod. Gr. 3AB

ATORN Aluminium mounting plate M8

Accessories for 3D articulated arms

Application:
For mounting 3D articulated arms when a switching magnet cannot be used e.g. on aluminium profiles, plastics, wood or directly on walls.

Execution:
- Made of aluminium, blue anodised

- Central M8 connecting thread for accommodating a 3D articulated arm
- 10x slotted holes, 5.2 x 12 mm, for individual mounting
- Compatible with T-groove aluminium frames measuring 20 x 20, 30 x 30, 40 x 40 mm
- Dimensions: 51.5 x 51.5 x 10 mm

34075...	Ident. No.	370 ●

Prod. Gr. 3AB

ATORN 3D articulated arms

Application:
Suitable for installation in any holder with a suitable thread

Execution:
- Mechanical, maintenance-free central clamping
- **Ident. No. 100–120:** Model series with high-quality, light metal arm components
- **Ident. No. 121–125:** µ-Line model series
- **Ident. No. 127–141:** Model series with chrome-plated arm components

Advantage:
- Simple, quick operation
- **Ident. No. 100–120, 127–141:** Highly flexible, exact positioning
- **Ident. No. 121–125:** High degree of manoeuvrability, exact positioning

				light metal		µ-line		chromium-plated	
Operation radius (mm)	Connection thread	Connection thread 2	Retaining force (N)	34075... Ident. No.		34075... Ident. No.		34075... Ident. No.	
130	M6	M6	20	100	●	-	-	-	-
200	M6	M8	32	110	●	-	-	-	-
280	M6	M8	36	120	●	-	-	-	-
130	M6	M6	30	-	-	121	●	-	-
204	M6	M8	32	-	-	122	●	-	-
287	M8	M8	56	-	-	123	●	-	-
330	M8	M8	45	-	-	125	●	-	-
197	M6	M8	32	-	-	-	-	127	●
288	M6	M8	40	-	-	-	-	128	●
407	M8	M8	29	-	-	-	-	129	●
453	M8	M8	56	-	-	-	-	131	●
635	M8	M10 x 1.25	90	-	-	-	-	141	●

Prod. Gr. 3AB

Ident. No. 121–125

Ident. No. 127–141

ATORN Fine adjustment

Application:
For use with a 3D articulated arm.

Execution:
- Steel
- With combined mount for 8-mm shaft diameter (6-mm dia. possible with adapter) and lever gauge probe with dovetail mount
- **Ident. No. 220:** For µ-line articulated measuring stands

Technical data:
- Bore diameter: 8 mm

Connection thread			M6	M8
34075...	Standard	Ident. No.	200 ●	210 ●
34075...	With fine adjustment	Ident. No.	-	220 ●

Prod. Gr. 3AB

Ident. No. 200

Ident. No. 220

ATORN Holding magnets/granite feet/vacuum bases

Application:
Ident. No. 300–330: For use with 3D articulated arms for optimum hold.

Ident. No. 340: For use with 3D articulated arms with sliding option.
Ident. No. 350: For use with 3D articulated arms on hard stone bases.

Ident. No. 320

Ident. No. 330

Ident. No. 340

Connection thread		M6	M8	M8	M10 x 1.25	M8	M8
Adherence strength (N)		300	750	1000	1500	-	400
Length x width x height		34 x 30 x 35 mm	60 x 50 x 55 mm	75 x 50 x 55 mm	120 x 60 x 55 mm	150 x 120 x 50 mm	-
Ø (mm)		-	-	-	-	-	88
34075...	Ident. No.	300 ●	310 ●	320 ●	330 ●	340 ●	350 ●

Prod. Gr. 3AB

ORION® Dial gauge magnetic holders

Application:
No. 34100–34110: For attaching to any magnetic base surface
No. 34120: Suitable for alignment of shafts

Execution:
- **No. 34100:** Simple, convenient version with strong magnetic base plate
- **No. 34110:** Contact surface with 2 strong, round sintered magnets to ensure secure adhesion. Dial gauge holder can be swivelled through 360°
- **No. 34120:** With prismatic base. Dial gauge holder can be swivelled through 360°

Delivery:
Without dial gauge

No. 34100

No. 34110

No. 34120

Height (mm)	Base size	Ø of contact surface (mm)	Adherence strength (N)	34100... Ident. No.		34110... Ident. No.		34120... Ident. No.	
60	-	46	130	010	●	-	-	-	-
-	72 x 37.5 x 45 mm	-	180	-	-	010	●	-	-
-	70 x 35 x 57 mm	-	180	-	-	-	-	010	●

Prod. Gr. 331

ORION® Measuring stand
with guide rail

Application:
For measuring the concentricity or parallelism of workpieces. Side surfaces can be used as a stop.

Execution:
- Cast iron foot with prismatic base (fine-ground support surface and lateral faces)
- Transverse arm with fine adjustment and 8 mm diameter hole for dial gauges, precision pointers or electronic length measuring probes
- Measuring column can be moved in T-groove

Delivery:
Without dial gauge

Technical data:
- Height: 335 mm
- Measuring arm diameter: 16 mm
- Measuring arm length: 180 mm
- Base size: 250 x 60 x 35 mm

34001...	Ident. No.	010 ●

Prod. Gr. 345

Supplied without dial gauge

ORION® Small measuring stand

Application:
Ideal for use with lever gauge probes and small dial gauges.

Execution:
- Round permanent magnetic base
- Chrome-plated joint system
- Holder for 8 mm shaft diameters and dovetail mount

Delivery:
Without dial gauge

Technical data:
- Height: 155 mm
- Measuring arm diameter: 8 mm
- Measuring arm length: 60 mm
- Diameter of contact surface: 35 mm
- Adherence strength: 220 N

34130...	Ident. No.	021 ●

Prod. Gr. 3BE

ATORN Measuring stand
with magnet

Application:
For clamping dial gauges, precision pointers, lever gauge probes etc.

Execution:
- Cross joint can be rotated and swivelled through 360°
- Central clamping mechanism with high clamping force
- Holder for 8 mm shaft diameter and dovetail mount
- Switching magnet with prismatic base
- Micro-fine adjustment

Height (mm)		453
Measuring arm Ø (mm)		12
Measuring arm length (mm)		164
Base size		60 x 50 x 55 mm
Adherence strength (N)		750
34165...	Ident. No.	110 ●

Prod. Gr. 3AB

ORION Measuring stand
with magnet

Application:
Ideal for use with lever gauge probes and small dial gauges.

Execution:
- Switching magnet with prismatic base
- Holder for 8 mm shaft diameters and dovetail mount

Delivery:
Without dial gauge

Technical data:
- Height: 240 mm
- Measuring arm diameter: 12 mm
- Measuring arm length: 180 mm
- Base size: 58 x 50 x 65 mm
- Adherence strength: 650 N

34160...	Ident. No.	011 ●

Prod. Gr. 3BE

ATORN Measuring stand
with magnet

Application:
Ideal for use with lever gauge probes and small dial gauges.

Execution:
- Cross joint can be rotated and swivelled through 360°
- Extremely high clamping force in the joints
- Holder for 8 mm shaft diameters and dovetail mount
- Switching magnet with prismatic base
- Micro-fine adjustment

Delivery:
Without dial gauge

Technical data:
- Height: 285 mm
- Measuring arm diameter: 14 mm
- Measuring arm length: 275 mm
- Base size: 73 x 45 x 65 mm
- Adherence strength: 550 N

34165...	Ident. No.	100 ●

Prod. Gr. 3AB

Measuring stand
with magnet

Application:
Ideal for use with lever gauge probes and small dial gauges.

Execution:
- Switching magnet with prismatic base
- Holder for 8 mm shaft diameters and dovetail mount

Delivery:
Without dial gauge

Technical data:
- Height: 285 mm
- Measuring arm diameter: 16 mm
- Measuring arm length: 180 mm
- Base size: 70 x 46 x 65 mm
- Adherence strength: 600 N

Supplied without dial gauge

34170...	Ident. No.	010 ●

Prod. Gr. 345

ATORN Measuring stand
with flexible column

Application:
For measuring in hard-to-reach places.

Execution:
- Switching magnet with prismatic base
- Holder for 8 mm shaft diameters and dovetail mount
- Central clamping using eccentric clamping lever
- Fine adjustment

Delivery:
Without dial gauge

Technical data:
- Height: 380 mm
- Measuring arm diameter: 17 mm
- Measuring arm length: 300 mm
- Base size: 70 x 46 x 65 mm
- Adherence strength: 500 N

34185...	Ident. No.	010 ●

Prod. Gr. 3AB

ATORN Measuring tables with rotating and sliding measuring arm (DIN 876-1)
with hard rock base

Application:
For positioning components requiring a high-precision base.

Execution:
- post made from chrome steel
- holder for 8 mm shaft diameter

Advantage:
- High-pitch thread for fine adjustment of the measuring height

Delivery:
In sturdy cardboard packaging

Technical data:
- Flatness tolerance: 3 µm
- Max. measurement height: 230 mm
- Adapter diameter: 8 mm
- Overhang: 200 mm
- Column diameter: 35 mm
- Stand design: Cross arm movable and rotatable | Column with steep thread for height adjustment
- DIN: 876-1
- Accuracy class: 00

HIGHLIGHT

Ident. No. 130

Measuring table size	34310... Ident. No.	
250 x 200 x 50 mm	130	●
400 x 250 x 50 mm	230	○

Prod. Gr. 340

ATORN Measuring tables with additional connecting thread (DIN 876-1)
with hard rock base

Application:
For positioning components requiring a high-precision base.

Execution:
- Post made from chrome steel
- Holder for 8 mm shank diameter
- Female thread for accommodating a 3D articulated arm (not included in scope of delivery)

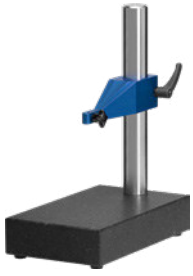
Advantage:
- An additional measuring point can be flexibly positioned using an additional 3D articulated arm
- Models with steep-pitch thread for fine adjustment of the measuring height

Delivery:
In sturdy cardboard packaging; dial gauge, dial indicator, articulated arm and accessories not included

Notes:
All ATORN 3D articulated arms with a corresponding thread can be screwed in

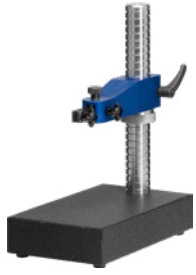
HIGHLIGHT

Technical data:
- Flatness tolerance: 3 µm
- Adapter diameter: 8 mm
- DIN: 876-1
- Accuracy class: 00



Ident. No. 112

Ident. No. 122, 220



Ident. No. 136, 235

Measuring table size		200 x 100 x 50 mm	250 x 200 x 50 mm	400 x 250 x 50 mm	250 x 200 x 50 mm	400 x 250 x 50 mm
Max. measurement height (mm)		180	210	210	210	210
Overhang (mm)		60	115	115	130	130
Column Ø (mm)		22	35	35	35	35
Stand design		Rigid cross arm	Rigid cross arm | Column with steep thread for height adjustment	Rigid cross arm | Column with steep thread for height adjustment	Rigid cross arm with fine adjustment | Column with steep thread for height adjustment	Rigid cross arm with fine adjustment | Column with steep thread for height adjustment
Connection thread		M6	M8	M8	M8	M8
34310...	Ident. No.	112 ●	122 ●	220 ○	136 ●	235 ○

Prod. Gr. 340

ATORN Adjustable measuring table stop sets

for ATORN measuring tables with 22 or 35 mm column

Application:
Adjustable stops for series measurements

Execution:
- Chrome steel rod
- Support elements made of anodised aluminium
- Stop equipped with chrome steel pins

Notes:
Please note the column diameter of the measuring table

NEW

Ident. No. 500

Overhang (mm)		70	150
Column Ø (mm)		22	35
Composition of set		Connection element for column 22 mm 2x movable rods 1x prism stop 1x rip fence	Connection element for column 35 mm 2x movable rods 1x prism stop 1x rip fence
34310...	Ident. No.	500 ●	510 ●

Prod. Gr. 340

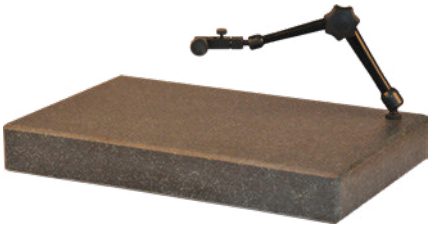
ATORN Measuring table with 3D articulated arm (DIN 876-1)

with hard rock base

Application:
For positioning components requiring a high-precision base.

Execution:
- M8 measuring table insert nut
- Holder for 8 mm shaft diameters and dovetail mount
- articulated arm with operating radius of 285 mm

Technical data:
- Adapter diameter: 8 mm
- DIN: 876-1



Ident. No. 100

Measuring table size		400 x 250 x 50 mm	400 x 400 x 50 mm
Overhang (mm)		285	375
34310...	Ident. No.	100 ●	105 ○

Prod. Gr. 340

ORION® Measuring tables (DIN 876-1)

with hard rock base

Application:
For positioning components requiring a high-precision base.

Execution:
- Post made from chrome steel
- Holder for 8 mm shaft diameter
- **No. 34310:** with rigid arm
- **No. 34314:** with movable transverse arm

Technical data:
- Flatness tolerance: 3 µm
- Adapter diameter: 8 mm
- Column diameter: 35 mm
- DIN: 876-1
- Accuracy class: 00

No. 34310 011

No. 34310 031

No. 34314 011

No. 34314 031

Measuring table size		250 x 200 x 50 mm	400 x 250 x 50 mm	250 x 200 x 50 mm	400 x 250 x 50 mm
Max. measurement height (mm)		210	210	230	230
Overhang (mm)		115	115	200	200
Stand design		Rigid cross arm	Rigid cross arm	Cross arm movable and rotatable	Cross arm movable and rotatable
34310...	Ident. No.	011 ●	031 ●	-	-
34314...	Ident. No.	-	-	011 ●	031 ●

Prod. Gr. 3BE

ORION® Small measuring tables

Execution:
- Hardened, ground and lapped table
- Hardened and ground column
- Mount for dial gauges and precision pointers diameter 8 mm

- **No. 34250:** Round table permanently mounted on cast iron base, with rigid arm, without fine adjustment
- **No. 34270:** Table surface with dust grooves, cross arm horizontally adjustable, without fine adjustment

Measuring table size		-	68 x 60 x 150 mm	115 x 98 x 150 mm
Flatness tolerance (µm)		2	2	4
Max. measurement height (mm)		100	150	150
Height (mm)		210	260	290
Overhang (mm)		49	90	130
Column Ø (mm)		22	22	28
34250...	Ident. No.	**100** ●	-	-
34270...	Ident. No.	-	**100** ●	**200** ●

Prod. Gr. 3BE

No. 34250

No. 34270 100

ORION® Vee blocks made of special cast iron

Application:
For checking, marking off and aligning cylindrical parts.

Execution:
- Machined in pairs
- Vee block faces and base machined level and parallel

- **No. 35180:** Finely milled
- **No. 35181:** Finely ground

Delivery:
In pairs

Technical data:
- Angle: 90 Degree

Length x width x height	Flatness tolerance (mm)	Min./max. workpiece Ø	**35180...** Ident. No.		**35181...** Ident. No.	
50 x 40 x 30 mm	0.04	4-30 mm	**005**	●	-	-
75 x 40 x 30 mm	0.04	6-40 mm	**007**	●	-	-
100 x 40 x 30 mm	0.04	6-50 mm	**010**	●	-	-
150 x 50 x 40 mm	0.05	8-60 mm	**015**	●	-	-
200 x 70 x 50 mm	0.05	8-70 mm	**020**	●	-	-
50 x 40 x 30 mm	0.016	4-30 mm	-	-	**005**	●
100 x 40 x 30 mm	0.016	6-50 mm	-	-	**010**	●
150 x 50 x 40 mm	0.016	8-60 mm	-	-	**015**	●
200 x 70 x 50 mm	0.016	8-70 mm	-	-	**020**	●

Prod. Gr. 3BE

ORION® Pair of vee blocks
made of hardened steel

Application:
For checking, marking off and aligning cylindrical parts.

Execution:
- Machined in pairs
- Vee block faces and base machined level and parallel

- Finely ground

Delivery:
In pairs

Technical data:
- Flatness tolerance: 0.004 mm
- Angle: 90 Degree

Length x width x height	Min./max. workpiece Ø	**35182...** Ident. No.	
75 x 35 x 30 mm	5-40 mm	**075**	●
100 x 47 x 40 mm	5-55 mm	**100**	●
150 x 55 x 45 mm	5-60 mm	**150**	●
200 x 65 x 55 mm	5-75 mm	**200**	●
250 x 85 x 70 mm	5-100 mm	**250**	●

Prod. Gr. 3BE

ATORN Vee block with clamping bracket

Application:
ATORN prism with stainless steel clamping bracket for fixing rotationally symmetrical parts.

Execution:
- stainless steel

Technical data:
- Material: Steel, stainless
- Min./max. workpiece diameter: 2.5-18 mm
- Flatness tolerance: 0.01 mm
- Length x width x height: 25 x 20 x 20 mm
- Weight: 0.076 kg

47105...	Ident. No.	715 ●

Prod. Gr. 4CA

ATORN Double vee blocks made of hardened steel/INOX steel

Application:
For checking, marking off and aligning cylindrical parts.

Execution:
- With clamping bracket
- Vee block faces and base machined level and parallel
- Finely ground

- **No. 35185–35186:** Size 5-30 mm made from 40Cr, sizes 5-50 and 7-70 mm made of 45, each hardened to approx. 54-58 HRC
- **No. 35188:** made of 4Cr15 (stainless steel), hardened to approx. 56-60 HRC

Technical data:
- Flatness tolerance: 0.004 mm
- Angle: 90 Degree

		in pairs		Single		in pairs	
Length x width x height	Min./max. workpiece Ø	35185... Ident. No.		35186... Ident. No.		35188... Ident. No.	
50 x 40 x 40 mm	5-30 mm	031	●	031	●	031	●
75 x 55 x 55 mm	5-50 mm	051	●	051	●	051	●
100 x 75 x 75 mm	7-70 mm	071	●	071	●	071	●

Prod. Gr. 3AB
Replacement clamping bracket available on request.

ATORN Replacement clamping bracket for double vee blocks
supplied individually

For vee block length 50 mm		For vee block length 75 mm		For vee block length 100 mm	
35187... Ident. No.		35187... Ident. No.		35187... Ident. No.	
031	●	051	●	071	●

Prod. Gr. 3AB

ORION® Double vee blocks made of hardened steel

Application:
For checking, marking off and aligning cylindrical parts.

Execution:
- Double vee block pair made of hardened steel, finely polished
- With two contact surfaces and two notch angles of 90° as well as a clamping bracket.

- Accuracy 0.01 mm

Delivery:
In pairs

Technical data:
- Flatness tolerance: 0.01 mm
- Angle: 90 Degree

Ident. No. 010

Length x width x height	Min./max. workpiece Ø	35192... Ident. No.	
40 x 35 x 35 mm	5-20 mm	010	●
70 x 45 x 41 mm	5-25 mm	020	●

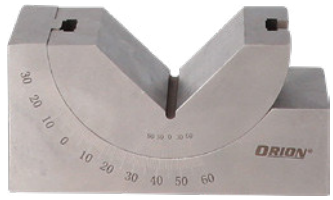
Prod. Gr. 3BE

ORION® Adjustable right-angle vee block

Application:
For checking, marking off and aligning components. As the inclination of the 90° prism can be adjusted relative to the base, positioning of parts that do not feature a 90° angle will also be possible.

Execution:
- Made of hardened steel, finely ground
- Infinitely adjustable
- With locking screw
- Angle scale 30°-0°-60°
- Vernier scale 10'
- Parallelism tolerance +/- 0.05 mm

Technical data:
- Design: Adjustable
- Angle: 90 Degree



Ident. No. 200

Length x width x height	Min./max. workpiece Ø	35213... Ident. No.	
102 x 46 x 49 mm	5-40 mm	200	●
75 x 25 x 32 mm	5-28 mm	210	●

Prod. Gr. 3BE

ATORN Magnetic measuring and clamping vee block
hardened and unhardened, individual or in pairs

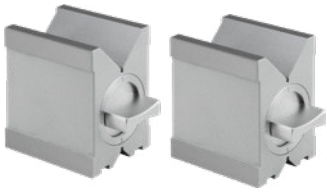
Application:
For checking, marking off and aligning cylindrical parts.

Execution:
- Level and parallel and rectangular machined
- Magnetic force can be turned on/off
- The side opposite the switch is designed as a magnetic surface

Delivery:
In a wooden case

Technical data:
- Flatness tolerance: 0.004 mm
- Angle: 90 Degree

Ident. No. 010, 020


Ident. No. 011, 021

Ident. No. 106

Ident. No. 110

			Single		In pairs	
Design	Length x width x height	Min./max. workpiece Ø	35209... Ident. No.		35209... Ident. No.	
Standard	80 x 67 x 96 mm	6-66 mm	010	●	011	●
Standard	100 x 70 x 96 mm	6-70 mm	020	●	021	●
Hardened	70 x 45 x 70 mm	2-40 mm	105	●	106	●
Hardened	80 x 67 x 96 mm	6-66 mm	110	●	111	●
Hardened	100 x 70 x 96 mm	6-70 mm	120	●	121	●

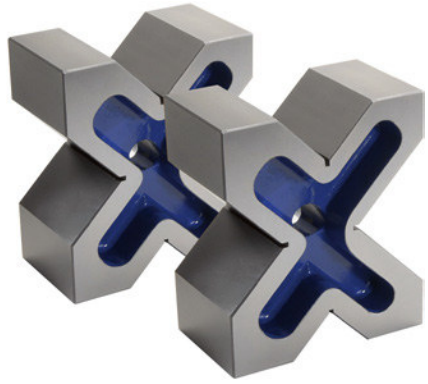
Prod. Gr. 3AB

ORION® Parallel elements with prismatic recesses
made of special cast iron

Application:
For checking, marking off and aligning cylindrical parts.

Execution:
- Machined in pairs
- Finely ground

Technical data:
- Flatness tolerance: 0.016 mm
- Angle: 90 Degree



Length x width x height		75 x 150 x 130 mm	90 x 200 x 170 mm
Min./max. workpiece Ø		8-120 mm	10-180 mm
35213...	Ident. No.	011	021
		●	●

Prod. Gr. 3BE

DK fixturing systems - the entire world of fixturing systems
Modular system with over 1,000 pieces

Tactile measuring systems

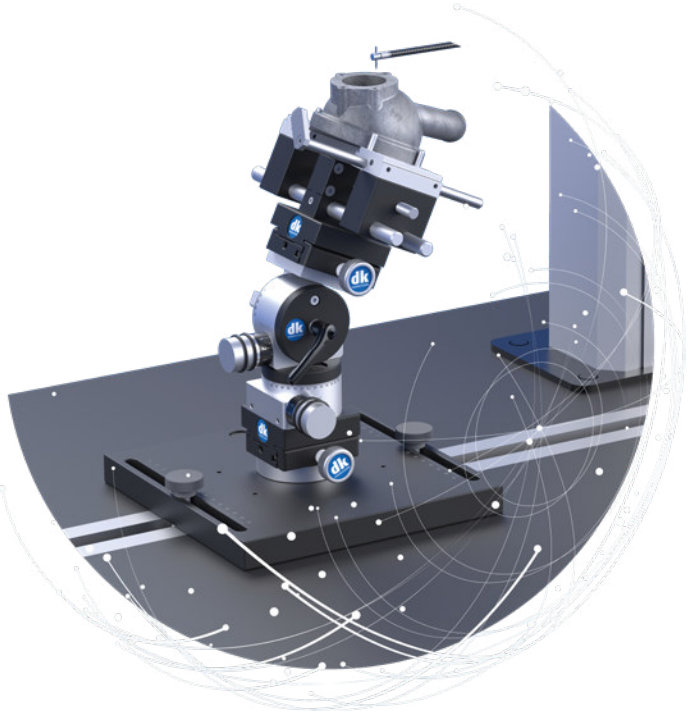
Optical measuring systems

Machine Vision and sensor

Surfaces and contour measurement

Computer tomography

3D scanning



The modular dk system clearly explained in less than two minutes:

Clamping equipment for all measuring technologies
Fixturing systems for all areas of measurement systems. Many elements of the DK programmes can also be used in different measuring technologies, i.e. on completely different measuring machines, and can be changed quickly using standardised interfaces. This offers substantial value.

Equipment immediately available
Modules are coordinated fast and with perfect accuracy. These are available as 3D models from DK, so that equipment can be easily designed using CAD and assembled immediately using the modular system.

Optimised costs
Retooling of the equipment in the event of exchange or end-of-life of the test specimen, process or measuring machine. High-strength aluminium with hard-coated surface makes the modules maintenance-free, corrosion-proof and wear-resistant. As a result, devices can be disassembled and reconfigured as often as required, resulting in optimal cost-benefit ratio.

Fulfilment of all process requirements
Safe, trouble-free and efficient processes thanks to a stable hold with little force applied to the test specimen, by repeatedly positioning identical parts on intelligent precision devices that can be adjusted as required and by performing the set-up operation outside of the measuring equipment using pallet systems.

Countless solutions
A wide range of fixturing programmes for different measuring systems with common standards and process-specific special features result in an outstanding range of components, which can be combined to realise nearly countless solutions due to the wide selection and combinability.

Perfect basis for special equipment
Decades of project experience form the ideal prerequisite for special equipment specific to parts and processes: Instead of having to create all parts of a fixture from scratch, we integrate cost-effective series parts and supplement them with custom-made parts. This results in the measurement of more parts per shift and more employees who are able to measure the parts. It goes without saying that we also provide 100 % customer-specific special solutions.

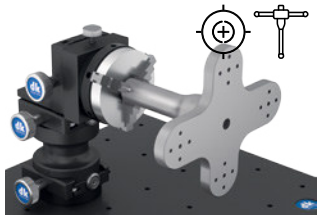
Prepared for automation
Interchangeable pallet systems or automated quick-change interfaces with any device carrier enable measuring processes to be automated. Compatibility with the fixturing programmes is always ensured. Our target: seamless integration of the measuring machine into the overall process.

Sustainability
No equipment generated from the DK system kit ever needs to be disposed of, since the system is based on a cycle that is outlined by our guiding principle: “Fast Reassembly Lifelong”.

dk fixation systems

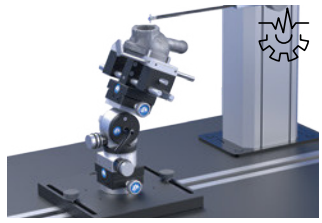
Application:
For all application areas of measuring and testing systems, for 3D scanning and lasers as well as for industrial image processing and sensor technology.

SWA39

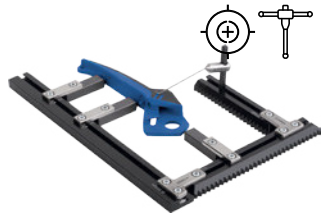


SWA39 CT

SWA39 SURF

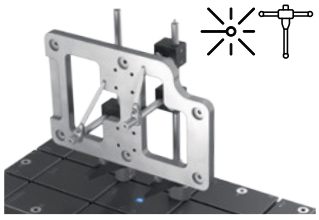


SCHIENENFIX



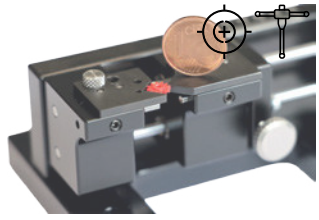
SPANNFIX ECO

SPANNFIX PRO

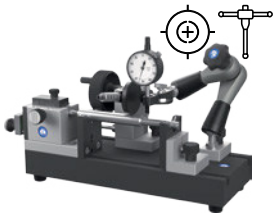


QUADERFIX

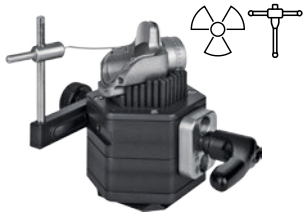
MICROFIX



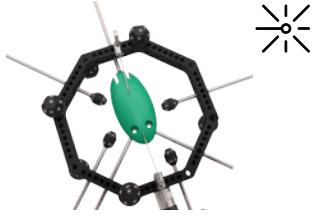
RUNDLAUF



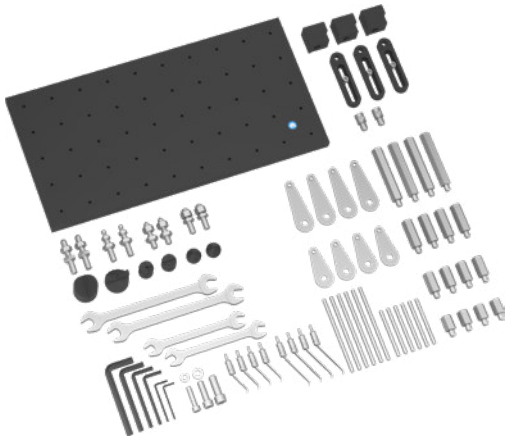
NADELFIX

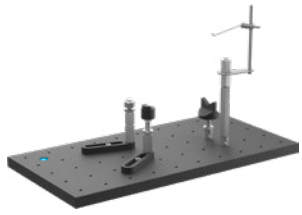


SCANNING



MACHINE VISION





Starter set:
Basic packages for the perfect introduction to the system worlds of the various application areas. Start immediately with the most important elements and expand to suit future requirements.

Intelligent composition:
Many years of experience by dk application engineers have resulted in a compact starter kit that already enables a number of common fixation devices. The sets are not only expandable as desired, but can also be combined with other dk programmes.

Economic start:
The starter sets are not oversized, but contain essential products for daily use. Their versatile combination options are the basis for a wide range of solutions.

Advantage:
Only buy what is actually used regularly in practice and keep costs in check.

SWA39 clamping set A3/A3+

for tactile measuring tasks

Application:
Starter set containing the most common clamping elements. Can be used in combination with a quick-action basic holder for zero-point clamping and fixing. The swivel unit enables free positioning of components in the three-dimensional space. This means that zero-point clamping is carried out with freely selectable spatial alignment and can be exactly reproduced over and over again for different components with the help of a scale.

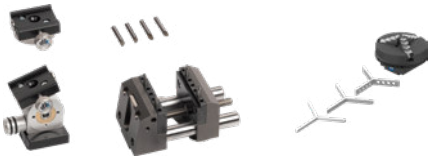
Execution:
- 1x precision vice 80 mm (dk article number 308200)
- 4x parallel pins for vice jaws with straight contact surface (dk article number 307800)
- 4x parallel pins for vice jaws with inclined contact surface (dk article number 326600)
- 1x quick-action holding clamp set (dk article number M6 [285206], M8 [285208], M10 [285210], M12 [285212])
- 1x T-groove (dk article number 285300)
- **Ident. No. 000:**
  - Starter clamping set A3
  - 1x quick-action holding clamp swivel unit (dk article number 314010)
- **Ident. No. 002:**
  - Advanced clamping set A3+, same as starter clamping set A3 but with additional elements
  - 1x 314010 quick-action holding clamp swivel unit (dk article number 314010)
  - 1x precision three-jaw chuck 100 mm (dk article number 283220)
  - 1x contact set as depth stop for 100 mm jaw chucks with heights 5, 8 and 12 mm (dk article number 283255)

35200...	Ident. No.	002
		○

Prod. Gr. 3DK

NEW

Ident. No. 000



Ident. No. 002

SWA39 basic clamping set B

for tactile measuring tasks

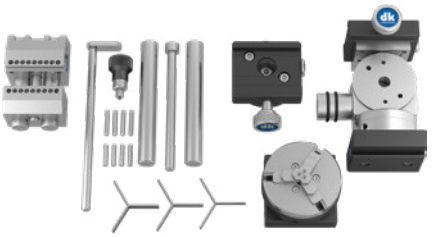
Application:
Starter set containing the most common clamping elements. Can be used in combination with a quick-action basic holder for zero-point clamping and fixing. The swivel unit enables free positioning of components in the three-dimensional space. This means that zero-point clamping is carried out with freely selectable spatial alignment and can be exactly reproduced over and over again for different components with the help of a scale.

Execution:
- 1x complete vice 50 mm with accessories (dk article number 282100)
- 1x three-jaw chuck 65 mm (dk article number 329700)
- 1x contact set as depth stop for 65 mm jaw chucks with heights 3, 5 and 7 mm (dk article number 283250)
- 1x smooth small-parts clamp holder (dk article number 275600)
- 1x quick-action holding clamp rotary and swivel unit (dk article number 314020)
- 1x quick-action holding clamp set (dk article number M6 [285206], M8 [285208], M10 [285210], M12 [285212])
- 1x T-groove (dk article number 285300)

35200...	Ident. No.	004
		○

Prod. Gr. 3DK

NEW



SWA39 basic clamping set C

for tactile measuring tasks

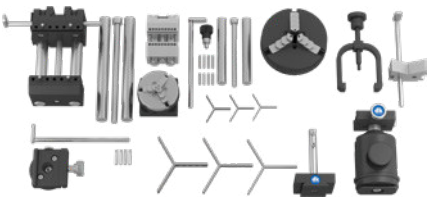
Application:
Starter set containing the most common clamping elements. Can be used in combination with a quick-action basic holder for zero-point clamping and fixing. The swivel unit enables free positioning of components in the three-dimensional space. This means that zero-point clamping is carried out with freely selectable spatial alignment and can be exactly reproduced over and over again for different components with the help of a scale.

Execution:
- 1x complete vice 50 mm with accessories (dk article number 282100) + offset parallel pins set for vice 50 mm (dk article number 282300)
- 1x vice 80 mm, can be clamped using 3x SWA 39 in three levels (dk article number 308300) + offset parallel pins set for vice 80 mm (dk article number 307800)
- 1x three-jaw chucks 65 mm (dk article number 329700) + contact set as depth stop for 65 mm jaw chucks with heights 3, 5 and 7 mm (dk article number 283250)
- 1x three-jaw chucks 100 mm (dk article number 283220) + contact set as depth stop for 65 mm jaw chucks with heights 5, 8 and 12 mm (dk article number 283255)
- 1x 120° V-support (dk article number 272700) + clamping bracket for V-support (dk article number 272920)
- 1x smooth small-parts clamp holder (dk article number 275600)
- 1x ball joint swivel unit (dk article number 270500)
- 1x quick-action holding clamp set (dk article number M6 [285206], M8 [285208], M10 [285210], M12 [285212])
- 1x T-groove (dk article number 285300)

35200...	Ident. No.	006
		○

Prod. Gr. 3DK

NEW



Spannfix ECO KMG M609 starter kit

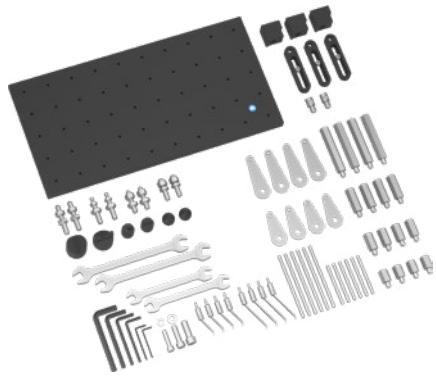
for tactile measuring tasks

Application:
This universal starter kit is ideal for installing components for tactile measuring tasks, e.g. on 3D coordinate measuring instruments. The Spannfix ECO system is modular, can be expanded with additional components at any time and therefore offers maximum flexibility.

Execution:
- 1x SPANNFIX ECO base plate M6 WxDxH 500 x 250 x 20 mm with 50 mm grid (dk article number 395030)
- 3x clamping claw (dk article number 281440) + 3x M10 base rail 105 mm with M6 screw for base plate (dk article number 322010)
- 1x M10 hexagon column set AF 17, 4x 25 mm (dk article number 322200), 4x 35 mm (dk article number 322300, 4x 50 mm (dk article number 322400) and 4x 100 mm (dk article number 304400)
- 2x quick-change mount M10/SWA8 (dk article number 329500) + 2x 90° centring tips with quick-change mount SWA8, dia. 25 mm (dk article number 303700)
- 1x SWA8 flat supporting surface straight stop (dk article number 303810) + 1x SWA8 flat supporting surface for corner stop 40 mm (dk article number 303815) + 1x SWA8 V-shaped supporting surface 40 mm (dk article number 323400) + 1x SWA8 V-shaped supporting surface 8 mm (dk article number 323500)
- 2x M10 toggle locator to compensate for mould inclines ±15° (dk article number 323000) + 2x M10 moulded support with 90° tapered tip, dia. 10 (dk article number 322600) + 2x M10 moulded support with taper radius 5 mm (dk article number 322700)
- 4x each retaining plate for M6 columns 50 mm (dk article number 353700) and 75 mm (dk article number 353800) for mounting on M10 columns, toggle locators, moulded and quick-change mounts
- 6x each column dia. 6 with M6 thread 75 mm (dk article number 368300), 125 mm (dk article number 368500) for spring compressor or as stop, with hexagon socket + 4x each spring compressor dia. 6, 50 mm (dk article number 302800), 75 mm (dk article number 302900) self-locking and individually adjustable
- 3x M8 x 30 screw, 3x M10 x 30 screw and 3x M12 x 30 screw for adjustable clamp, 3x each washer for M8, M10 and M12 screws, 2x each open-end wrench AF 13/15 and 17/19, 1x each of hex key AF 2.5 for SWA8, AF 3 for round columns, AF 5 for base rails and AF 6, 8 and 10 for adjustable clamps
- 2x 3D central articulated arm with operating radius 170 mm, male thread M8 bottom/M6 top + 2x each thread adapter M6 male/M8 female for 3D central articulated arms (dk article number 275000), M6 male/M10 female for hexagon columns (dk article number 275010) and SWA8 male/M6 female for 3D central articulated arms (dk article number 246411)

Advantage:
- Quick-change system enables clamping elements to be used on different measuring machines, thus reducing costs

NEW



35200...	Ident. No.	012 ○

Prod. Gr. 3DK

Spannfix ECO KMG M610 starter kit

for tactile measuring tasks

Application:
This universal starter kit is ideal for installing components for tactile measuring tasks, e.g. on 3D coordinate measuring instruments. The Spannfix ECO system is modular, can be expanded with additional components at any time and therefore offers maximum flexibility.

Execution:
- 1x SPANNFIX ECO base plate M6 WxDxH 500 x 250 x 20 mm with 50 mm grid (dk article number 395030)
- 3x clamping claw (dk article number 281440) + 3x M10 base rail 105 mm with M6 screw for base plate (dk article number 322010)
- 1x M10 hexagon column set AF 17, 4x 25 mm (dk article number 322200), 4x 35 mm (dk article number 322300, 4x 50 mm (dk article number 322400) and 4x 100 mm (dk article number 304400)
- 2x quick-change mount M10/SWA8 (dk article number 329500) + 2x 90° centring tips with quick-change mount SWA8, dia. 25 mm (dk article number 303700)
- 1x SWA8 flat supporting surface straight stop (dk article number 303810) + 1x SWA8 flat supporting surface for corner stop 40 mm (dk article number 303815) + 1x SWA8 V-shaped supporting surface 40 mm (dk article number 323400) + 1x SWA8 V-shaped supporting surface 8 mm (dk article number 323500)
- 2x M10 toggle locator to compensate for mould inclines ±15° (dk article number 323000) + 2x M10 moulded support with 90° tapered tip, dia. 10 (dk article number 322600) + 2x M10 moulded support with taper radius 5 mm (dk article number 322700)
- 4x each retaining plate for M6 columns 50 mm (dk article number 353700) and 75 mm (dk article number 353800) for mounting on M10 columns, toggle locators, moulded and quick-change mounts
- 6x each column dia. 6 with M6 thread 75 mm (dk article number 368300), 125 mm (dk article number 368500) for spring compressor or as stop, with hexagon socket + 4x each spring compressor dia. 6, 50 mm (dk article number 302800), 75 mm (dk article number 302900) self-locking and individually adjustable
- 3x M8 x 30 screw, 3x M10 x 30 screw and 3x M12 x 30 screw for adjustable clamp, 3x each washer for M8, M10 and M12 screws, 2x each open-end wrench AF 13/15 and 17/19, 1x each of hex key AF 2.5 for SWA8, AF 3 for round columns, AF 5 for base rails and AF 6, 8 and 10 for adjustable clamps

Advantage:
- Quick-change system enables clamping elements to be used on different measuring machines, thus reducing costs

NEW

35200...	Ident. No.	014 ○

Prod. Gr. 3DK

Universal clamping set
for optical measuring systems

Application:
Universal clamping set for optical measuring and test equipment with quick-change plate and the necessary clamping elements for flexible and secure fixing of workpieces for optical measuring tasks.

Execution:
- 1x plate in size: 195 x 100 mm, sight glass: 160 x 72 mm, with T-grooves and M6 receiving thread (dk article number 345821)
- 1x tailstock pair incl. tips dia. 12 mm/60° with slot nuts (dk article number 349600) + 1x hollow point 90° clamping range: 2-15 mm, gap width: 1 mm, for installation in tailstock (dk article number 349720)
- 1x 90° V-support holder for horizontal and vertical mounting of V-supports, with slot nuts (dk article number 267910) + 1x 120° V-support with spring compressor, clamping range: 2-25 mm, installation on V-support holder or SWA5 connection (dk article number 267900) + 1x 120° V-support with magnetic fixture, clamping range: 2-25 mm, installation on V-support holder or SWA5 connection (dk article number 268000)
- 1x rotating/swivel mount, tip height: 23 mm, with SWA5 connection (dk article number 314900)
- 1x 8 precision small-parts chucks, internal clamping: 0-5 mm, external clamping: 5-9 mm, with SWA5 connection (dk article number 283800)
- 1x offset small-parts clamp holder, clamping width: 0-1.6 mm, clamping width: 1.5 mm, with SWA5 connection (dk article number 265700) + 1x mount for spring compressor, length: 30 mm, installation in the T-groove (dk article number 268600)
- 1x 34 mm round spring compressor for vertical clamping, installation in mount for spring compressor (dk article number 269100)
- 1x column dia. 4 mm for spring compressor with M4 thread, length: 50 mm, installation in slot nut or direct installation on measuring table (dk article number 269043) + 1x M4 slot nut for columns dia. 4 mm (dk article number 347700)
- 1x 40 mm round spring compressor for vertical clamping, installation on column dia. 4 mm for spring compressor (dk article number 269038)

NEW

35200...	Ident. No.	016 ○

Prod. Gr. 3DK

XRAY4 clamping set
for industrial computer tomography

Application:
Starter set I, ideal for measuring tasks in computer tomography.

Execution:
- 1x 3D holder for Piko clamp M6 (dk article number 440105)
- 1x XRS/XRAY4 Piko clamp with M4 mount for holder (dk article number 440100)
- 1x XRS asymmetrical moulded foam for Piko clamp S (dk article number 440120)
- 1x retaining plate for 30 mm/M4/Al columns (dk article number 353750)

NEW

Fig. Set display in an application

35200...	Ident. No.	028 ○

Prod. Gr. 3DK

CT basic set with vice
for industrial computer tomography

Application:
Starter set II, ideal for measuring tasks in computer tomography.

Execution:
- 1x basic rail 140 mm with slotted hole and SWA39 profile (dk article number 440005)
- 1x SWA39 quick-change slide adapter (dk article number 440010)
- 1x swivel unit with swivel head (dk article number 270550)
- 1x precision vice 50 mm, includes 75 mm extension (dk article number 440030)
- 1x system adapter for 50 mm vice (dk article number 440035)
- 3x XRAY1 20S straight flat clamp intermediate elements 200 (dk article number 440075)
- 6x 303030 XRS moulded foam small V-supports (dk article number 440115)

NEW

35200...	Ident. No.	032 ○

Prod. Gr. 3DK

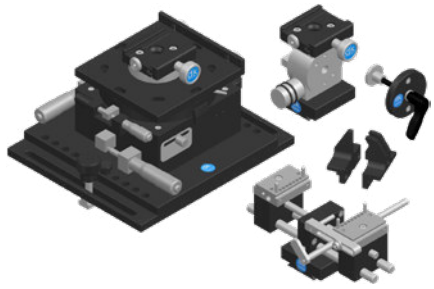
Basic set for contour and surface

for contour and surface measuring instruments

Application:
This starter set is ideal for mounting components for contour and surface measuring systems. Components can be freely positioned in three dimensions using centric clamping devices, quick-action holding clamps with swivel units and X/Y positioning tables.

Execution:
- 1x SWA39 positioning table with X/Y and 360° adjustment (dk article number 314440)
- 1x quick-action holding clamp swivel unit +90°/-55°(dk article number 314010)
- 1x clamping set for swivel unit (dk article number 314015)
- 1x precision centric clamping device 50 mm (dk article number 282150)
- 1x V-block jaws with three-point contact for centric clamping device (dk article number 306800)

NEW



35200...	Ident. No.	034 ○

Prod. Gr. 3DK

OCTOFIX SWA39 starter set with vice

for 3D scanning tasks

Application:
The OCTOFIX SWA39 starter set with vice is ideal for securing components for 3D scanning tasks

Execution:
- 1x precision vice 50 mm set (dk article number 440030)
- 4x steel parallel pins 35 mm (dk article number 282310)
- 4x carbon parallel pins 80 mm (dk article number 440040)
- 1x adjustable basic rail (dk article number 245150)
- 1x TurnStop articulated arm (dk article number 241030)
- 1x OCTOFIX frame 200 mm (dk article number 441105)
- 10x target bases size M (dk article number 441010)
- 6x M6 column for target base (dk article number 441050)

NEW

35200...	Ident. No.	036 ○

Prod. Gr. 3DK

System kit for proof of concept application developers

ModuLine set S

Application:
Starter sets for creating complex holding devices in the development sector. This allows proof of concept ideas to be produced and adjusted as required without tools until a final solution is found. These solutions can then be directly replicated in a modular system in the real-life field application.

Execution:
- 4x ModuLine ML-20-6 ball joint (dk article number 241211)
- 8x ModuLine ML-20-50 extension (dk article number 245800)
- 2x ModuLine TurnStop ML-100 swivel joint (dk article number 241200)
- 1x ModuLine ML-20 function head (dk article number 245700)

NEW

35200...	Ident. No.	038 ○

Prod. Gr. 3DK

ATORN Miniature precision vice

Application:
For tightening and aligning small components. The prism jaw also allows the mounting of rotationally symmetrical parts.

Execution:
- including stainless steel, hardened series clamping jaws (prism + smooth)
- including 1 pair of removable clamping jaws made of plastic POM (prism + smooth)

Ident. No. 710

Size		1	2	3
Jaws width (mm)		15	25	35
Clamping width (mm)		14	23	35
Clamping depth (mm)		8	15	35
Material		Aluminium	Aluminium	Aluminium
Surface		Anodised	Anodised	Anodised
Jaw design		Hardened | Stainless | Smooth | With prism	Hardened | Stainless | Smooth | With prism	Hardened | Stainless | Smooth | With prism
Length x width x height		50 x 15 x 15 mm	75 x 25 x 25 mm	100 x 35 x 35 mm
Weight (kg)		0.074	0.152	0.4
Included in delivery		incl. hardened | rust-free jaws (smooth and prism) + 1 pair of removable plastic jaws	incl. hardened | rust-free jaws (smooth and prism) + 1 pair of removable plastic jaws	incl. hardened | rust-free jaws (smooth and prism)
47105...	Ident. No.	700 ●	705 ●	710 ●

Prod. Gr. 4CA

ATORN X/Y cross table
For ATORN mini precision vice

Application:
Ideal for precise positioning tasks using two analogue micrometers. Optional jaw sets also allow for the inclusion of the ATORN precision vices. Smaller components can be clamped and positioned optimally. Particularly suitable for measuring roughness, contour, and optical measuring technology.

Execution:
- Optional accessories: Clamping jaw set 47105765 size 1 (47105770 size 2) for precision vice 47105700 size 1 (47105705 size 2)

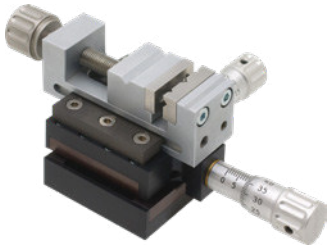


Fig.: X/Y cross table incl. mini precision vice size 2

Ref.: 765 clamping jaw set for ATORN mini precision vice size 1

Ref.: 770 clamping jaw set for ATORN mini precision vice size 2

Design				With fastening threads on both sides
X travelling distance (mm)				10
Y travelling distance (mm)				10
Alignment tolerance				5 µm
Length x width x height				50 x 50 x 27 mm
X/Y cross table	47105...		Ident. No.	760 ○
Cross-table + accessories	47105...	Jaws size 1	Ident. No.	765 ●
	47105...	Jaws size 2	Ident. No.	770 ○

Prod. Gr. 4CA

ATORN Vice stand
for ATORN mini vice

Application:
Vices form the basis for installing the optional ATORN part apparatus or ATORN mini precision vices. In this combination, perfect for smaller components and shafts you want to measure.

Notes:
Please note: ATORN mini precision vices can be attached using carrier plates on the vice.

Technical data:
- Size: 1-2
- Standing area diameter: 70 mm
- Material: Steel / steel
- Surface: Burnished
- Weight: 0.428 kg

Vice stand	47105...		Ident. No.	745 ●
Carrier plates	47105...	Carrier plate size 1	Ident. No.	720 ●
	47105...	Carrier plate size 2	Ident. No.	725 ●

Dividers	47105...	Part apparatus Mini	Ident. No.	735 ○
	47105...	Part apparatus Midi	Ident. No.	740 ○
3-point clamping plates for vice stand	47105...		Ident. No.	755 ○

Prod. Gr. 4CA

ATORN Carrier plate
For ATORN vice stand

Application:
ATORN support plate made of aluminium for mounting a miniature vice on a vice stand.

Technical data:
- Material: Aluminium
- Surface: Plain

Size			1	2	3
Length x width x height			52 x 8 x 17 mm	77 x 8 x 27 mm	102 x 8 x 37 mm
Weight (kg)			0.02	0.048	0.082
47105...	Carrier plate size 1	Ident. No.	720 ●	-	-
47105...	Carrier plate size 2	Ident. No.	-	725 ●	-
47105...	Carrier plate size 3	Ident. No.	-	-	730 ○

Prod. Gr. 4CA

Ident. No. 725

Ident. No. 730
Ref.: 730 carrier plate for vice stand size 3

ATORN Clamping sets
in plastic case

Execution:
- **Ident. No. 850, 860–865:**
  - 1x mini vice size 1
  - 1x clamping jaw set for mini vice size 1
- **Ident. No. 850–855, 865:**
  - 1x mini vice size 2
  - 1x clamping jaw set for mini vice size 2
- **Ident. No. 855–865:**
  - 1x mini vice size 3
  - 1x clamping jaw set for mini vice size 3
- **Ident. No. 870:**
  - 1 each of mini vice size 1, size 2 and size 3
  - 1 each of clamping jaw set for mini vice size 1, size 2 and size 3
  - 2x prisms with clamping bracket
  - 2x dividing attachments 0.4-3.5mm and 1.2-6.0mm
  - 3x carrier plates for vice stands
  - 2x vice stands

Ident. No. 850

Ident. No. 855

Ident. No. 860

Ident. No. 865

Ident. No. 870

47105...	Precision mini vice set size 1 + size 2	Ident. No.	850 ○
47105...	Precision mini vice set size 2 + size 3	Ident. No.	855 ○
47105...	Precision mini vice set size 1 + size 3	Ident. No.	860 ○
47105...	Precision mini vice set size 1 size 2 and size 3	Ident. No.	865 ○
47105...	Precision mini vice set size 1 size 2 and size 3 + accessories	Ident. No.	870 ○

Prod. Gr. 4CA

Duplex lapping and inspection plate (DIN 876-2)

Application:
Basis for lapping and control tasks

Execution:
- manufactured from dense, aged special cast iron
- both measuring surfaces grade 1, finely ground
- Lapping surface, finely ground and square grid 20x20 mm
- Inspection surface, even, finely ground

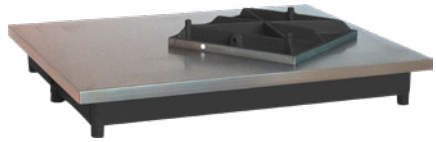
Length x width x height		360 x 260 x 65 mm
DIN		876-2
Colour		Iron grey RAL 7011
35350...	Ident. No.	280 ●+

Prod. Gr. 342

Marking and surface plates

Application:
Basis for marking, checking and spotting tasks

Execution:
- manufactured from dense, aged special cast iron, in ribbed structure
- Measuring surfaces, very finely ground
- DIN 876, grade 1



Length x width x height		300 x 300 x 85 mm	400 x 300 x 85 mm	500 x 400 x 95 mm	600 x 500 x 100 mm	800 x 500 x 100 mm	1000 x 600 x 150 mm
Colour		Iron grey RAL 7011	Iron grey RAL 7011	Iron grey RAL 7011	Iron grey RAL 7011	Iron grey RAL 7011	Iron grey RAL 7011
35350...	Ident. No.	300 ○	305 ●	310 ○+	315 ○+	320 ○+	325 ○+

Prod. Gr. 342

Accessories for		35350 310	35350 315	35350 320	35350 325
35350... Underframe, open for marking and surface plate, suitable for plate size 500x400 mm	Ident. No.	400 ○	-	-	-
35350... Underframe, open for marking and surface plate, suitable for plate size 600x500 mm	Ident. No.	-	405 ○+	-	-
35350... Underframe, open for marking and surface plate, suitable for plate size 800x500 mm	Ident. No.	-	-	410 ○+	-
35350... Underframe, open for marking and surface plate, suitable for plate size 1,000x600 mm	Ident. No.	-	-	-	415 ○+

Underframe, open

for marking and surface plate

Application:
For use in combination with marking and surface plates

Execution:
- made of sturdy square pipe, painted
- with adjustable mounts
- Working height approx. 900 mm, adjustable

35350...	suitable for plate size 500x400 mm	Ident. No.	400 ○
35350...	suitable for plate size 600x500 mm	Ident. No.	405 ○+
35350...	suitable for plate size 800x500 mm	Ident. No.	410 ○+
35350...	suitable for plate size 1,000x600 mm	Ident. No.	415 ○+

Prod. Gr. 342

ATORN Measuring and control plates

Accuracy 0

Application:
For use in production and measuring as a basis for precise measuring tasks, e.g. height measuring devices

Execution:
- High-strength hard stone with dense structure, fine pores and high level of homogeneity
- Measuring surface with finest diamond-lapped finish
- Outside edges finely ground
- Edges chamfered for protection against damage
- Processing and positioning is performed at specific points
- **Ident. No. 040–063:** For direct mounting on table/workbench
- **Ident. No. 100, 120:** Section tube base frame
- **Ident. No. 105, 125:**
  - Floor unit with 3 fully extending drawers
  - Load-bearing capacity per drawer approx. 100 kg
  - Drawer height 120, 150 and 240 mm

Advantage:
- Distortion-proof
- Low thermal conductivity

Delivery:
Traceable works calibration certificate. DAkkS calibration certificate deliverable on request.

Ident. No. 040–063

Ident. No. 100, 120

Ident. No. 105, 125

		Accuracy class	0	
Length x width x thickness	Weight (kg)	Flatness tolerance (µm)	35370... Ident. No.	
400 x 400 x 50 mm	25	6	040	●+
630 x 400 x 70 mm	53	7	063	○+
1000 x 630 x 100 mm	203	8	100	○+
1200 x 800 x 160 mm	495	9	120	○+
1000 x 630 x 100 mm	330	8	105	○+
1200 x 800 x 160 mm	640	9	125	○+

Prod. Gr. 340

Evenness tolerances for the JFA measuring and control plates no. 35444 - 35466

Length x width x thickness	in mm	500 x 400 x 100	600 x 500 x 120	800 x 600 x 140	1000 x 800 x 160	1200 x 800 x 190	1500 x 1000 x 220	2000 x 1000 x 250
planarity in accordance with DIN 876, accuracy level 1	µm	15	16	18	20	22	25	30
planarity in accordance with DIN 876, accuracy level 0	µm	6	6	7	8	8	10	12
planarity in accordance with DIN 876, accuracy level 00	µm	3	3	3,5	4	4	5	6
planarity in accordance with JFA accuracy level LAB	µm	1	1	2	2	2	2	2

Measuring and control plates, more precise than DIN 876

Made from natural South African hard stone — Gabbro Impala

Application:
Ideal for use as a base for 1D/2D height measuring devices. Optionally available with T guide and clamping grooves or with thread inserts for a multitude of other measuring tasks requiring high basic accuracy.

Execution:
- untreated, not coloured, waxed or oiled
- non-rusting, alkaline, anti-magnetic
- optimum geometric dimensional stability
- Outer edges finely machined
- Edges chamfered for protection against damage
- underside with steel ball inserts, for statically correct storage on table bearings, individual supports and underframes
- Calibration certificate included in the scope of delivery. measurement results are based on national standards
- DAkkS calibration certificate available on request

- **No. 35444:** LAB accuracy: surface finely ground and lapped to maximum fineness
- **No. 35461:** DIN 876-1: Surface finely ground and lapped
- **No. 35462:** DIN 876-0: Surface particularly finely ground and lapped
- **No. 35466:** DIN 876-00: Surface finely ground and lapped

Advantage:
- carefully selected natural hard stone - Gabbro Impala - with superb properties
- naturally aged, for maximum dimensional stability

Delivery:
Calibration certificate.

Notes:
Measuring and control plates with other dimensions and accuracies upon request.

No. 35462 120

Hard stone plate without underframe

		Accuracy class	LAB		I		0		00	
Length x width x thickness	Weight (kg)		35444... Ident. No.		35461... Ident. No.		35462... Ident. No.		35466... Ident. No.	
500 x 400 x 100 mm	60		050	○+	050	○+	050	○+	050	○+
600 x 500 x 120 mm	110		060	○+	060	●+	060	○+	060	○+
800 x 600 x 140 mm	205		080	○+	080	●+	080	○+	080	○+
1000 x 800 x 160 mm	385		120	○+	108	○+	108	○+	108	○+
1200 x 800 x 190 mm	550		150	○+	120	○+	120	○+	120	○+
1500 x 1000 x 220 mm	990		180	○+	150	○+	150	○+	150	○+
2000 x 1000 x 250 mm	1500		210	○+	200	○+	200	○+	200	○+

Prod. Gr. 341
See info block for flatness tolerance

Base frame for measuring and control plates

In cabinet form

Application:
Sturdy underframe in cabinet form, for the secure placement of hard stone bases in production facilities and measuring rooms. The support and bearing fittings supplied allow simple and neat alignment of the hard stone plate using fine threads.

Execution:
- design for base length 600 or 800 mm with one storage compartment
- design for base length from 1000 mm with one storage compartment and one drawer
- steel support and bearing fittings with adjusting thread
- working height approx. 850 mm
- lockable hinged doors

Notes:
underframe with auto-levelling spring elements and/or vibration-damping spring elements deliverable upon request

Ident. No. 150
Fig. base frame in cabinet form with no measuring plate

35456...	For plate length 600 mm	Ident. No.	060 ○+
35456...	For plate length 800 mm	Ident. No.	080 ○+
35456...	For plate length 1000 mm	Ident. No.	120 ○+
35456...	For plate length 1200 mm	Ident. No.	150 ○+
35456...	For plate length 1500 mm	Ident. No.	180 ○+
35456...	For plate length 2000 mm	Ident. No.	210 ○+

Prod. Gr. 341

Base frame for measuring and control plates

Open design

Application:
Sturdy underframe with an open design, for the secure placement of hard stone bases in production facilities and measuring rooms. The support and bearing fittings supplied allow simple and neat alignment of the hard stone plate using fine threads.

Execution:
- steel support and bearing fittings with adjusting thread
- working height approx. 850 mm

Notes:
underframe with auto-levelling spring elements and/or vibration-damping spring elements deliverable upon request

Fig. open base frame with no measuring plate

35463...	For plate length 600 mm	Ident. No.	060 ●+
35463...	For plate length 800 mm	Ident. No.	080 ○+
35463...	For plate length 1000 mm	Ident. No.	108 ○+
35463...	For plate length 1200 mm	Ident. No.	120 ○+
35463...	For plate length 1500 mm	Ident. No.	150 ○+
35463...	For plate length 2000 mm	Ident. No.	200 ○+

Prod. Gr. 341

Table bearings for measuring and control plates

Application:
For positioning and installing hard stone plates on workbenches.

Notes:
The ball inserts are not included in the scope of delivery. These are supplied pre-assembled with the JfA hard stone plate.

Technical data:
- Number of pieces: 5 PCS

	For table top length 500-600 mm		For table top length 800–1200 mm	
Mount height (mm)	35359... Ident. No.		35359... Ident. No.	
75	020	●	-	-
125	-	-	030	○

Prod. Gr. 341

Ident. No. 020

Ident. No. 030

Small concentricity testers

Application:
For measuring the axial and radial run-out precision of shafts.

Execution:
- 2 movable tailstocks and 1 measuring stand for holding a dial gauge or precision pointer
- 1 tailstock with fixed tip and 1 tailstock with movable tip, adjustable using hand lever (sleeve and centre point made from one piece)
- Evenness tolerance of measuring surfaces in line with DIN 876-2. Tailstocks with 75 mm tip height have vee block surfaces
- Location hole for a dial gauge or precision pointer 8 H 7

Point height (mm)		50	75	100	150
Max. point width (mm)		200	350	450	450
Base plate length x base plate width		350 x 110 mm	500 x 110 mm	700 x 180 mm	700 x 180 mm
Groove width (mm)		10	10	12	12
Weight (kg)		8	12	35	38
35480...	Ident. No.	005 ●	010 ●	020 ●+	030 ○+

Prod. Gr. 308

Roller blocks for small concentricity testers

Application:
For use in HP small concentricity devices. Roller blocks with ball bearings are placed on the base plate instead of the tailstocks.

Execution:
- For grooves with tolerance H7
- With clamping lever for clamping

Delivery:
In pairs

Notes:
The height refers to the axis centre of a mounted shank with 10 mm diameter

Technical data:
- Concentricity tolerance: 0.005 mm

Height (mm)		65	100
Min./max. workpiece Ø		3-30 mm	4-60 mm
Groove width (mm)		10	12
35482...	Ident. No.	052 ●	055 ●

Prod. Gr. 308

Vee blocks for small concentricity testers

Application:
For use in HP small concentricity testing devices. Vee blocks are placed on the base plate instead of the tailstocks.

Execution:
- For grooves with tolerance H7
- With clamping lever for clamping

Delivery:
In pairs

Notes:
The height refers to the axis centre of a mounted shank with 10 mm diameter

Height (mm)		65	100
Min./max. workpiece Ø		5-25 mm	5-50 mm
Groove width (mm)		10	12
35482...	Ident. No.	042 ○	045 ○

Prod. Gr. 308

Concentricity tester

Application:
For measuring the axial and radial run-out precision of shafts.

Execution:
- Clamping table made from natural hard stone, flatness tolerance in line with DIN 876, precision 1. Adjustable 3-point table bearing rest with steel ball inserts.
- Tailstocks in high-quality, aged cast iron, right tailstock with movable sleeve (stroke 20 mm), adjusted using hand lever. Left tailstock with fixed sleeve. Finely ground surfaces.
- Centring points replaceable thanks to MT 2 socket with standard pressure fixture

Delivery:
1 clamping table, 1 measuring stand, 1 pair of tailstocks with a 60° MT 2 centring point

Technical data:
- Point height: 200 mm
- Max. point width: 650 mm
- Base plate length x base plate width: 1100 x 180 mm
- Groove width: 14 mm
- Weight: 135 kg

35485...	Ident. No.	100 ○+

Prod. Gr. 308

Concentricity test bench, without centre point

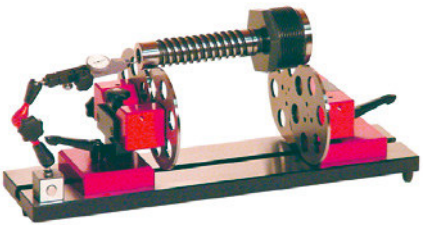
with disc brackets, height-adjustable

Application:
For rational testing of outer and inner surfaces of rotationally symmetrical parts during production and in measuring rooms.

Execution:
- Both disc brackets can be moved on the base plate
- Fixed in the required position using a lever
- To compensate for different diameters in the parts being tested, a height adjustment of max. 30 mm can be made to one bracket

Advantage:
- Play-free roller discs bearings guarantee concentricity tolerances of < 5 µm
- Workpieces can be easily rotated without force

Delivery:
Without measuring stand, without dial gauge



Min. workpiece Ø (mm)		2
Max. Ø of workpiece (mm)		240
Max. workpiece weight (kg)		25
Concentricity tolerance (µm)		5
Groove width (mm)		14
35490...	Ident. No.	050 ○+ 100 ○+

Prod. Gr. 378

Mahr PRECIMAR SM 60 and SM 60 V-5N small lengths measuring bench

Application:
Easy to operate small lengths test bench for quick, precise exterior measurements of workpieces.

Execution:
- 60 mm support table, continuously variable height adjustment
- Mount diameter for measuring instruments: 8 mm
- **Ident. No. 010:**
  - without spindle bore
  - Adjustable and fixable anvil and moving sleeve
  - Measuring force 1 N + measuring force of the measuring system
- **Ident. No. 020:**
  - Spindle bore 3.5 x 15.5 mm for interchangeable gauge slides
  - adjustable and fixable anvil and moving sleeve
  - Application scope of 60 mm with a measuring range of 25 mm
  - Measuring force 5 N + measuring force of the measuring system

Advantage:
- freely selectable measuring equipment, e.g. digital dial gauge, length measuring probe
- **Ident. No. 010:**
  - Quick adaptation to new workpieces
  - Built-in coupling to protect measuring equipment in use
- **Ident. No. 020:**
  - quick adaptation to new workpieces
  - built-in coupling to protect measuring equipment in use
  - flexible in application through use of different gauge slides

Delivery:
Ident. No. 020: incl. flat carbide gauge slides dia. 3.5 mm

Ident. No. 020

Fig.: with dial gauge MarCator 1086 R

35165...	Ident. No.	010 ○ 020 ○

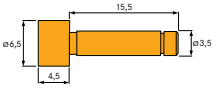
Prod. Gr. 306

Mahr Gauge slides for PRECIMAR SM 60 V-5N

Application:
For use in Micromar EWR/EWRi-V and Precimar 60-V measuring instruments

Execution:
- Shank dia. 3.5 x 15.5 mm

Notes:
Supplied individually for assembly as required



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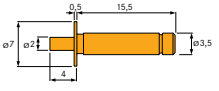

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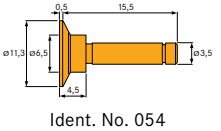

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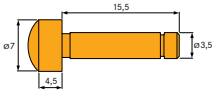

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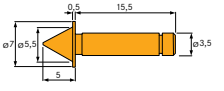
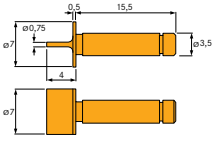


Ident. No. 058



Ident. No. 060

Measuring arrangement		Flat	Deposed	Plate	Spherical (SR5)	Lace	Cutting edge
Type description		40 Ef	40 Ea	40 Et	40 Er	40 Ep	40 Es
35165...	Ident. No.	050 ○	052 ●	054 ●	056 ●	058 ●	060 ●

Prod. Gr. 306

Mitutoyo 1D height measuring instrument QM-Height

manual measuring slide movement using handwheel

Application:
For measuring external, internal, height, depth and distance dimensions and inner and outer diameters.

Execution:
- Manual measuring slide movement using handwheel
- Clear control panel with high contrast display
- ABSOLUTE electronic linear scale
- **Ident. No. 010–020:** Without air cushion system
- **Ident. No. 030–040:** With air cushion system

Advantage:
- High-precision ABSOLUTE linear scale for position recording
- Automatic running of previously “learnt” parts programmes
- GO/±NG assessment after setting the upper and lower tolerances.
- Frequently used functions are immediately accessed at the touch of a button
- Long service life

Delivery:
Includes dia. 5mm ball probe, calibration block, 4 x batteries LR6 (AA) 1.5 V

Notes:
Relevant accessories are linked directly to each article on the online shop www.hahn-kolb.de.

Ident. No. 030

Length measuring range (mm)		350	600	350	600
Min./max. application area with standard gauge slide carrier		0-465 mm	0-715 mm	0-465 mm	0-715 mm
Digit increment (can be pre-selected)		0.001 mm | 0.005 mm	0.001 mm | 0.005 mm	0.001 mm | 0.005 mm	0.001 mm | 0.005 mm
Perpendicularity tolerance (front) (µm)		7	12	7	12
With air cushion equipment		No	No	Yes	Yes
35173...	Ident. No.	**010** ○+	**020** ○+	**030** ○+	**040** ○+

Prod. Gr. 3MB

Mitutoyo Linear Height LH-600F/LH-600FG height measuring instruments

with motorised measuring slide

Application:
For measuring external, internal, height, depth, step and distance dimensions on geometric elements with flat, plane-parallel and circular cylindrical surfaces. Measurement of diameters using automatic recording of the reversal point of bores and shafts. Recording of perpendicularity via connectable digital dial gauge

Execution:
- Motorised measuring slide movement
- 8.4 inch hybrid control panel with backlit keypad and colour touchscreen display
- Control panel can be tilted 0-40° and rotated -30-180°
- Bidirectional Digimatic S1 for wireless data transfer
- RS-232C connector enables connection to a receipt printer
- USB type B connections for PC and type A connections for flash drive

Advantage:
- Up to 30,000 measurement results per parts programme (max. 50 programmes)
- Preventive maintenance function e.g. status of the scale, calibration status notification
- Motorised measuring slide, can be moved 5-40 mm/s in 7 stages
- Adjustable air cushion for easy movement and for scanning measurements
- Very high level of accuracy ±(1.1 + 0.6 L/600) µm, L (in mm)

Ident. No. 115

Length measuring range (mm)			600
Min./max. application area with standard gauge slide carrier			0-972 mm
Digit increment (can be pre-selected)			0.0001 mm | 0.001 mm | 0.01 mm | 0.1 mm
Height gauge error limit			1,1 + 0,6L/ 600) µm (L in mm)
Repeat accuracy of drill hole (µm)			0.9
Repetition accuracy, level (µm)			0.4
Perpendicularity tolerance (front) (µm)			5
Measurement force (N)			1
Data transmission type			DIGIMATIC
With air cushion equipment			Yes
35173...	No handle	Ident. No.	**105** ○+
35173...	With handle	Ident. No.	**115** ●+

Prod. Gr. 3MB

MAHR 816 CLT height measuring instrument

with motorised sampling

Application:
For measuring external, internal, height, depth and distance dimensions, as well as diameters and reversal points in bores and shafts. Also allows dynamic measurements.

Execution:
- 10 in control panel, tilting
- large function keys
- Data transfer: MarConnect (USB or wireless)
- Logging: PDF, BLE printer
- Measurement program creation: yes

Advantage:
- optical incremental measuring system with double reading head for outstanding precision
- dynamic probe system for high repeatability
- Air cushioning system for easy, smooth movement
- simple measuring processes due to the motorised measuring slide
- Temperature compensation via the integrated temperature sensor

Delivery:
Height measuring device including operating and display element, carrier 817 h1, gauge slide K6/51, setting block 817 eb, USB cable, operating instructions, charger, USB cable, protective cover, calibration certificate

Ident. No. 036

Length measuring range (mm)		350	600
Min./max. application area with standard gauge slide carrier		170-520 mm	170-770 mm
Digit increment (can be pre-selected)		0.0001 mm | 0.0005 mm | 0.001 mm | 0.005 mm | 0.01 mm	0.0001 mm | 0.0005 mm | 0.001 mm | 0.005 mm | 0.01 mm
Height gauge error limit		2 + L/400 (L in mm)	2 + L/400 (L in mm)
Repeat accuracy of drill hole (µm)		2	2
Repetition accuracy, level (µm)		1	1
Perpendicularity tolerance (front) (µm)		5	8
Min./max. measurement force		0.8-1.2 N	0.8-1.2 N
Data transmission type		USB | WLAN	USB | WLAN
With air cushion equipment		Yes	Yes
35131...	Ident. No.	036 ●+	061 ●+

Prod. Gr. 306

Digimar 817 CLT height measuring instrument

with motorised measuring slide

Application:
For measuring external, internal, height, depth and distance dimensions, as well as diameters and reversal points in bores and shafts. In addition, for a variety of measuring functions in two coordinate directions, such as recording dynamic straightness and perpendicularity deviations etc.

Execution:
- 10-inch touch control panel for simple, convenient operation via large operating keys
- Integrated dynamic thumbwheel for fast and precise positioning
- Ergonomic handles on both sides with integrated air bearing button for precise and effortless movement of the device on the measuring plate

Advantage:
- Fast and reliable execution of measurements and calculation functions
- Logs can be saved directly to the device as a PDF
- Wireless transmission of measured value lists to a Bluetooth(R) printer
- Transfers measured values via radio or USB using the proven and reliable MarConnect interface

Delivery:
Height measuring device including operating and display element, carrier 817 h1, gauge slide K6/51, setting block 817 eb, USB cable, operating instructions, charger, protective cover, calibration certificate

Ident. No. 061

Length measuring range (mm)		350	600	1000
Height gauge error limit		1.8 + L/600 (L in mm)	1.8 + L/600 (L in mm)	1.8 + L/600 (L in mm)
Repeat accuracy of drill hole (µm)		1	1	1
Repetition accuracy, level (µm)		0.5	0.5	0.5
Perpendicularity tolerance (front) (µm)		5	6	10
Data transmission type		USB/Bluetooth	USB/Bluetooth	USB/Bluetooth
35130...	Ident. No.	036 ●+	061 ●+	101 ○+

Prod. Gr. 306

1D height measuring instrument TESA-HITE magna

IP55 protected measuring system for harsh workshop conditions, without air cushion activation

Application:

For measuring external, internal, height, depth and distance measurements, parallel deviations and inside and outside diameter using the Quickcentre dynamic function.

Execution:

- manual measuring slide movement using handwheel
- Large control panel 92x121mm with keypad and colour display
- Control panel IP65 splash-proof
- Integrated Li-ion battery 12.8 V 3 Ah, rechargeable
- Including SCS calibration certificate
- Measurement system IP55 protection against contact, dust and water

Advantage:

- Contextual help provides specific information and supports the user in performing measuring tasks
- Display of measurement result provides clarity with optimal readability (digit size 10x21mm)
- Quickcentre dynamic function for effectively determining dead centre points
- flexible data management, allowing for easy data export
- Best possible workshop compatibility thanks to IP55-protected measurement system

Length measuring range (mm)			415	715
Min./max. application area with standard gauge slide carrier			0-570 mm	0-870 mm
Digit increment (can be pre-selected)			0.001 mm | 0.005 mm | 0.01 mm	0.001 mm | 0.005 mm | 0.01 mm
Height gauge error limit			< 8 µm	< 8 µm
Min./max. measurement force			1.0-2 N	1.0-2 N
Data transmission type			TLC	TLC
With air cushion equipment			No	No
35147...	TESA-HITE MAGNA	Ident. No.	**100** ●+	**110** ●+

Prod. Gr. 365

Ident. No. 110

TESA-HITE 1D height measuring instrument

with increased accuracy, with air cushion activation

Application:

For measuring external, internal, height, depth and distance measurements, parallel deviations and inside and outside diameter using the Quickcentre dynamic function.

Execution:

- manual measuring slide movement using handwheel
- Large control panel 92x121mm with keypad and colour display
- Control panel IP65 splash-proof
- Integrated Li-ion battery 12.8 V 3 Ah, rechargeable
- Including SCS calibration certificate
- Air cushion activation for easy movement

Advantage:

- Contextual help provides specific information and supports the user in performing measuring tasks
- Display of measurement result provides clarity with optimal readability (digit size 10x21mm)
- Quickcentre dynamic function for effectively determining dead centre points
- flexible data management, allowing for easy data export
- Air cushion system for easy movement on the measuring plate (at the push of a button)

Notes:

Optional accessories also enable testing of perpendicularity deviations.

Length measuring range (mm)			415	715
Min./max. application area with standard gauge slide carrier			0-570 mm	0-870 mm
Digit increment (can be pre-selected)			0.001 mm | 0.005 mm | 0.01 mm	0.001 mm | 0.005 mm | 0.01 mm
Height gauge error limit			(2.5 + 4 x L) µm (L in m)	(2.5 + 4 x L) µm (L in m)
Perpendicularity tolerance (front) (µm)			9	13
Min./max. measurement force			1.0-2 N	1.0-2 N
Data transmission type			TLC	TLC
With air cushion equipment			Yes	Yes
35147...	TESA-HITE	Ident. No.	**120** ●+	**130** ●+

Prod. Gr. 365

Ident. No. 130

MICRO-HITE 2D height measuring instrument

manual measuring slide movement using handwheel

Application:
For measuring external, internal, height, depth and distance dimensions, drill holes and shaft diameters. The 2D function means that it can also be used to determine e.g. pitch circles and distances in 2D coordinate directions. Dynamic measuring processes with max., min. and max.-min. memory functions. Optional via TESA IG-13 measuring probe for perpendicularity, straightness and parallelism deviations.

Execution:
- **Ident. No. 030, 060, 090:** manual measuring slide movement using handwheel
- **Ident. No. 035, 065, 095:** manual measuring slide movement using handwheel and fine adjustment

Advantage:
- hybrid control panel allows “classic” operation via keyboard, as well as “modern” operation via touchscreen
- New Quickcenter technology simplifies the task of measuring bore holes and shaft diameters
- intelligent context menu supports the process by providing specific information and supporting the user while performing measuring tasks
- the measurement result display provides clear organisation of large amounts of information
- Air cushion activation for ease-of-movement

Delivery:
battery cartridge, charger (mains power supply adapter), standard gauge slide carrier, standard gauge slide with carbide ball ⌀ 5 mm, reference piece, SCS calibration certificate (DAkkS standard).

Ident. No. 060

Length measuring range (mm)			365	615	920
Min./max. application area with standard gauge slide carrier			0-520 mm	0-770 mm	0-1075 mm
Digit increment (can be pre-selected)			0.1 mm | 0.001 mm | 0.0001 mm	0.1 mm | 0.001 mm | 0.0001 mm	0.1 mm | 0.001 mm | 0.0001 mm
Height gauge error limit			2 + 2L/1000 (L in mm)	2 + 2L/1000 (L in mm)	2 + 2L/1000 (L in mm)
Repeat accuracy of drill hole (µm)			1	1	1
Repetition accuracy, level (µm)			1	1	1
Perpendicularity tolerance (front) (µm)			7	9	11
Measurement force (N)			1.6	1.6	1.6
Data transmission type			TLC	TLC	TLC
With air cushion equipment			Yes	Yes	Yes
35170...	MICRO-HITE	Ident. No.	030 ○+	060 ●+	090 ○+
35170...	MICRO-HITE F	Ident. No.	035 ○+	065 ○+	095 ○+

Prod. Gr. 365

MICRO-HITE plus M 2D height measuring instrument

motorised measuring slide movement with wheel

Application:
For measuring external, internal, height, depth and distance dimensions, drill holes and shaft diameters. The 2D function means that it can also be used to determine e.g. pitch circles and distances in 2D coordinate directions. Dynamic measuring processes with max., min. and max.-min. memory functions. Optional via TESA IG-13 measuring probe for perpendicularity, straightness and parallelism deviations.

Execution:
- Motorised measuring slide control with wheel

Advantage:
- Hybrid control panel allows “classic” operation via keyboard, as well as “modern” operation via touchscreen
- New Quickcenter technology simplifies the task of measuring bore holes and shaft diameters
- Intelligent context menu supports the process by providing specific information and supporting the user while performing measuring tasks
- The measurement result display provides clear organisation of large amounts of information
- Air cushion activation for ease-of-movement

Delivery:
battery cartridge, charger (mains power supply adapter), standard gauge slide carrier, standard gauge slide with carbide ball ⌀ 5 mm, reference piece, SCS calibration certificate (DAkkS standard).

Ident. No. 160

Length measuring range (mm)			365	615	920
Min./max. application area with standard gauge slide carrier			0-520 mm	0-770 mm	0-1075 mm
Digit increment (can be pre-selected)			0.1 mm | 0.001 mm | 0.0001 mm	0.1 mm | 0.001 mm | 0.0001 mm	0.1 mm | 0.001 mm | 0.0001 mm
Height gauge error limit			1,8 + 2L/1000 (L in mm)	1,8 + 2L/1000 (L in mm)	1,8 + 2L/1000 (L in mm)
Repeat accuracy of drill hole (µm)			1	1	1
Repetition accuracy, level (µm)			0.5	0.5	0.5
Perpendicularity tolerance (front) (µm)			7	9	11
Measurement force (N)			1.6	1.6	1.6
Data transmission type			TLC	TLC	TLC
With air cushion equipment			Yes	Yes	Yes
35170...	MICRO-HITE +M	Ident. No.	130 ●+	160 ●+	190 ○+

Prod. Gr. 365

TESA µ-HITE 2D height measuring instrument

Application:
to measure external, internal, height, depth, step and distance dimensions, hole and shaft diameter, as well as for parallel, radial and axial runout tolerances. ideal for measuring small workpieces in production

Execution:
- modern hybrid control panel with touchscreen and keypad
- memory functions max., min., max-min. (for dynamic measurements)
- built-in temperature sensor
- data export using USB memory stick, TLC interface and via radio with optional accessories

Advantage:
- smart operator concept
- automatic detection of reversal point at holes and shafts
- motorised measuring head for safe and quick probing
- reset to zero at any position

Length measuring range (mm)		100
Min./max. application area with standard gauge slide carrier		0-160 mm
Digit increment (can be pre-selected)		0.0001 mm | 0.001 mm
Height gauge error limit		1 µm axial/2 µm radial
Min./max. measurement force		0.63-1.0 N
35175...	Ident. No.	020 ○

Prod. Gr. 365

Perpendicularity measuring device

Micro-Square in set with TWIN T10 display and GT31 lever gauge probe

Application:
Fast and efficient perpendicularity measurement

Execution:
- Measuring column made of high-quality hard stone

Advantage:
- High-precision sliding guide enables a high degree of system accuracy
- Individual sliding properties thanks to adjustable contact pressure
- Stable base ensures excellent stability
- Suitable for use in workshops and very simple to operate
- Not dependent on connection to air or electricity

Delivery:
TESA MICRO-SQUARE, TWIN-T10 display, GT31 electronic lever gauge probe, key, SCS calibration certificate

Ident. No. 105

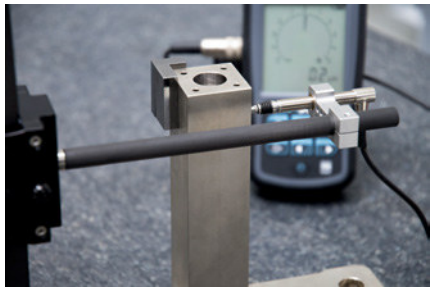
Type		Micro-Square 350	Micro-Square 600
Z travelling distance (mm)		360	610
Perpendicularity tolerance (front) (µm)		1.5	2
Length x width x height		140 x 150 x 450 mm	140 x 150 x 700 mm
Weight (kg)		5.8	7.7
Repeat accuracy (µm)		0.5	0.5
35175...	Ident. No.	100 ○	105 ○

Prod. Gr. 366

Accessories for TESA Micro-Square perpendicularity measuring device

Application:
Ident. No. 110: Ideal for expanding the range of applications. In combination with a measuring probe, the measuring probe holder e.g. allows for the measurement of surfaceson the opposite side or on the rear.

Execution:
- **Ident. No. 110:** Length: 200 mm
- **Ident. No. 115:**
  - Diameter 3 mm x 3.5 mm
  - Length: 32 mm
- **Ident. No. 120:**
  - Including hold-down clamp
  - Flatness defect =< 0.5 µm



Ident. No. 110

Ident. No. 115

Ident. No. 120

Weight (kg)			-	2
35175...	TESA probe holder, length 200 mm	Ident. No.	110 ○	-
35175...	TESA cylindrical probe insert for GT31	Ident. No.	115 ○	-
35175...	TESA measuring stand for angular measurements	Ident. No.	-	120 ○

35175 110 = Prod. Gr. 362
35175 115 = Prod. Gr. 362
35175 120 = Prod. Gr. 366

Accessories for height measuring instrument TESA MICRO-HITE and TESA MICRO-HITE plus M

from model year 2017 - 35170 030/060/090/035/065/095/130/160/190

Application:
Ident. No. 095: For determining straightness and squareness deviations.

Notes:
Ident. No. 536: Please note: To charge the battery externally via the integrated charging socket, the charging power supply 35172539 is required.

Ident. No. 095

Ident. No. 536

Ident. No. 539

Ident. No. 680

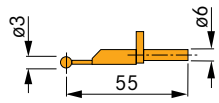
Ident. No. 690

35172...	electronic measuring probe FT 13 for TESA Micro-Hite from model year 2017	Ident. No.	**095** ●
35172...	Adapter cable for affixing the IG-13 measuring probe model year up to 2016 (35172090) to TESA Micro-Hite from model year 2017	Ident. No.	**092** ○
35172...	thermal printer for height measuring devices TESA MICRO-HITE from model year 2017	Ident. No.	**680** ○
35172...	printing paper suitable for thermal printer TESA MICRO-HITE from model year 2017	Ident. No.	**690** ●
35172...	Replacement battery with charging socket for TESA Micro-Hite 350/600/900 from model year 2017	Ident. No.	**536** ○
35172...	Charging power supply including adapter 1.35 mm/2.1 mm for TESA Micro-Hite 350/600/900 from model year 2017	Ident. No.	**539** ●

Prod. Gr. 365

Accessories for TESA height measuring instruments MICRO-HITE/TESA-HITE

Indicator contact point carrier and single probe inserts



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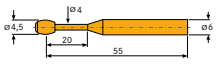

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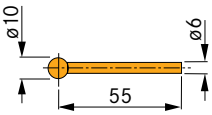

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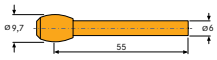

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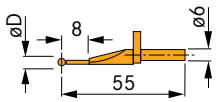
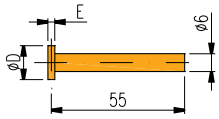


Ident. No. 112–113



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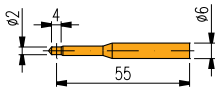

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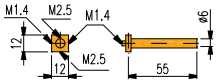

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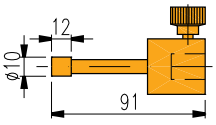

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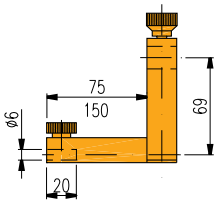

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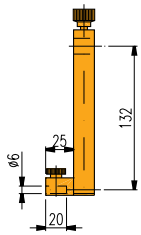

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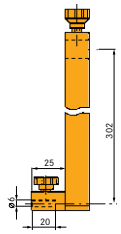

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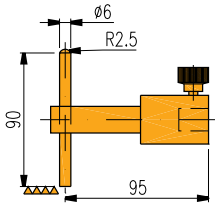

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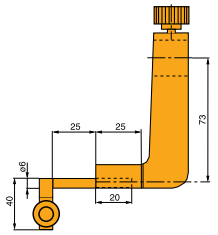


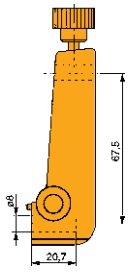
Ident. No. 400

35172...	Spherical measuring probe with carbide ball, diameter 3 mm	Ident. No.	**100** ●
35172...	Spherical measuring probe with carbide ball, diameter 5 mm	Ident. No.	**105** ●
35172...	Spherical measuring probe with carbide ball, diameter 10 mm	Ident. No.	**110** ●
35172...	Spherical measuring probe, solid carbide, diameter 1 mm	Ident. No.	**111** ●
35172...	Spherical measuring probe, solid carbide, diameter 2 mm	Ident. No.	**112** ●
35172...	Spherical measuring probe, solid carbide, diameter 3 mm	Ident. No.	**113** ○
35172...	Measuring probe, barrel-shaped, diameter 2.2 mm (for M3–M16)	Ident. No.	**120** ●
35172...	Measuring probe, barrel-shaped, diameter 4.5 mm (for M6–M48)	Ident. No.	**130** ○
35172...	Measuring probe, barrel-shaped, diameter 9.7 mm (for M12–M150)	Ident. No.	**140** ○
35172...	Measuring probe, plate shape, diameter D 4.5 mm, E = 1 mm	Ident. No.	**150** ●
35172...	Measuring probe, plate shape, diameter D 14 mm, E = 2 mm	Ident. No.	**160** ●
35172...	Measuring probe, plate shape, diameter D 19 mm, E = 3 mm	Ident. No.	**170** ○
35172...	Cylindrical measuring probe, diameter 2 mm	Ident. No.	**180** ●
35172...	Universal probe insert holder	Ident. No.	**190** ●
35172...	Cylindrical measuring probe, 12 mm long, measuring surface diameter 10 mm	Ident. No.	**200** ○
35172...	Gauge slide carrier for larger measuring depths up to 110 mm	Ident. No.	**210** ●
35172...	Gauge slide carrier for larger measuring depths up to 185 mm	Ident. No.	**220** ●
35172...	Gauge slide carrier for extending the application range, length 132 mm	Ident. No.	**230** ○
35172...	Gauge slide carrier for extending the application range, length 302 mm	Ident. No.	**235** ○
35172...	Measuring probe with ball-shaped and flat measuring surface	Ident. No.	**240** ●
35172...	Gauge slide carrier for lever gauge probes	Ident. No.	**400** ○

Prod. Gr. 362

Special accessories for TESA height measuring instruments MICRO-HITE and MICRO-HITE plus M

8 mm adapter with indicator contact point carrier no. 35172 410



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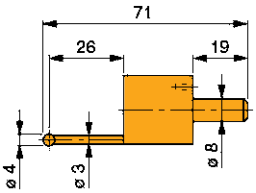

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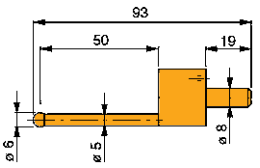

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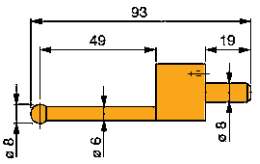

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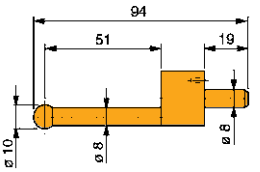
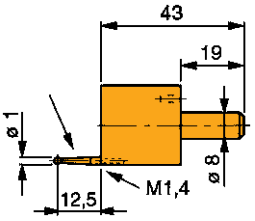


Ident. No. 429

Ident. No. 430



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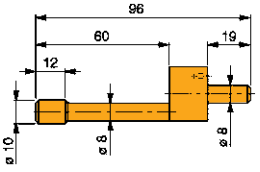

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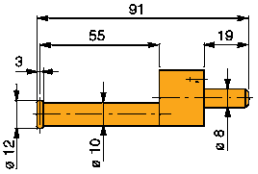

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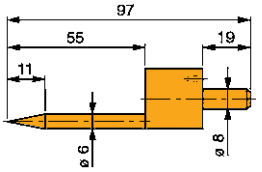

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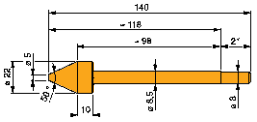
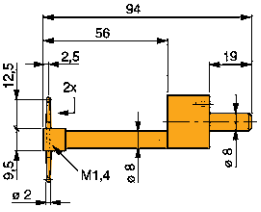
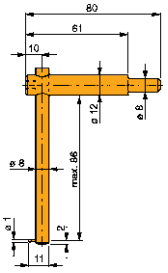


Ident. No. 448



Ident. No. 450



Ident. No. 460

35172...	Gauge slide carrier with 8 mm mount	Ident. No.	410 ○
35172...	Spherical measuring probe, diameter 4 mm	Ident. No.	424 ○
35172...	Spherical measuring probe, diameter 6 mm	Ident. No.	426 ○
35172...	Spherical measuring probe, diameter 8 mm	Ident. No.	428 ○
35172...	Spherical measuring probe, diameter 10 mm	Ident. No.	429 ○
35172...	Spherical measuring probe, extra long, diameter 10 mm	Ident. No.	430 ○
35172...	Mount for exchangeable gauge slides with thread M1.4 gauge slide diameter 1	Ident. No.	435 ○
35172...	Cylindrical measuring probe, diameter 10 mm	Ident. No.	440 ○
35172...	Measuring probe with measuring disc diameter 12 mm	Ident. No.	444 ○
35172...	Conical measuring probe for diameters 0.5–5.5 mm	Ident. No.	446 ○
35172...	Conical measuring probe for diameters 5-20 mm	Ident. No.	448 ○
35172...	Mount for exchangeable gauge slides with thread M1.4 gauge slide diameter 2	Ident. No.	450 ○
35172...	Adjustable depth gauge diameter 1 mm	Ident. No.	460 ○

Prod. Gr. 362

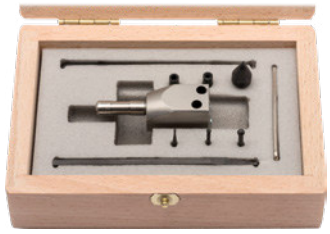
Accessories for TESA height measuring instruments MICRO-HITE/ TESA-HITE

Probe inserts

Ident. No. 010

Ident. No. 015

Ident. No. 020



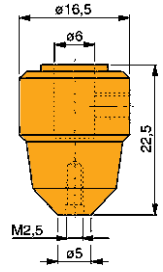
Ident. No. 050

Number of pieces in assortment/set (PCS)			8	9	17	9
Composition of set			Gauge slide with carbide ball Ø 3 and Ø 10 solid carbide gauge slides Ø 1 Ø 2 and Ø 3 gauge slide with cemented carbide disc Ø 14 gauge slide with cylindrical measuring surface Ø 10 gauge slide with probe rod	gauge slide holder | probe rod 8° angled for grooves | centring shoulders | blind holes | etc. | gauge slide with straight shank for depth measurement | one gauge slide each made of hardened steel with 0.9 mm | 1.9 mm and 2.9 mm ball diameter | gauge slide with conical measuring surface Ø 8 mm | extension 20 mm with double-sided M3 thread | extension 20 mm with M3 thread and M2.5 thread.	Gauge slide with carbide ball Ø 3 and Ø 10 solid carbide gauge slides Ø 1 Ø 2 and Ø 3 gauge slide with barrel-shaped measuring surfaces Ø 2.2 Ø 4.5 Ø 9.7 gauge slide with solid carbide disc Ø 4.5 Ø 14 Ø 19 gauge slide with small cylindr. cemented carbide measuring surface | gauge slide with cylindrical measuring surface Ø 10 gauge slide carrier for large depths | gauge slide holder for extending the measuring range | gauge slide with probe rod	Gauge slide holder | probe rod for depth measure-ments | gauge slides with steel ball 0.9 and 1.9 and 2.9 mm | gauge slide with conical measuring surface | extension 20 mm | adapter M3 to M2.5
	35172...	Ident. No.	010 ○	015 ●	020 ○	-
ORION	35172...	Ident. No.	-	-	-	050 ●

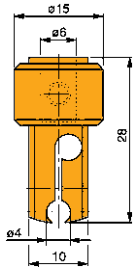
ORION = Prod. Gr. 3BE
TESA TECHNOLOGY = Prod. Gr. 362

Special accessories for µ-HITE

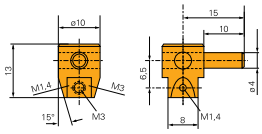
Application: For use in µ-HITE vertical length measuring device.



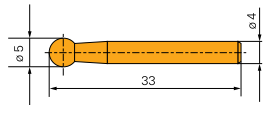
Ident. No. 014–030



Ident. No. 100



Ident. No. 110



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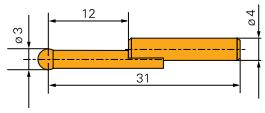


Ident. No. 130

35176...	Axial gauge slide holder M1.4	Ident. No.	014 ○
35176...	Axial gauge slide holder M2.5	Ident. No.	025 ○
35176...	Axial gauge slide holder M3.0	Ident. No.	030 ○
35176...	Radial gauge slide holder	Ident. No.	100 ○
35176...	Universal gauge slide holder M1.4 and M3	Ident. No.	110 ○
35176...	Ball probe, diameter 5 mm	Ident. No.	120 ○
35176...	Ball probe, diameter 3 mm	Ident. No.	130 ○
35176...	Rechargeable spare battery	Ident. No.	140 ○

Prod. Gr. 362

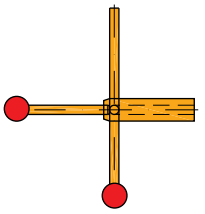
ORION® Measuring probe set, 3 pieces, with ruby balls

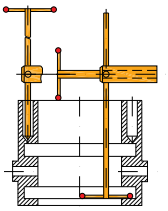
for height measuring instruments

Application:
For measuring grooves, recesses, offsets, cross holes etc.

Execution:
- Probes can be clamped axially and radially

Delivery:
With hexagonal screwdriver in a case



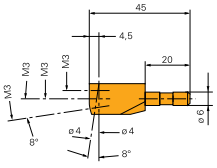


Number of pieces in assortment/set (PCS)		3
Composition of set		T-probe: Length 100 mm | 2 ruby balls diameter 2 mm | ball distance 18 mm | straight gauge slide: Length 100 mm | ruby ball diameter 6 mm | measuring probe holder: Overall length 63 mm
35172...	Ident. No.	080 ●

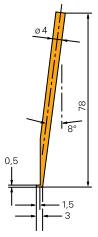
Prod. Gr. 3BE

ORION® Universal plunger with contact point assortment

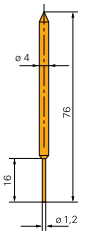
for MICRO-HITE/TESA-HITE height measuring instruments, hardened steel



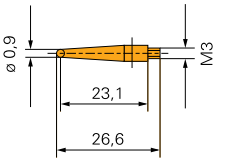
Ident. No. 300



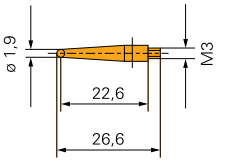
Ident. No. 310



Ident. No. 320



Ident. No. 330



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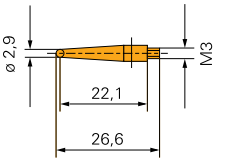

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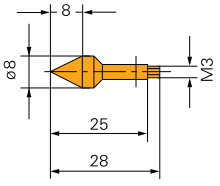

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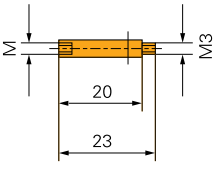


Ident. No. 370–380

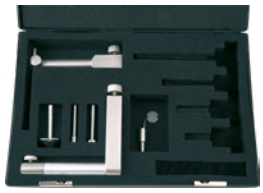
35172...	Gauge slide holder M3	Ident. No.	300 ●
35172...	Probe rod angled 8°	Ident. No.	310 ●
35172...	Probe rod, cylindrical, offset	Ident. No.	320 ●
35172...	Spherical measuring probe, diameter 0.9 mm	Ident. No.	330 ●
35172...	Spherical measuring probe, diameter 1.9 mm	Ident. No.	340 ●
35172...	Spherical measuring probe, diameter 2.9 mm	Ident. No.	350 ●
35172...	Conical measuring probe, diameter 8 mm	Ident. No.	360 ○
35172...	Measuring probe extension M3 to M3	Ident. No.	370 ●
35172...	Measuring probe adapter M3 to M2.5	Ident. No.	380 ○

Prod. Gr. 3BE

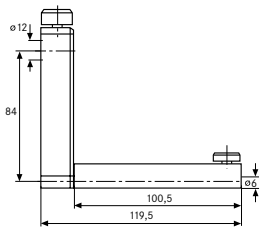
Mahr Accessories for MAHR height measuring instruments Digimar 816 CL and Digimar 817 CLM

Application:
For use in MAHR height measuring devices.

Delivery:
In plastic case


Ident. No. 010

Ident. No. 020



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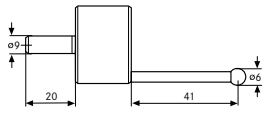

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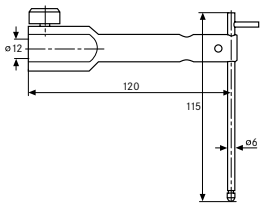

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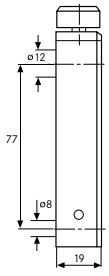

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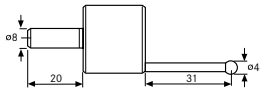

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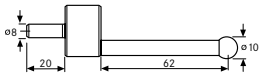

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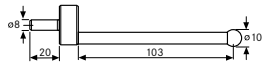

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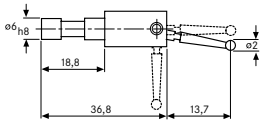
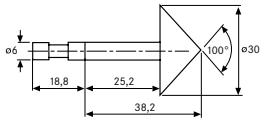


Ident. No. 020



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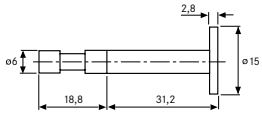

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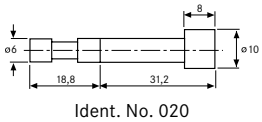


Ident. No. 020

Number of pieces in assortment/set (PCS)		6	11
Composition of set		carrier for gauge slides | disc gauge slide Ø 15 mm | cylinder gauge slide Ø 10 mm | ball gauge slide | depth gauge | carrier incl. gauge slide 800 ts Ø 2 mm	Carrier for gauge slides | disc gauge slide Ø 15 mm | cylinder gauge slide Ø 10 mm | conical gauge slide | depth gauge | carrier incl. gauge slide 800 ts Ø 2.0 mm | carrier for gauge slides with location hole 8 mm | ball gauge slide | Ø 4.0 mm | ball gauge slide Ø 6.0 mm | ball gauge slide | Ø 10.0 mm | ball gauge slide | Ø 10.0 mm
35133...	Ident. No.	**010** ○	**020** ○

Prod. Gr. 306

HELIOS-PREISSER Shaft tester

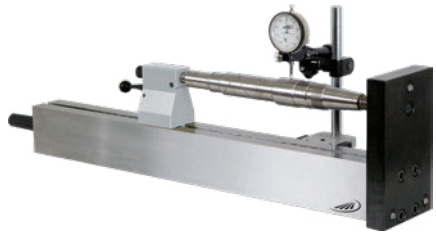
Ideal accessories for vertical height measuring instruments

Application:
For measurements in vertical and horizontal directions. Diameters and lengths can be measured from one clamping position. Saves multiple manual measuring aids when used with a height measuring device. Can also be used for testing radial run-out when used with a stand (see accessories). Taper angle and straightness of surface lines can also be measured.

Execution:
- Hardened steel measuring beam
- Vertical and horizontal contact faces arranged at 90°
- Vertical base plate with 3 hardened supporting surfaces (alignable)
- Moveable tailstock with hardened, ground clamping tip diameter Ø 16 mm x 60°
- Fixed centre tip Ø 24 mm x 60°, hardened and ground

Delivery:
Basic beam with fixed vertical base plate, fixed tip, Ø 24 mm, 1 centre cradle (without stand)

Technical data:
- Length: 670 mm
- Max. point width: 550 mm
- Point height: 75 mm
- Groove width: 10 mm
- Base plate length x base plate width: 200 x 120 mm
- Weight: 32 kg



35705...	Ident. No.	**010** ○+

Prod. Gr. 308

RENISHAW apply innovation™ Probe inserts with ruby ball and stainless steel shaft

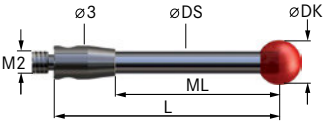
Connecting thread M2

Execution:
- Ball made from synthetic ruby
- straight version
- Stainless steel shaft
- Connecting thread M2

Technical data:
- Material of shank: Stainless steel
- Material of bracket: Stainless steel
- Material of measuring ball: Rubin

Ident. No. 020

Ident. No. 040



Ident. No. 045–050

Ident. No. 055

DK (mm)		1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0
L (mm)		10	10	10	10	10	10	10	10
DS (mm)		0.7	0.7	1.0	1.0	1.5	1.5	2.5	2.5
ML (mm)		4.5	4.5	6.0	6.5	7.0	10	10	10
35311...	Ident. No.	010 ●	015 ○	020 ●	025 ○	030 ●	035 ○	040 ○	045 ○

DK (mm)		8.0	2.0	2.5	3.0	4.0
L (mm)		11	20	20	20	20
DS (mm)		2.5	1.4	1.4	1.5	1.5
ML (mm)		11	14	16.4	17	20
35311...	Ident. No.	050 ●	055 ●	060 ○	065 ●	070 ●

Prod. Gr. 3EC

RENISHAW apply innovation™ Probe inserts with ruby ball and cemented carbide shaft

Connecting thread M2

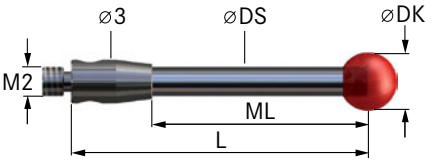
Execution:
- Ball made from synthetic ruby
- straight version
- Cemented carbide shaft
- Connecting thread M2

Technical data:
- L: 10 mm
- Material of shank: Carbide
- Material of bracket: Stainless steel
- Material of measuring ball: Rubin

Ident. No. 085

DK (mm)		0.3	0.5	0.7	1.0
DS (mm)		0.2	0.4	0.5	0.7
ML (mm)		2.0	3.0	4.0	4.0
Manufacturer article number		A-5000-7800	A-5000-7805	A-5000-7801	A-5003-1325
35311...	Ident. No.	080 ●	085 ●	090 ○	095 ○

Prod. Gr. 3EC



Ident. No. 095

RENISHAW apply innovation™ Probe inserts with ruby ball and cemented carbide shaft

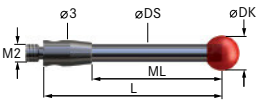
Connecting thread M2

Technical data:
- Material of shank: Carbide
- Material of bracket: Stainless steel
- Material of measuring ball: Rubin

Ident. No. 100

Ident. No. 110

Ident. No. 120



Ident. No. 130–135

Ident. No. 140

DK (mm)		0.3	0.5	0.7	1.0	1.0	1.5	2.0	2.5	3.0	4.0	5.0
L (mm)		20	20	20	20	20	20	20	20	20	22	20
DS (mm)		0.2	0.3	0.5	0.7	0.8	1.0	1.0	1.0	1.5	2.0	2.5
ML (mm)		2.0	7.0	12.0	7.0	12.5	12.5	14.0	15.5	17.0	22.0	20.0
Manufacturer article number		A-5004-7398	A-5003-1345	A-5003-0577	A-5000-7808	A-5003-0033	A-5003-0034	A-5003-3822	A-5003-1896	A-5003-0938	A-5003-1029	A-5003-0046
35311...	Ident. No.	100 ○	105 ●	110 ●	115 ○	120 ●	125 ●	130 ○	135 ○	140 ○	145 ○	150 ○

Prod. Gr. 3EC

RENISHAW apply innovation™ Probe inserts with ruby ball and cemented carbide shaft

Connecting thread M2

Technical data:
- Material of shank: Carbide
- Material of bracket: Stainless steel
- Material of measuring ball: Rubin

Ident. No. 165

DK (mm)		1.0	1.5	2.0	2.5	3.0	4.0	5.0
L (mm)		27.5	30	30	30	30	30	30
DS (mm)		0.7	1.0	1.5	2.0	2.0	2.0	2.5
ML (mm)		20.5	22.5	22.5	22.5	27.0	30.0	30.0
Manufacturer article number		A-5000-8663	A-5003-0035	A-5003-0036	A-5003-0038	A-5003-0040	A-5003-0043	A-5003-0047
35311...	Ident. No.	**155** ●	**160** ○	**165** ○	**170** ○	**175** ○	**180** ○	**185** ○

Prod. Gr. 3EC

RENISHAW apply innovation™ Probe inserts with ruby ball and cemented carbide shaft

Connecting thread M2

Technical data:
- Material of shank: Carbide
- Material of bracket: Stainless steel
- Material of measuring ball: Rubin

Ident. No. 205

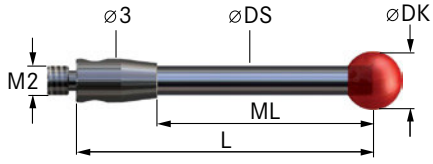
DK (mm)		2.0	2.5	3.0	4.0	5.0	3.0	4.0	5.0
L (mm)		40	40	40	40	40	50	50	50
DS (mm)		1.5	2.0	2.0	2.0	2.5	2.0	2.0	2.5
ML (mm)		32.5	32.5	37.0	40.0	40.0	47.0	50.0	50.0
Manufacturer article number		A-5003-0037	A-5003-0039	A-5003-0041	A-5003-0044	A-5003-0048	A-5003-0042	A-5003-0045	A-5003-0049
35311...	Ident. No.	**190** ●	**195** ○	**200** ○	**205** ●	**210** ○	**215** ○	**220** ○	**225** ○

Prod. Gr. 3EC

Probe tips with ruby ball and carbide shaft

With M2 connecting thread

Execution:
- Ball made from synthetic ruby
- Straight version
- Carbide shaft
- Connecting thread M2



DK (mm)		1	1.5	1.5	2	3	4	5	2	3	4	5
L (mm)		10	10	20	20	20	20	20	40	40	40	40
DS (mm)		0.7	0.7	1	1	1.5	2	2	1.5	2	2	2
ML (mm)		5	5	15	15	14	14	14	34	34	34	34
35310...	Ident. No.	**040** ○	**060** ○	**070** ○	**080** ○	**100** ○	**120** ○	**140** ○	**090** ○	**110** ○	**130** ○	**150** ○

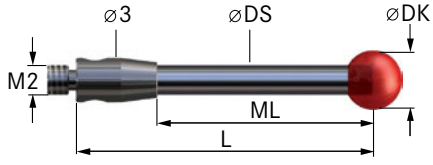
Prod. Gr. 359

Probe tips with ruby ball and carbide shaft

With M2 connecting thread

Execution:
- Ball made from synthetic ruby
- Straight design with offset shaft diameter
- Carbide shaft
- Connecting thread M2

Technical data:
- DS: 1 mm



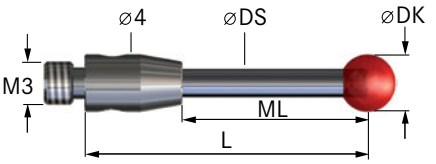
DK (mm)		0.5	0.6	0.8	1
L (mm)		10	10	10	20
DS1 (mm)		0.3	0.4	0.5	0.7
ML (mm)		5	5	5	15
ML1 (mm)		2.3	3	4	5
35310...	Ident. No.	**010** ○	**020** ○	**030** ○	**050** ○

Prod. Gr. 359

Probe tips with ruby ball and carbide shaft

With M3 connecting thread

Execution:
- Ball made from synthetic ruby
- Straight version
- Carbide shaft
- M3 connecting thread



DK (mm)		1	1.5	2	3	4	5	2	3	4	5
L (mm)		10	21	21	21	21	21	40	40	40	40
DS (mm)		0.7	1	1	1.5	2	2	1.5	1.5	2	2
ML (mm)		3	14	14	14	14	14	33	33	33	33
35310...	Ident. No.	190 ○	210 ○	220 ○	240 ○	260 ○	280 ○	230 ○	250 ○	270 ●	290 ○

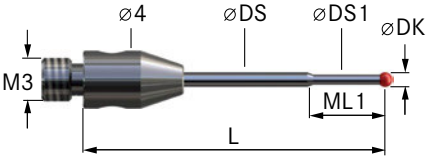
Prod. Gr. 359

Probe tips with ruby ball and carbide shaft

M3 connecting thread for 3D coordinate measuring instruments

Execution:
- Ball made from synthetic ruby
- Straight design with offset shaft diameter
- Carbide shaft
- M3 connecting thread

Technical data:
- DS: 1 mm



DK (mm)		0.5	0.6	0.8	1
L (mm)		22	22	22	21
DS1 (mm)		0.3	0.4	0.5	0.7
ML (mm)		15	15	15	14
ML1 (mm)		2.3	4	4	5
35310...	Ident. No.	160 ○	170 ○	180 ○	200 ○

Prod. Gr. 359

RENISHAW apply innovation™ Probe inserts with ruby ball and stainless steel shaft

M4 connecting thread

Execution:
- Ball made from synthetic ruby
- straight version
- Stainless steel shaft
- M4 connecting thread

Technical data:
- Material of shank: Stainless steel
- Material of bracket: Stainless steel
- Material of measuring ball: Rubin

Ident. No. 555

Ident. No. 560

DK (mm)		1.0	2.0
L (mm)		19.5	19
DS (mm)		0.7	1.4
ML (mm)		4.5	9.2
35311...	Ident. No.	555 ○	560 ○

Prod. Gr. 3EC

RENISHAW apply innovation™ Probe inserts with ruby ball and cemented carbide shaft

M4 connecting thread

Execution:
- Ball made from synthetic ruby
- straight version
- Cemented carbide shaft
- M4 connecting thread

Technical data:
- L: 50 mm
- Material of shank: Carbide
- Material of bracket: Stainless steel
- Material of measuring ball: Rubin

Ident. No. 570

DK (mm)		2.0	3.0
DS (mm)		1.5	2.0
ML (mm)		40.0	38.5
Manufacturer article number		A-5003-4797	A-5003-3680
35311...	Ident. No.	565 ○	570 ○

Prod. Gr. 3EC

Probe inserts with ruby ball and ceramic shaft

M4 connecting thread

Execution:
- Ball made from synthetic ruby
- straight version
- Ceramic shaft
- M4 connecting thread

Technical data:
- Material of shank: Ceramic
- Material of bracket: Stainless steel
- Material of measuring ball: Rubin

Ident. No. 590

DK (mm)		4.0	5.0	6.0	6.0	5.0	6.0
L (mm)		50	50	50	75	100	100
DS (mm)		3.0	3.8	4.5	4.5	3.8	4.5
ML (mm)		33.5	33.5	38.5	63.5	83.5	88.5
Manufacturer article number		A-5003-0233	A-5003-0235	A-5000-3709	A-5003-2764	A-5000-9761	A-5000-3712
35311...	Ident. No.	575 ○	580 ●	585 ●	590 ○	595 ○	600 ●

Prod. Gr. 3EC

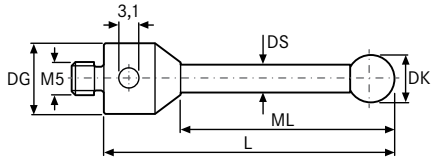
Probe inserts with ruby ball and cemented carbide shaft

M5 connecting thread

Execution:
- Ball made from synthetic ruby
- Titanium holder
- Cemented carbide shaft
- M5 connecting thread

Technical data:
- DK: 3.0 mm
- DS: 2.0 mm
- Material of shank: Carbide
- Material of bracket: Titanium
- Material of measuring ball: Rubin

Ident. No. 375



L (mm)		25.00	33.50	50.00	58.00
ML (mm)		15	23.5	40	48
Manufacturer article number		A-5555-0018	A-5555-0019	A-5555-0020	A-5555-0021
35311...	Ident. No.	360 ○	365 ○	370 ○	375 ○

Prod. Gr. 3EC

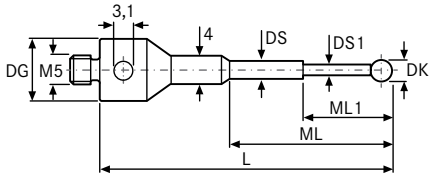
Probe inserts with ruby ball and cemented carbide shaft

M5 connecting thread

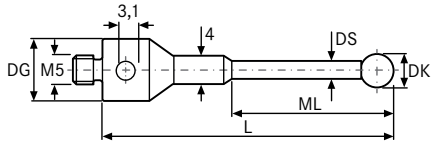
Execution:
- Ball made from synthetic ruby
- Stainless steel holder
- Shank, offset, made of carbide

- M5 connecting thread

Technical data:
- Material of shank: Carbide



- Material of bracket: Non-corrosive steel
- Material of measuring ball: Rubin



DK (mm)		0.8	1.0	1.35	1.35	1.5	1.5	2.0	2.0	2.0
L (mm)		32.00	32.00	32.00	44.00	32.00	44.00	32.00	44.00	58.00
DS (mm)		1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5
DS1 (mm)		0.6	0.8	-	-	-	-	-	-	-
ML (mm)		12.0	12.0	12.0	19.0	12.0	19.0	12.0	19.0	33.0
ML1 (mm)		4.8	5.0	-	-	-	-	-	-	-
Manufacturer article number		A-5555-0052	A-5555-0053	A-5555-0054	A-5555-0055	A-5555-0056	A-5555-0057	A-5555-0058	A-5555-0059	A-5555-0060
35311...	Ident. No.	380 ○	385 ○	390 ○	395 ○	400 ○	405 ○	410 ○	415 ○	420 ○

Prod. Gr. 3EC

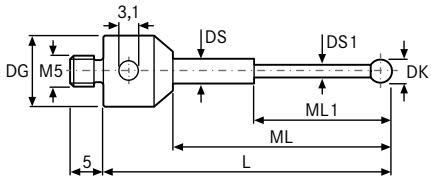
Probe inserts with ruby ball and cemented carbide shaft

Connecting thread M5 — long thread

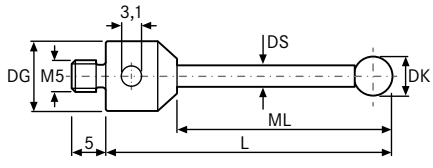
Execution:
- Ball made from synthetic ruby
- straight version
- Cemented carbide shaft

- Connecting thread M5 - thread length 5mm

Notes:
Suitable for analogue systems from ZEISS



Technical data:
- Material of shank: Carbide
- Material of measuring ball: Rubin



DK (mm)		0.5	0.6	0.8	1.0	1.5	2.0
L (mm)		22	22.1	22.3	22.5	33	33.5
DS (mm)		0.3	0.4	0.6	0.8	1	1.5
DS1 (mm)		0.3	0.4	0.6	0.8	-	-
ML (mm)		13.0	13.1	13.3	13.5	24	24.5
ML1 (mm)		2.5	4.6	4.8	5.0	-	-
Manufacturer article number		A-5555-1157	A-5555-1842	A-5555-1844	A-5555-1843	A-5555-0329	A-5555-9325
35311...	Ident. No.	605 ○	610 ○	615 ○	620 ○	625 ○	630 ○

Prod. Gr. 3EC

Reducer

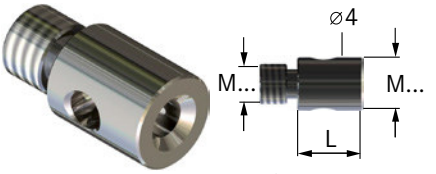
for probe tips with connecting thread M2 or M3

Execution:

- Made from stainless steel

35310...	Adapter: M2 male thread/M3 female thread	Ident. No.	300 ○
35310...	Adapter: M3 male thread/M2 female thread	Ident. No.	310 ○

Prod. Gr. 359



Ident. No. 300

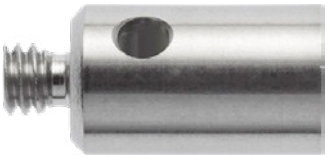
RENISHAW apply innovation™

Reducer/adapter

For probe inserts

Execution:

- Made from stainless steel



Ident. No. 300–305

	Adapter: M2 male thread/M3 female thread		Adapter: M3 male thread/M2 female thread		Adapter: M4 male thread/M2 female thread		Adapter: M4 male thread/M3 female thread		Adapter: M5 male thread/M2 female thread		Adapter: M5 male thread/M3 female thread	
Manufacturer article number	A-5004-7593		A-5004-7592		A-5004-7595		A-5004-7597		A-5555-0226		A-5555-0227	
	35311... Ident. No.		35311... Ident. No.		35311... Ident. No.		35311... Ident. No.		35311... Ident. No.		35311... Ident. No.	
	300	○	305	●	310	●	315	●	450	●	455	○

Prod. Gr. 3EC

Extensions

for probe tips with connecting thread M2 or M3

Application:

Ident. No. 370–410: For extending probe inserts with M3 connecting threads

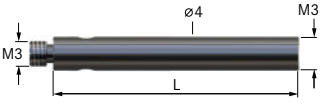
Execution:

- Made from stainless steel

Advantage:

- Simple and quick option for extending probe inserts

Ident. No. 320–360



Ident. No. 370–410

Length (mm)			10	15	20	30	40	10	15	20	30	40
Outer Ø (mm)			3	3	3	3	3	4	4	4	4	4
35310...	Extension M2	Ident. No.	320 ○	330 ○	340 ○	350 ○	360 ○	-	-	-	-	-
35310...	Extension M3	Ident. No.	-	-	-	-	-	370 ○	380 ○	390 ○	400 ○	410 ○

Prod. Gr. 359

RENISHAW apply innovation™

Extensions

For probe inserts with M2 connecting thread

Execution:

- Made from stainless steel

Advantage:

- Simple and quick option for extending probe inserts

Technical data:

- Outer diameter: 3 mm

Ident. No. 250

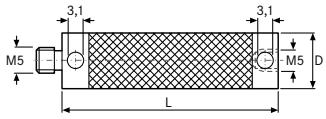
Shank Ø (mm)			3.0	3.0	3.0	3.0
Length (mm)			10	20	30	40
Weight (g)			0.4	0.9	1.4	1.8
Manufacturer article number			A-5004-7585	A-5004-7586	A-5004-7591	A-5004-7611
35311...	Extension M2	Ident. No.	250 ●	255 ●	260 ○	265 ○

Prod. Gr. 3EC

RENISHAW apply innovation™ Extensions

For analogue measuring probe systems from ZEISS

Execution:
- Thermally-stable carbon fibre
- Titanium end pieces



Length (mm)		40	50	100	100	200
Outer Ø (mm)		11	11	11	20	20
Weight (g)		9.0	10.0	14.0	34.0	48.0
Manufacturer article number		A-5555-0647	A-5555-0648	A-5555-0652	A-5555-0659	A-5555-0663
Corresponds to original Zeiss article number		626107-1040-100	626107-1050-100	626107-1100-100	626107-2100-100	626107-2200-100
35311...	Ident. No.	425 ○	430 ○	435 ○	440 ○	445 ○

Prod. Gr. 3EC

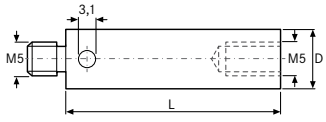
RENISHAW apply innovation™ Extensions

For analogue measurement systems from ZEISS

Execution:
- Made of titanium

Advantage:
- Simple and quick option for extending probe inserts

Technical data:
- Outer diameter: 11 mm



Length (mm)		20	40	50	60	80	100
Weight (g)		7.8	16.1	12.7	13.6	15.6	17.3
Manufacturer article number		A-5555-0145	A-5555-0148	A-5555-0150	A-5555-0152	A-5555-0156	A-5555-0160
Corresponds to original Zeiss article number		602030-9046-000	602030-9049-000	602030-9051-000	602030-9053-000	602030-9057-000	602030-9061-000
35311...	Ident. No.	635 ○	640 ○	645 ○	650 ○	655 ○	660 ○

Prod. Gr. 3EC

RENISHAW apply innovation™ Cube-shaped five-way probe insert holder

For M5 probe inserts

Application: For holding up to five different probe inserts.

Connection thread		M5	M5
Length x width x height		15 x 15.00 x 15 mm	20 x 20.00 x 20 mm
Material of shank		Titanium	Titanium
Weight (g)		12.6	31.5
Manufacturer article number		A-5555-0189	A-5555-0190
35311...	Ident. No.	460 ○	465 ○

Prod. Gr. 3EC

Ident. No. 460

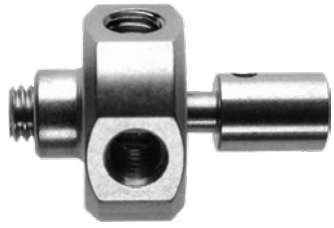
RENISHAW apply innovation™ Probe insert holder

For probe inserts

Application: For holding up to five different probe inserts.

Connection thread		M2	M2	M3
Size of centre styli (mm)		7.5	7.0	10.0
Weight (g)		1.1	0.8	3.6
Manufacturer article number		A-5000-8395	A-5000-3627	A-5000-7610
35311...	Ident. No.	280 ○	285 ●	290 ○

Prod. Gr. 3EC



Ident. No. 285

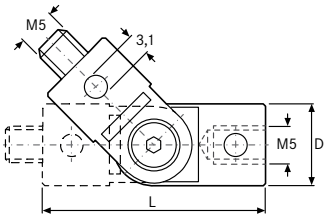
RENISHAW apply innovation™ Swivel joint

For M5 probe inserts

Execution:
- Swivel range 180°
- Made of titanium

Technical data:
- Connection thread: M5
- Swivel range: 180 Degree
- Material: Titan

Ident. No. 470



Outer Ø (mm)		11	18
Length (mm)		30	36
Weight (g)		11.2	37.2
Manufacturer article number		A-5555-0218	A-5555-0219
Corresponds to original Zeiss article number		600342-9002-000	-
35311...	Ident. No.	470 ○	475 ○

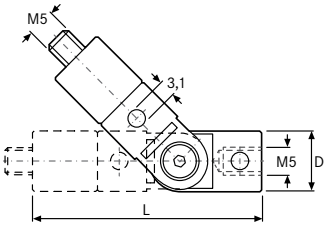
Prod. Gr. 3EC

RENISHAW apply innovation™ Rotate/swivel joint

For M5 probe inserts

Execution:
- Swivel range 180°
- Rotation range 360°
- Made of titanium

Technical data:
- Connection thread: M5
- Swivel range: 180 Degree
- Material: Titan



Outer Ø (mm)		11	18
Length (mm)		51	58
Weight (g)		19.0	58.0
Manufacturer article number		A-5555-1093	A-5555-3841
35311...	Ident. No.	480 ○	485 ○

Prod. Gr. 3EC

RENISHAW apply innovation™ Adapter plate

Execution:
- Made from aluminium
- **Ident. No. 490:**
- Active ID chip
- Engraved 15° scale
- Die 22 mm, for holding probe inserts and extensions with M5 connecting thread

Ident. No. 490

Ident. No. 495

Weight (g)		153	-
Manufacturer article number		A-5555-0255	A-5555-1235
Corresponds to original Zeiss article number		600667-9601-000	620161-8055-000
35311...	Ident. No.	490 ○	495 ○

Prod. Gr. 3EC

RENISHAW apply innovation™ Probe module holder TP20

Application: Probe attachment for probe module TP20

Model		TP20
Manufacturer article number		A-1371-0284
35311...	Ident. No.	515 ○

Prod. Gr. 3ED

RENISHAW apply innovation™ TP20 probe modules

Model		SF	LF	MF	EF	6W	EM1	EM2
Colour of cap		Black	Green	Grey	Braun	Blue	-	-
Probing force		Standard	Low	Mean	High	Standard	Standard	Standard
Length (mm)		-	-	-	-	-	50	75
Manufacturer article number		A-1371-0270	A-1371-0392	A-1371-0271	A-1371-0272	A-1371-0419	A-1371-0430	A-1371-0431
35311...	Ident. No.	520 ○	525 ○	530 ○	535 ○	540 ○	545 ○	550 ○

Prod. Gr. 3ED

RENISHAW apply innovation™ Probe head/measuring probe extension PEL

Notes:
Compatible Renishaw probe heads: PH10T PLUS, MH8, PH6, PH1, PHS1 and Renishaw measuring probes TP20, TP200, TP6 and TP2

Technical data:
- Material: Aluminium

Length (mm)		50	100	200
Ø (mm)		13	18	18
Weight (g)		24	57	86
Manufacturer article number		A-1047-3484	A-1047-3485	A-1047-3486
35311...	Ident. No.	500 ○	505 ○	510 ○

Prod. Gr. 3EC

Ident. No. 500

Ident. No. 505

Ident. No. 510

BOSCH Laser distance meters
GLM

Application:
Ident. No. 027: For non-contact measurement of lengths, surfaces and volumes.
Ident. No. 031: for non-contact measurement of lengths, areas and volumes.
Ident. No. 152: For non-contact measurement of lengths, areas and volumes.

Execution:
- **Ident. No. 027:**
  - Measuring range 0.05 to 50 metres
  - Automatic shut-off: 5 min.
  - Easy to use due to the clearly arranged and illuminated display in combination with intuitive menu guidance
  - Robust design due to the unbreakable display, protected control panel and rubber housing
  - Better line visibility thanks to green laser technology
  - Bluetooth(R)™ 4.2 Low Energy data transfer
  - Laser diode 635 nm, < 1 mW
  - Laser colour red
- **Ident. No. 031:** Illuminated three-line display for optimal readability
- **Ident. No. 152:**
  - Digital viewfinder with zoom function for precision over long distances, outdoors and in complex environments
  - High-contrast IPS colour display for optimal readability
  - Integrated Li-ion battery for high flexibility and contribution to sustainability

Advantage:
- **Ident. No. 027:**
  - Fast and easy documentation of the measurement results using Bluetooth(R) and the new MeasureON app
  - Bluetooth(R) connectivity and the Bosch MeasureOn app make the documentation and transfer of data easy for a seamless workflow
  - Fast, reliable and extremely robust: laser rangefinder for rough construction sites
- **Ident. No. 031:**
  - fast and accurate measurement thanks to the visible laser target point
  - Very easy to operate with a single function key
  - Memory function allows easy access to last ten measurements
- **Ident. No. 152:** Quick and easy documentation and transfer of measurements via Bluetooth(R) to the new MeasureOn app, storage of images in internal memory and transfer of images via USB to PC

Delivery:
Ident. No. 027: GLM 50-27 C, 2 x AA batteries, protective case, Li-ion battery BA 3.7 V 1.0 Ah A
Ident. No. 031: 2x AAA batteries, protective case
Ident. No. 152: GLM 150-27C, Li-Ion 3.6 V, case

Ident. No. 031

Ident. No. 152

Model		GLM 40	GLM 50-27 C PROFESSIONAL	GLM 150-27 C Professional
Min./max. length measuring range		0.15-40 m	0.05-50 m	0.08-150 m
Measuring accuracy		+/- 1.5 mm	+/- 1.5 mm	+/- 1.5 mm
IP protection class		IP 54	IP 65	IP 54
Laser category		2	2	2
Measuring functions		Length measurement | Area measurement | Volume measurement	Length measurement | Continuous measurement | Area measurement | Volume measurement | Angle and distance measurement	Length measurement | Continuous measurement | Area measurement | Volume measurement | Angle and distance measurement
With addition/subtraction		Yes	Yes	Yes
With homing device		-	Yes	-
Tilt sensor (Degree)		-	360	360
Space calculation		Yes	-	-
Automatic switch-off		Yes	5min	-
Indirect measurement		Yes	Yes	Yes
With tripod socket		Yes	Yes	Yes
Measured value memory		Yes	30 measuring results	-
Length x width x height		105 x 41 x 24 mm	119 x 53 x 29 mm	142 x 64 x 28 mm
Weight (g)		100	200	0.21
37065...	Ident. No.	031 ●	027 ●	152 ●

Prod. Gr. 731

Laserliner Gi series laser distance meters
with green laser technology

Application:
For non-contact measurement of lengths, areas and volumes

Execution:
- Green laser with 515 nm wavelength, approx. 6x brighter than typical red lasers with 630-660 nm wavelength. Can be used at temperatures from 0 °C to +50 °C
- Reference points on the front and rear
- **Ident. No. 000:**
  - Distance, surface and volume measurement
  - Min./max. continuous measurement
- **Ident. No. 010–020:**
  - Angle functions, digital vial, 360° inclination sensor
  - Measured value storage for up to 50 readings
- **Ident. No. 020:**
  - Digital connection and free MeasureNote app for rapid data transfer to a mobile device
  - Digital Connection interface and free MeasureNote app for rapid data transfer to a mobile device
- **Ident. No. 020–020:** Calculate room size using addition and subtraction functions

Delivery:
includes batteries (2x AA), in case

Ident. No. 000

Ident. No. 010

Ident. No. 020

Model		LaserRange-Master Gi4	LaserRange-Master Gi5	LaserRange-Master Gi7 Pro
Min./max. length measuring range		0.3-40 m	0.05-50 m	0.05-70 m
Measuring accuracy		+/- 2 mm	+/- 2 mm	+/- 2 mm
IP protection class		IP 40	IP 40	IP 40
Laser category		2	2	2
Measuring functions		Continuous measurement | Distance measurement | Single measurement | Area measurement | Volume measurement	Continuous measurement | Distance measurement | Single measurement | Area measurement | Volume measurement | Angle and distance measurement	Continuous measurement | Distance measurement | Single measurement | Area measurement | Volume measurement | Angle and distance measurement
With addition/subtraction		No	No	Yes
With homing device		No	No	No
Tilt sensor (Degree)		-	360	360
Space calculation		-	-	Yes
With tripod socket		No	No	No
Measured value memory		No	Yes	Yes
37064...	Ident. No.	000 ●	010 ●	020 ●

Prod. Gr. 3EE

Laserliner DistanceMaster LiveCam laser distance meter
with camera viewfinder

Application:
For non-contact measurement of lengths, areas and volumes

Execution:
- HD camera enables precise location of the measurement point
- Suitable for use outdoors and in bright settings
- High measuring accuracy of +/- 1.5 mm
- Reference points on the rear, front and on a tripod (1/4 in)
- Angle functions, digital vial, 360° inclination sensor
- Measured value storage for up to 50 readings
- Stake out function for staking out defined measured lengths
- Digital connection and free MeasureNote app for rapid data transfer to a mobile device
- Timer function for automatic measurement
- Digital Connection interface and free MeasureNote app for rapid data transfer to a mobile device

Delivery:
includes rechargeable battery, USB charging cable and transport bag, in case

Model		DistanceMaster LiveCam
Min./max. length measuring range		0.2-150 m
Measuring accuracy		+/- 1.5 mm
IP protection class		IP 65
Laser category		2
Measuring functions		Continuous measurement | Distance measurement | Single measurement | Area measurement | Volume measurement | Angle and distance measurement | Trapezoid measurement | Timer function
With addition/subtraction		Yes
With homing device		Yes
Tilt sensor (Degree)		360
Space calculation		Yes
With tripod socket		Yes
Measured value memory		Yes
Display rotate automatically		Yes
37064...	Ident. No.	080 ●

Prod. Gr. 3EE

Laserliner PocketCross-Laser 2G cross-line laser

Set incl. 150 cm crank-adjustable tripod

Application:
For simultaneous marking, levelling and alignment. With extremely bright green laser for high visibility. Extremely high line quality.

Execution:
- Individually selectable laser lines
- Green laser with 515 nm wavelength, approx. 6x brighter than typical red lasers with 630-660 nm wavelength. Can be used at temperatures from 0 °C to +50 °C
- GRX-Ready: When used with the optional laser receiver, the integrated hand-held receiver mode enables the laser lines to be detected at long distances and in poor lighting conditions.
- Automatic self-levelling; optical signals indicate when the device has moved outside of the levelling range
- Levelling range 3.5°, accuracy 0.3 mm/m
- Number of lasers: 1x horizontal 120°, 1x vertical 120°; visibility 55 m
- With 150 cm aluminium crank tripod

Delivery:
with 150 cm tripod, pocket wall holder, green magnetic target plate, laser glasses, Li-ion battery pack, mains power supply/charger with international adapter, USB-C cable, in case

Model		PocketCross-Laser 2G Set 150
Coverage distance (m)		55
Number of laser lines		2
Levelling measuring accuracy (+/- per length) (mm/m)		0.3
Self-levelling range (+/-) (Degree)		3.5
Laser category		2
IP protection class		IP 54
37064...	Ident. No.	130 ●

Prod. Gr. 3EE

Laserliner PocketCross-Laser 3G 3D cross-line laser

Set incl. 150 cm crank-adjustable tripod

Application:
For simultaneous marking, levelling and alignment. With extremely bright green laser for high visibility. Extremely high line quality.

Execution:
- Individually selectable laser lines
- Green laser with 515 nm wavelength, approx. 6x brighter than typical red lasers with 630-660 nm wavelength. Can be used at temperatures from 0 °C to +50 °C
- GRX-Ready: When used with the optional laser receiver, the integrated hand-held receiver mode enables the laser lines to be detected at long distances and in poor lighting conditions.
- Automatic self-levelling; optical signals indicate when the device has moved outside of the levelling range
- Levelling range 3.5°, accuracy 0.3 mm/m
- Number of lasers: 1x horizontal 360°, 2x vertical 360°; visibility 30 m
- Laser cross for simple plumb levelling
- With 150 cm aluminium crank tripod

Delivery:
with 150 cm tripod, pocket wall holder, green magnetic target plate, laser glasses, Li-ion battery pack, mains power supply/charger with international adapter, USB-C cable, in case

Model		PocketPlane-Laser 3G Set 150
Coverage distance (m)		30
Number of laser lines		3
Levelling measuring accuracy (+/- per length) (mm/m)		0.3
Self-levelling range (+/-) (Degree)		3.5
Laser category		2
IP protection class		IP 54
37064...	Ident. No.	150 ●

Prod. Gr. 3EE

BOSCH Multi-purpose line laser
GLL 3-80

Application:
for simultaneous marking, alignment and levelling in interior applications

Execution:
- app control possible
- reference lines visible in 360°
- **Ident. No. 032:** Simultaneous horizontal and vertical levelling

Advantage:
- **Ident. No. 032:**
  - Green laser lines offer up to four times better visibility than red lines
  - Dual Power Source technology: Can be operated with a 12V Li-ion battery or standard alkaline batteries
  - Controlling the tool on an app prevents inaccuracies

Delivery:
Ident. No. 031: Universal mount BM 1, 1 x battery 12 V/2 Ah, charger GAL 1230 CV, homing board, cloth bag, L-Boxx 136
Ident. No. 032: 1x 12 V/2 Ah battery, quick charger GAL 1230 CV, universal mount BM1, homing board, cloth pouch in L-Boxx

Technical data:
- Coverage distance: 120 m
- Levelling measuring accuracy (+/- per length): 0.2 mm/m
- Self-levelling range (+/-): 4 Degree
- Levelling time: 4 s
- Laser category: 2
- IP protection class: IP 54

Ident. No. 032

Model		GLL 3-80 C	GLL 3-80 CG
38382...	Ident. No.	031 ●	032 ●

Prod. Gr. 731

BOSCH Combination laser
GCL point and line laser

Execution:
- Horizontal and vertical laser lines, as well as two-centric solder points with optimal visibility
- **Ident. No. 040:** Position the laser lines around the solder points

Advantage:
- **Ident. No. 042:**
  - optional use with Bluetooth(R) connection in combination with Levelling Remote app to position the tool using your smartphone as a remote control
  - Dual Power Source technology: Can be operated with a 12V Li-ion battery or standard alkaline batteries

Delivery:
Ident. No. 040: 3x AA batteries, rotating mount RM1, homing board, protective case, L-Boxx insert; in box
Ident. No. 042: 4 x AA batteries, battery adapter, rotating mount RM 2, construction tripod BT 150, protective case, homing board; in cardboard packaging

Technical data:
- Self-levelling range (+/-): 4 Degree
- Levelling time: 4 s
- Laser category: 2
- IP protection class: IP 54

Ident. No. 040

Ident. No. 042

Model		GCL 2-15	GCL 2-50 C
Length (mm)		146	136
Width (mm)		117	55
Height (mm)		83	122
38382...	Ident. No.	040 ●	042 ●

Prod. Gr. 731

Laserliner Aluminium tripod FixPod
1/4 inch and 5/8 inch connecting thread

Application:
For positioning and aligning measuring instruments

Execution:
- High-quality aluminium tripod
- Interchangeable adapter with 1/4 inch and 5/8 inch threads for securing instruments
- 850 mm crank stroke enables a large setting range
- Individually adjustable legs enable inclination compensation
- Special rubber/steel combination tips allow it to be adapted to different surfaces

Delivery:
with 1/4 inch and 5/8 inch thread adapters, in transport bag

Model		VarioStand L 300 cm
Max. height (cm)		300
Connection thread		1/4 inch | 5/8 inch
37064...	Ident. No.	460 ●

Prod. Gr. 3EE

Laserliner FixPod tripod

1/4 inch connecting thread

Application:
For positioning and aligning measuring instruments

Execution:
- High-quality aluminium tripod
- 1/4 inch connecting thread
- Three-way tripod head for tilting, lowering and swivelling the measuring instrument
- Crank lift and telescopic tripod legs
- Height adjustable between 570-1,500 mm

Delivery:
in transport bag

Model		FixPod 155 cm
Max. height (cm)		155
Connection thread		1/4 inch
37064...	Ident. No.	450 ●

Prod. Gr. 3EE

BMI Roll-up measuring tape

without housing

AO

Application:
For determining distances with mm accuracy and marking or transferring dimensions.

Execution:
- Stainless steel tape, painted white, unbreakable, durable
- Tape extends by itself, highly resistant to bending and dimensionally stable when rolled out
- Compact when rolled up, approx. 50 mm in diameter
- Thanks to the convex curvature, dimensions can be transferred very effectively

	Length (mm)	Width (mm)		
37013...	500	19	Ident. No.	050 ●
37013...	1000	19	Ident. No.	100 ●

Prod. Gr. 371

Tape measure

AO

Application:
For measuring distances with mm precision

Execution:
- Convex curved stainless steel
- Abrasion-resistant stoved enamel coating
- Highly flexible
- Stopper function

Advantage:
- Rolls out to a full-length, non-kinking, non-breakable 2 meter rule
- Instantly to hand
- Unrolls automatically
- Automatic stop
- Belt clip

	Length (m)	Width (mm)		
37305...	2	16	Ident. No.	011 ●

Prod. Gr. 3BL

ATORN Tape measure

AO

Application:
For measuring distances with mm precision

Execution:
- ergonomic, robust plastic housing made of ABS
- with practical belt loop
- self-locking system (automatic tape locking); the tape is automatically retracted when the stop button is activated
- durable return mechanism for the tape
- steel tape, painted white, with additional polyamide coating for optimum protective properties
- mm graduation in line with accuracy class EC II and CE marking
- Screwed-on belt clip

Advantage:
- **Ident. No. 036, 056, 086:** With magnet on the end hooks

Ident. No. 036, 056, 086

Ident. No. 055

	Without magnet		Without magnet		Without magnet		With magnet		With magnet		With magnet	
Length (m)	3		5		8		3		5		8	
Width (mm)	16		19		25		16		19		25	
	37003... Ident. No.		37003... Ident. No.		37003... Ident. No.		37003... Ident. No.		37003... Ident. No.		37003... Ident. No.	
	035	●	055	●	085	●	036	●	056	●	086	●

Prod. Gr. 3AA

BMI VARIO pocket tape measure
VARIO, VARIO EC class 1, VARIO Mini

AO

Application:
No. 37014–37015: For measuring distances with mm precision
No. 37016: For measuring distances with an accuracy of mm

Execution:
- An especially lightweight and handy tape rule, specifically designed for professional use
- Housing made of impact-resistant polyamide (reinforced fibreglass)
- Axle and tape outlet with TRIBOCOMP® (Teflon) coating, result: smooth and easy tape movement
- Smooth-running sliding button for locking the tape
- Wear-resistant and anti-reflective tape
- Recoilless tape feed
- **No. 37015:** Miniature version, housing just 50 x 50 x 20 mm
- **No. 37016:** In EC class 1, with increased scale accuracy

	VARIO		VARIO		VARIO		VARIO Mini		VARIO EC 1		VARIO EC 1		VARIO EC 1	
Length (m)	3		5		8		3		2		3		5		8	
Width (mm)	13		16		19		10		13		13		16		19	
	37014... Ident. No.		37014... Ident. No.		37014... Ident. No.		37015... Ident. No.		37016... Ident. No.		37016... Ident. No.		37016... Ident. No.		37016... Ident. No.	
	030	●	050	●	080	●	030	●	020	●	030	●	050	●	080	●

Prod. Gr. 371

BMI Pocket tape measures
in chrome look

AO

Application:
For measuring distances with mm precision

Execution:
- Housing made of impact-resistant ABS, with soft-feel components
- Automatic tape retract, tape lock mechanism
- Wide, deeply curved tape for high stability
- Housing with clip
- With CE marking

No. 37018

Length (m)	3		5		8	
Width (mm)	16		19		25	
	37017... Ident. No.		37018... Ident. No.		37019... Ident. No.	
	020	●	020	●	020	●

Prod. Gr. 371

ORION® Tape measure

AO

Application:
For measuring distances with mm precision

Execution:
- compact, robust plastic housing made of ABS
- automatic tape rewind
- with tape lock and additional quick stop button on underside of housing
- steel tape, painted white, with mm graduation in line with accuracy class EC II and CE marking
- Screwed-on belt clip

Length (m)	2		3		5	
Width (mm)	13		13		19	
	37005... Ident. No.		37005... Ident. No.		37005... Ident. No.	
	025	●	035	●	055	●

Prod. Gr. 3BL

Ident. No. 055

BMI Pocket tape measures
with notch

AO

Application:
For measuring distances with mm precision

Execution:
- Impact-resistant plastic housing made of ABS
- Automatic tape retract
- Direct reading of internal and external dimensions

Length (m)	2		3	
Width (mm)	13		13	
	37027... Ident. No.		37027... Ident. No.	
	020	●	030	●

Prod. Gr. 371

TAJIMA Tape measure
HiLock

AO

Application:
For measuring distances with mm precision

Execution:
- HiLock tape rule with robust ABS housing and belt clip

Length (m)	3		5		5		7		10	
Width (mm)	16		19		25		25		25	
	37044... Ident. No.		37044... Ident. No.		37044... Ident. No.		37044... Ident. No.		37044... Ident. No.	
	030	●	050	●	055	●	070	●	100	●

Prod. Gr. 5KN

BMI Tape rules
on a reel

Application:
No. 37038–37047: For measuring distances with mm precision
No. 37048: For measuring distances with cm precision

Execution:
- On aluminium reel
- Impact-resistant plastic grip
- Crank arm can be easily and quickly remounted from the right side to the left
- For right-handed and left-handed use
- Two ball bearings guarantee smooth unwinding and winding
- Scale starts after approx. 10 cm
- Flextop tape end prevents tape breaking
- on a reel
- **No. 37038:** Steel tape rule, painted white
- **No. 37038–37047:** Continuous mm graduation
- **No. 37047:** Plastic-coated steel tape rule, yellow
- **No. 37048:**
  - Continuous centimetre graduation
  - Fibre glass tape rule, yellow

Technical data:
- Width: 13 mm

No. 37038

Length (m)	37038... Ident. No.		37047... Ident. No.		37048... Ident. No.	
20	020	●	020	●	021	○
30	030	●	030	●	031	●
50	050	●	050	●	051	●

Prod. Gr. 371

No. 37047

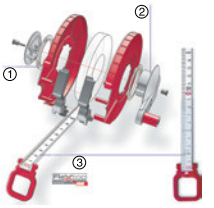
BMI Tape rules
in case

Application:
No. 37051: For measuring distances with cm precision
No. 37052–37057: For measuring distances with mm precision

Execution:
- Highly impact-resistant plastic capsule
- Flextop tape end prevents tape breaking
- Scale starts after approx. 10 cm
- in case
- **No. 37051:**
  - Softfinish surface (similar to sprayed rubber coating)
  - Fibre glass tape rule, yellow
  - Continuous centimetre graduation
- **No. 37052:** Steel tape rule, painted white
- **No. 37052–37057:**
  - SoftFinish surface (similar to sprayed rubber coating)
  - Continuous mm graduation
- **No. 37054:** Stainless steel
- **No. 37057:** Plastic-coated steel tape rule, yellow

Technical data:
- Width: 13 mm

No. 37052–37057



No. 37052
The crank is very easy to reassemble on the other side e. g. for left-handed people

Length (m)	37051... Ident. No.		37052... Ident. No.		37054... Ident. No.		37057... Ident. No.	
10	011	●	010	●	010	●	010	●
20	021	●	020	●	020	●	020	●
30	031	●	030	●	030	●	030	●
50	-	-	050	●	050	●	-	-

Prod. Gr. 371

Hultafors Tape rule for marking off
TALMETER

AO

Application:
For measuring and marking in one; suitable for external and internal measurements.

Execution:
- ABS housing
- with marking tip
- Extendible tape measure
- Suitable for diameter and circumference measurements

Length (m)	2		3	
Width (mm)	16		16	
	37025... Ident. No.		37025... Ident. No.	
	020	●	025	●

Prod. Gr. 371

Ident. No. 020

CJU circumferential tape measures

for circumference and diameter

Application:
For measuring circumferences and outer diameters

Execution:
- CIRCOMETER CJU
- With two gradations on the front for reading circumferences and mean diameters simultaneously
- **No. 37086:** Made of INOX spring steel
- **No. 37087:** black-coated for maximum reading contrast

Technical data:
- Scale value: 1 mm
- Vernier scale: 0.1 mm
- Width of band: 16 mm

No. 37086

No. 37087

Min./max. circumference of measuring range	Min./max. Ø of measuring range	37086... Ident. No.		37087... Ident. No.	
60-950 mm	20-300 mm	010	●	010	●
940-2200 mm	300-700 mm	020	●	020	●
2190-3460 mm	700-1100 mm	030	●	030	●
3450-4720 mm	1100-1500 mm	040	●	040	●
4710-5980 mm	1500-1900 mm	050	●	050	○
5970-7230 mm	1900-2300 mm	060	●	060	○

Prod. Gr. 371

Self-adhesive tape rules

without housing

AO

Application:
For determining distances with mm accuracy and marking or transferring dimensions. Self-adhesive, therefore suitable for setting up fixed workstations.

Execution:
- Stainless steel tape, painted white, unbreakable, durable
- Without fittings, low profile, non-curved, self-adhesive
- 1 mm graduations top/bottom, printed in black
- **No. 37154:** Scaling direction: From left to right
- **No. 37155:** Scaling direction: From right to left

No. 37154

No. 37155

	Left-to-right		Left-to-right		Left-to-right		Right-to-left		Right-to-left		Right-to-left	
Length (m)	1		2		5		1		2		5	
Width (mm)	13		13		13		13		13		13	
	37154... Ident. No.		37154... Ident. No.		37154... Ident. No.		37155... Ident. No.		37155... Ident. No.		37155... Ident. No.	
	100	●	200	●	500	●	100	●	200	●	500	●

Prod. Gr. 371

Folding rule

wooden

Execution:
- Angle scale in the hinged joint
- Brass end caps
- Scale and decimal numbers in black
- Joints made of recessed plastic springs

Technical data:
- Length: 2 m
- Width: 16 mm
- Number of chain links: 10 PCS
- Material: Wood
- Accuracy class: III

	Length (m)	Width (mm)	Number of chain links (PCS)	Material	Accuracy class		
37331...	2	16	10	Wood	III	Ident. No.	020 ●

Prod. Gr. 3AA

Folding rules

Execution:
- **No. 37315:**
  - Black anodised
  - Graduation embedded in anodised layer
  - Decimal numbers in white
- **No. 37330–37340:**
  - Brass end caps
  - Durable, sturdy joints
- **No. 37330–37350:** Decimal numbers in black/red
- **No. 37350:**
  - Reinforced with fibre glass
  - 90° angle locking
  - Extremely durable
- **No. 37360:**
  - Longitudinal fibre glass coating
  - Undetachable metal ends on first and last section

Advantage:
- **No. 37360:** High rigidity

No. 37315

No. 37350

No. 37360

		Length (m)	Width (mm)	Number of chain links (PCS)	Material	Accuracy class		
BMI	37315...	2	14	10	Light metal	II	Ident. No.	010 ●

		Length (m)	Width (mm)	Number of chain links (PCS)	Material	Accuracy class		
BMI	37330...	2	16	10	Wood	III	Ident. No.	010 ●
BMI	37332...	2	16	10	Wood	III	Ident. No.	005 ●
BMI	37340...	2	16	10	Wood	III	Ident. No.	005 ●
wiha	37350...	1	13	10	Plastic	III	Ident. No.	010 ●
wiha	37350...	2	15	10	Plastic	III	Ident. No.	020 ●
wiha	37360...	2	15	10	Plastic	II	Ident. No.	010 ●

Prod. Gr. 373

ATORN Steel rules
with millimetre and inch scales

AJ

NEW

Application:
For determining lengths, as a tool for scribing and marking off

Execution:
- Made of stainless spring steel
- Small cross-section for flexible design
- All edges ground and burr-free
- Anti-glare, matt surface
- Graduations insensitive to many chemicals, greases and oils
- Two graduations over the entire length: Scale graduation of 1/16 inch at the top and 1 mm at the bottom
- With partial fine graduations of 1/32 inch, 1/64 inch and 0.5 mm in the initial range of the graduation

Advantage:
- Conversion of measurements from the metric to the imperial system and vice versa
- Fine graduation in the initial range for more precise readout and marking

Technical data:
- Accuracy class: II

Ident. No. 015

Min./max. length measuring range				0-150 mm	0-300 mm	0-500 mm	0-1000 mm
Length (mm)				192.4	345	545	1045
Cross-section length x cross-section width				13 x 0.5 mm	13 x 0.5 mm	18 x 0.5 mm	18 x 0.5 mm
	Scale marking on top edge (length) (in)	Scale marking on bottom edge (length) (mm)					
37171...	1/16	1	Ident. No.	015 ●	030 ●	050 ●	100 ●

Prod. Gr. 3AA

ORION® Rulers

AJ

Application:
For determining lengths, as a tool for scribing and marking off

Execution:
- Made of stainless spring steel
- Small cross-section for flexible design
- All edges ground and burr-free
- Anti-glare, matt surface
- Graduations insensitive to many chemicals, greases and oils
- **No. 37101:** 2 scale graduations: Scale graduation 1 mm top and bottom
- **No. 37102:** 2 scale graduations: Scale graduations top 0.5 mm/bottom 1 mm

Technical data:
- Accuracy class: II

Min./max. length measuring range				0-150 mm	0-200 mm	0-300 mm	0-500 mm	0-1000 mm	0-2000 mm
Cross-section length x cross-section width				13 x 0.5 mm	13 x 0.5 mm	13 x 0.5 mm	18 x 0.5 mm	18 x 0.5 mm	18 x 0.5 mm
	Scale marking on top edge (length) (mm)	Scale marking on bottom edge (length) (mm)							
37101...	1	1	Ident. No.	015 ●	020 ●	030 ●	050 ●	100 ●	200 ●+
37102...	0.5	1	Ident. No.	015 ●	020 ●	030 ●	050 ●	100 ●	200 ●+

Prod. Gr. 3BG

ORION® Rulers

AJ

Application:
For determining lengths, as a tool for scribing and marking off

Execution:
- Made of stainless spring steel
- Wide cross-section for rigid design
- Two scale graduations: Scale graduation 1 mm at top and bottom
- **No. 37151:** Anti-glare, matt surface
- **No. 37152:** Highly anti-glare, matt chrome-plated surface

Technical data:
- Accuracy class: II

Min./max. length measuring range				0-300 mm	0-500 mm	0-1000 mm	0-1500 mm	0-2000 mm	0-1500 mm	0-2000 mm
Cross-section length x cross-section width				30 x 1 mm	30 x 1 mm	30 x 1 mm	30 x 1 mm	30 x 1 mm	35 x 1.5 mm	35 x 1.5 mm
	Scale marking on top edge (length) (mm)	Scale marking on bottom edge (length) (mm)								
37151...	1	1	Ident. No.	030 ●	050 ●	100 ●	150 ●+	200 ●+	-	-
37152...	1	1	Ident. No.	030 ●	050 ●	100 ●	-	-	150 ●+	200 ●+

Prod. Gr. 373

BMI Rulers
in EC class 1

AJ

Application:
For determining lengths, as a tool for marking and scribing

Execution:
- Made of stainless spring steel
- Wide cross-section for rigid design
- In EC class 1 for increased scale accuracy
- Back: Inch/metric table, tapping hole diameter
- Two scale graduations: 1 mm graduation at top, 0.5 mm graduation at bottom

Technical data:
- Accuracy class: I

Min./max. length measuring range				0-100 mm	0-300 mm	0-600 mm	0-1000 mm
Cross-section length x cross-section width				18 x 0.5 mm	30 x 1 mm	30 x 1 mm	30 x 1 mm
	Scale marking on top edge (length) (mm)	Scale marking on bottom edge (length) (mm)					
37153...	1	0.5	Ident. No.	015 ●	030 ●	060 ●	100 ●

Prod. Gr. 373

ATORN Light metal ruler

AJ

Execution:
- Made of anti-glare, anodised aluminium alloy
- Graduation with scale interval 1 mm
- Boldly coloured decimal numbers
- Suspension hole
- Lightweight and corrosion-resistant

Advantage:
- With convenient recessed handle for improved handling
- Inking edge to avoid smearing when drawing
- Contrasting print is particularly easy to read and anti-glare

Technical data:
- Cross-section length x cross-section width: 50 x 5 mm
- Accuracy class: II

Min./max. length measuring range			0-300 mm	0-400 mm	0-600 mm	0-1000 mm
Length (mm)			320	420	620	1020
	Scale marking on top edge (length) (mm)					
37170...	1	Ident. No.	030 ●	040 ●	060 ●	100 ●

Prod. Gr. 3AA

Rulers (DIN 866)

AJ

Application:
For determining lengths, as a tool for scribing and marking off

Execution:
- Ground and aligned top edge for use as a ruler
- in accordance with DIN 866 B, with protective edge on right
- Scale graduations: no graduation at top/1 mm at bottom
- **No. 37200:** Steel
- **No. 37201:** Stainless steel

Min./max. length measuring range			0-500 mm	0-1000 mm	0-1500 mm	0-2000 mm	0-3000 mm	0-4000 mm
Length (mm)			510	1010	1510	2010	3010	4010
Cross-section length x cross-section width			25 x 5 mm	30 x 6 mm	30 x 6 mm	40 x 8 mm	40 x 8 mm	50 x 10 mm
	Scale marking on bottom edge (length) (mm)							
37200...	1	Ident. No.	050 ●	100 ●	150 ●+	200 ○+	300 ○+	400 ○+
37201...	1	Ident. No.	050 ●	100 ●	150 ●+	200 ○+	300 ○+	400 ○+

Prod. Gr. 373

ATORN Straight edges (DIN 874)

U

Application:
For inspecting the flatness and straightness of surfaces

Execution:
- Hardened measuring edge, ground and finely lapped
- Hand warmth insulation
- **No. 37550:** Made from special steel, both inclines with anti-glare burnished finish
- **No. 37551:** Made from INOX steel, both incline surfaces with anti-glare matt finish

Delivery:
In synthetic leather case

Notes:
From 1000mm on request

No. 37550 012

No. 37551 012

Length (mm)			75	100	125	150	200	300	400	500
	Material									
37550...	Hardened steel	Ident. No.	007 ●	010 ●	012 ●	015 ●	020 ●	031 ●	041 ●	051 ●
37551...	Stainless steel A2/steel	Ident. No.	007 ●	010 ●	012 ●	015 ●	020 ●	031 ●	041 ●	051 ●

Prod. Gr. 3AF

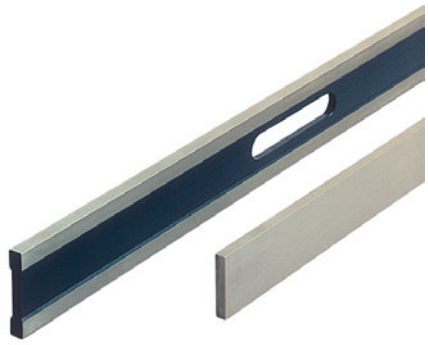
Steel rulers

In accuracy classes II, I and 0

CG

Version:
- Rectangular cross-section
- Test surfaces finely polished
- Straightness of test surfaces according to DIN 874
- **Accuracy class II:** Top edges finely polished, flat sides sanded
- **Accuracy class I:** Top edges finely polished and calibrated, flat sides precision-ground. Rulers up to 1,500 mm feature a rectangular, rules above 2,000 mm a double-T cross-section and 2 hand slots
- **Accuracy class 0:** High-precision version: top edges and flat sides precisely machined, polished and calibrated. Rulers up to 1,500 mm feature a rectangular, rules above 2,000 mm a double-T cross-section and 2 hand slots

Advantage:
- **No. 37420 050-37420 200, 37450 050-37450 200:** Test data engraved directly on the ruler



	Material	Accuracy class	Length (mm)	Cross-section length x cross-section width	Weight (kg)		
37420...	Steel	II	500	30 x 6 mm	0.7	Ident. No.	050 ●
37420...	Steel	II	1000	40 x 8 mm	2.5	Ident. No.	100 ●
37420...	Steel	II	1500	50 x 10 mm	5.8	Ident. No.	150 ●+
37420...	Steel	II	2000	60 x 12 mm	11.2	Ident. No.	200 ●+
37435...	Steel	I	500	40 x 8 mm	1.3	Ident. No.	050 ●
37435...	Steel	I	1000	50 x 10 mm	4	Ident. No.	100 ●
37435...	Steel	I	1500	60 x 12 mm	8.4	Ident. No.	150 ○+
37435...	Steel	I	2000	70 x 15 mm	12	Ident. No.	200 ○+
37450...	Steel	0	500	50 x 10 mm	2	Ident. No.	050 ●
37450...	Steel	0	1000	60 x 12 mm	5.7	Ident. No.	100 ●
37450...	Steel	0	1500	70 x 15 mm	12.4	Ident. No.	150 ○+
37450...	Steel	0	2000	80 x 15 mm	13	Ident. No.	200 ○+
37425...	Stainless steel	II	500	30 x 6 mm	0.7	Ident. No.	050 ●
37425...	Stainless steel	II	750	40 x 8 mm	2	Ident. No.	075 ●
37425...	Stainless steel	II	1000	40 x 8 mm	2.5	Ident. No.	100 ●
37425...	Stainless steel	II	1500	50 x 10 mm	5.8	Ident. No.	150 ○+
37425...	Stainless steel	II	2000	60 x 12 mm	11.2	Ident. No.	200 ○+
37436...	Stainless steel	I	500	40 x 8 mm	1.3	Ident. No.	050 ●
37436...	Stainless steel	I	750	50 x 10 mm	3	Ident. No.	075 ○
37436...	Stainless steel	I	1000	50 x 10 mm	4	Ident. No.	100 ●
37436...	Stainless steel	I	1500	60 x 12 mm	8.4	Ident. No.	150 ○+
37436...	Stainless steel	I	2000	70 x 15 mm	12	Ident. No.	200 ○+
37451...	Stainless steel	0	500	50 x 10 mm	2	Ident. No.	050 ●
37451...	Stainless steel	0	750	50 x 10 mm	3	Ident. No.	075 ●
37451...	Stainless steel	0	1000	60 x 12 mm	5.7	Ident. No.	100 ●
37451...	Stainless steel	0	1500	70 x 14 mm	12.4	Ident. No.	150 ○+

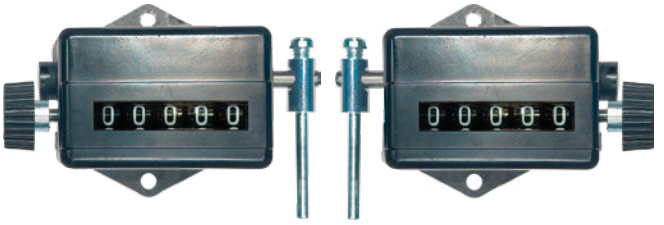
Prod. Gr. 375

Stroke counters

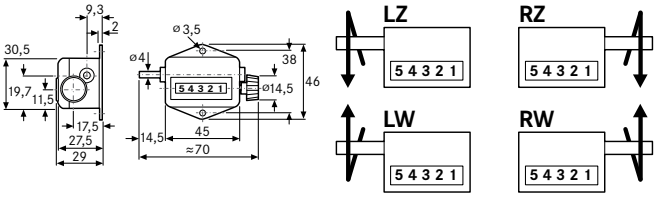
Application:
For counting using lever-action system, manually or on machines

Execution:
- 5-digit display
- Digits 3.5 x 4.5 mm
- with zero setting via rotary knob
- Counter speed max. 500 numbers/ minute
- 2x 3.5 mm holes for screw mounting
- Housing made of fibreglass-reinforced plastic

- **Ident. No. 000:** RZ version: Lever on right, stroke direction towards the viewer
- **Ident. No. 010:** RW version: Lever on the right, stroke direction away from the viewer
- **Ident. No. 020:** LZ version: Lever on the left, stroke direction towards the viewer
- **Ident. No. 030:** LW version: Lever on the left, stroke direction away from the viewer



Ident. No. 000–010 Ident. No. 020–030



Max. display value			99999
Number of digits (PCS)			5
Drive shaft Ø (mm)			4
Digit height (mm)			4.5
Width (mm)			70
Height (mm)			29
48410...	RZ version	Ident. No.	000 ●
48410...	RW version	Ident. No.	010 ●
48410...	LZ version	Ident. No.	020 ●
48410...	LW version	Ident. No.	030 ●

Prod. Gr. 394

Laserliner Travel counter

Application:
For measuring long distances, e.g. open spaces, paths, rails etc., including curves

Execution:
- Adds when moving forwards, subtracts when moving backwards
- Brake and zero setting directly on the handle
- **Ident. No. 090:** mechanical digital display 0.1-9,999.9 m, reading 0.1 m, wheel circumference 0.5 m

- **Ident. No. 100:** mechanical digital display 0.1-9,999.9 m, reading 0.1 m, wheel circumference 1 m
- **Ident. No. 110:** Electronic digital display 0.01-9,999.99 m, reading 0.01 m, wheel circumference 1 m

Advantage:
- Compact folding design for transport
- **Ident. No. 090:** Small wheel for measuring right up to obstacles and walls

EXTENDED PROGRAM

- **Ident. No. 100–110:** Hold function for locking the measured value

Delivery:
Ident. No. 090–100: with transport bag
Ident. No. 110: with 9 V battery, transport bag

Ident. No. 090

Ident. No. 100

Ident. No. 110

Max. display value		9999.9 m	9999.9 m	9999.99 m
Number of digits		5	5	6
Reading Length Metrology		0,1 mm	0,1 mm	0,01 mm
Wheel circumference (m)		0.5	1	1
Model		RollPilot S6	RollPilot X12	RollPilot D12
37064...	Ident. No.	090 ○	100 ○	110 ○

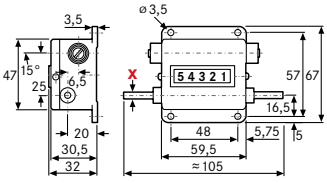
Prod. Gr. 3EE

Metre counter M45

Application:
For measuring lengths using a wheel with a defined circumference. For example, for cutting cables to length, measuring tracks etc.

Execution:
- 5-digit display
- max 9,999.9 metres
- Digit height 4.5 mm
- Can be used on both sides
- Zero reset lever reversible
- Plastic housing
- Adding in specified rotation direction, subtracting when rotating in reverse direction
- **Ident. No. 040:** Version: LZ.RZ: Rotation direction towards the viewer
- **Ident. No. 050:** Version: LW.RW: Rotation direction away from viewer

Notes:
Measuring wheel with 200 mm circumference and 5 mm mount required



Max. display value			9999.9 m
Number of digits (PCS)			5
Drive shaft Ø (mm)			5
Digit height (mm)			4.5
Width (mm)			105
Height (mm)			32
48410...	LZ.RZ version	Ident. No.	**040** ●
48410...	LW.RW version	Ident. No.	**050** ●

Prod. Gr. 394

Measuring wheels for metre counters

Application:
Measuring wheels with 200 mm circumference, suitable for M45 metre counter.

Execution:
- Different tread textures are suitable for measuring lengths on different materials
- 200 +/-0.2 mm circumference
- Moment of inertia 310 gcm²
- Aluminium core material
- Material and texture of the tread depend on the version
- Aluminium/knurled: Cardboard, wood, textiles, rubber, soft plastic
- Polyurethane/smooth: greased metals, steel profiles, painted surfaces, plastics, papers, cardboard, wood, textiles, wire, leather
- Polyurethane/nubbed: coarse textiles, carpet, cable measurement, non-woven fabric, paper, cardboard, wood, plastics
- Polyurethane/grooved: Ungreased metal, painted surfaces, plastics, paper, cardboard, wood, textiles, glass, flooring

Ident. No. 060

Ident. No. 070

Ident. No. 080

Ident. No. 090

Wheel tread type		Crossed	Smooth	Studded	Serrated
Wheel circumference (mm)		200	200	200	200
Material		Aluminium	Polyurethane coated	Polyurethane coated	Polyurethane coated
Width (mm)		12	12	12	12
Locating bore hole Ø (mm)		5	5	5	5
48410...	Ident. No.	**060** ●	**070** ●	**080** ●	**090** ●

Prod. Gr. 394

ORION® Quantity counter

Application:
For manually recording quantities at the push of a button, e.g. for counting production batches.

Execution:
- Zero setting using knurled knob
- Front cap and base made from durable plastic
- Ambient temperature: 0–60°C
- **Ident. No. 011:** Handheld piece counter with retaining ring
- **Ident. No. 021:** Piece counter with mounting base for table-top or wall mounting

Technical data:
- Max. display value: 9999
- Number of digits: 4 PCS
- Digit height: 4.5 mm
- Height: 24.8 mm
- Material: Polyoxymethylene

Ident. No. 011

Ident. No. 021

Outer Ø (mm)		47.2	65
48450...	Ident. No.	**011** ●	**021** ●

Prod. Gr. 394

Spindle position indicators OP3

Application:
For monitoring and setting linear or angular movements performed by adjusting spindles. For setting machine spindles and production systems. The display is chosen according to the spindle pitch and diameter.

Execution:
- Impact-resistant and self-extinguishing housing made of technopolymer
- Magnifier for improved readability
- Hollow shank internal diameter 14 mm H7

Advantage:
- Simple installation, even when retrofitting to existing spindles
- Quick replacement - especially beneficial for quick material changes and small batch sizes
- Reduced downtimes and increased system availability

Technical data:
- Colour: Black
- IP protection class: IP 64
- Number of digits: 4 PCS
- Max. display value: 9999
- Adapter diameter: 14 mm
- Width x depth x height: 32 x 26 x 46 mm

NEW

		Spindle position indicator OP3		Spindle position indicator OP3	
	Installation position	Horizontal		Vertical	
Pitch (mm)	Max. rotation speed (rpm)	48413... Ident. No.		48413... Ident. No.	
0.5	200	000	○	060	○
0.75	600	005	○	065	○
1	600	010	●	070	○
1.25	600	015	○	075	○
1.5	600	020	●	080	○
1.75	500	025	○	085	○

		Spindle position indicator OP3		Spindle position indicator OP3	
	Installation position	Horizontal		Vertical	
Pitch (mm)	Max. rotation speed (rpm)	48413... Ident. No.		48413... Ident. No.	
2	500	030	●	090	○
2.5	300	035	○	095	○
3	300	040	●	100	○
4	200	045	○	105	○
5	200	050	○	110	○
6	200	055	○	115	○

Prod. Gr. 394

Spindle position indicators OP7

Application:
For monitoring and setting linear or angular movements performed by adjusting spindles. For setting machine spindles and production systems. The display is chosen according to the spindle pitch and diameter.

Execution:
- Impact-resistant and self-extinguishing housing made of technopolymer
- Magnifier for improved readability
- Hollow shank internal diameter 20 mm H7

Advantage:
- Simple installation, even when retrofitting to existing spindles
- Quick replacement - especially beneficial for quick material changes and small batch sizes
- Reduced downtimes and increased system availability

Technical data:
- Colour: Black
- IP protection class: IP 64
- Number of digits: 5 PCS
- Max. display value: 99999
- Adapter diameter: 20 mm
- Width x depth x height: 48 x 27.75 x 66 mm

NEW

		Spindle position indicator OP7		Spindle position indicator OP7	
	Installation position	Horizontal		Vertical	
Pitch (mm)	Max. rotation speed (rpm)	48417... Ident. No.		48417... Ident. No.	
1	800	000	○	050	○
1.25	800	005	○	055	○
1.5	800	010	○	060	○
1.75	600	015	○	065	○
2	600	020	●	070	○

		Spindle position indicator OP7		Spindle position indicator OP7	
	Installation position	Horizontal		Vertical	
Pitch (mm)	Max. rotation speed (rpm)	48417... Ident. No.		48417... Ident. No.	
2.5	500	025	○	075	○
3	400	030	●	080	○
4	300	035	○	085	○
5	250	040	○	090	○
6	250	045	○	095	○

Prod. Gr. 394

Accessories spindle position indicators

Application:
No. 48413 120–48413 130, 48417 100–48417 120: Reduction to smaller shank diameters for spindle position indicators
No. 48413 135, 48417 125: For manually turning the spindle position indicator
No. 48413 140, 48417 130: Shank clamping flange for fast attachment of the spindle position indicators

Execution:
- **No. 48413 120–48413 130, 48417 100–48417 120:** made from technopolymer
- **No. 48413 135, 48417 125:** with positive/negative marking
- **No. 48413 140, 48417 130:** With lever quick-action clamping system

NEW

No. 48413 120–48413 130, 48417 100–48417 120

48413...	OP3 reduction sleeve 12 mm	Ident. No.	120 ●
48413...	OP3 reduction sleeve 10 mm	Ident. No.	125 ●

48413...	OP3 reduction sleeve 8 mm	Ident. No.	130 ●
48417...	OP7 reduction sleeve 18 mm	Ident. No.	100 ●
48417...	OP7 reduction sleeve 16 mm	Ident. No.	105 ●
48417...	OP7 reduction sleeve 14 mm	Ident. No.	110 ●
48417...	OP7 reduction sleeve 12 mm	Ident. No.	115 ●
48417...	OP7 reduction sleeve 10 mm	Ident. No.	120 ●
48413...	Rotary knob for OP3	Ident. No.	135 ●
48417...	Rotary knob for OP7	Ident. No.	125 ●
48413...	Shank clamping flange to OP3	Ident. No.	140 ●
48417...	Shank clamping flange to OP7	Ident. No.	130 ●

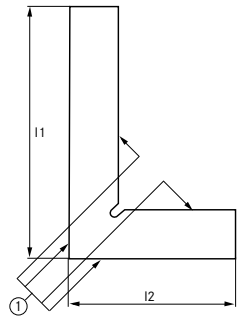
Prod. Gr. 394

No. 48413 135, 48417 125

No. 48413 140, 48417 130

90° steel square, right-angle tolerances
Excerpt from DIN 875

Length l1	Right-angle tolerances t in µm with accuracy level			
(mm)	00	0	1	2
50	3	-	-	-
75	3	7	14	28
100	3	7	15	30
150	4	8	18	35
200	4	9	20	40
250	5	10	23	45
300	5	11	25	50
500	7	15	35	70
750	10	20	43	85
1000	12	25	60	120



ATORN Flat squares and try squares (DIN 875)
Accuracy 2

W

Application:
For testing angles and marking offs workpieces

Execution:
- Made from special steel, unhardened
- Test and side surfaces finely ground

Technical data:
- Angle: 90 Degree
- Accuracy class: II
- DIN: 875

		Type	Flat square		Try square	
		Material	Unhardened steel		Unhardened steel	
Limb length x limb length 2	Cross-section length x cross-section width		38062... Ident. No.		38063... Ident. No.	
75 x 50 mm	15 x 5 mm		007	●	007	●
100 x 70 mm	20 x 5 mm		010	●	010	●
150 x 100 mm	25 x 5 mm		015	●	015	●
200 x 130 mm	30 x 6 mm		020	●	020	●
250 x 165 mm	35 x 7 mm		025	●	025	●
300 x 175 mm	35 x 7 mm		030	●	030	●
500 x 250 mm	40 x 8 mm		050	●	050	●
750 x 375 mm	45 x 10 mm		075	○	-	-
600 x 300 mm	40 x 8 mm		-	-	060	●

Prod. Gr. 3AF

No. 38062 No. 38063

ATORN Flat squares and try squares (DIN 875)

Accuracy 1

W

Application:
For testing angles and marking offs workpieces

Execution:
- Test and side surfaces finely ground
- **No. 38058–38059:** Made from INOX steel, unhardened
- **No. 38060–38061:** Made from special steel, unhardened

Technical data:
- Angle: 90 Degree
- Accuracy class: I
- DIN: 875

No. 38058 007–38058 050, 38060 007–38060 050

No. 38059 007–38059 050, 38061 007–38061 050

		-		-		-		-		Try square	
Type		Flat square		Try square		Flat square		Try square		Try square	
Material		Steel, stainless		Steel, stainless		Unhardened steel		Unhardened steel		Unhardened steel	
Limb length x limb length 2	Cross-section length x cross-section width	38058... Ident. No.		38059... Ident. No.		38060... Ident. No.		38061... Ident. No.		38061... Ident. No.	
75 x 50 mm	15 x 5 mm	007	●	007	●	007	●	007	●	-	-
100 x 70 mm	20 x 5 mm	010	●	010	●	010	●	-	-	010	●
150 x 100 mm	25 x 5 mm	015	●	015	●	015	●	015	●	-	-
200 x 130 mm	30 x 6 mm	020	●	020	●	020	●	020	●	-	-
250 x 165 mm	35 x 7 mm	025	●	025	●	025	●	025	●	-	-
300 x 200 mm	40 x 8 mm	030	●	030	●	030	●	030	●	-	-
500 x 330 mm	50 x 10 mm	050	●	050	●	050	●	050	●	-	-

Prod. Gr. 3AF

ATORN Flat squares and try squares (DIN 875)

Accuracy 0

W

Application:
For testing angles and marking offs workpieces

Execution:
- Side faces finely ground
- Lapped test surfaces
- **No. 38051–38052:** Made from special steel, unhardened
- **No. 38073–38074:** Made from hardened INOX steel

Technical data:
- Angle: 90 Degree
- Accuracy class: 0
- DIN: 875

No. 38051 010–38051 020, 38073 005–38073 020

No. 38052 010–38052 020, 38074 005–38074 020

	Type	Flat square		Flat square		Try square		Try square	
	Material	Steel, stainless		Unhardened steel		Steel, stainless		Unhardened steel	
Limb length x limb length 2	Cross-section length x cross-section width	38073... Ident. No.		38051... Ident. No.		38074... Ident. No.		38052... Ident. No.	
50 x 40 mm	12 x 5 mm	005	●	-	-	005	●	-	-
75 x 50 mm	15 x 5 mm	007	●	-	-	007	●	-	-
100 x 70 mm	20 x 5 mm	-	-	010	●	-	-	010	●
100 x 70 mm	25 x 5 mm	010	●	-	-	010	●	-	-
150 x 100 mm	25 x 5 mm	015	●	015	●	015	●	015	●
200 x 130 mm	30 x 6 mm	020	●	020	●	020	●	020	●

Prod. Gr. 3AF

Engineers' zinc plated square

Application:
For testing angles and marking offs workpieces

Execution:
- Galvanised surface
- Made from high-strength carbon steel
- Grooved inner corner

Technical data:
- Other standard: Company standard

No. 38068 No. 38069

		Flat square		Try square	
Limb length x limb length 2	Cross-section length x cross-section width	38068... Ident. No.		38069... Ident. No.	
100 x 70 mm	20 x 5 mm	010	●	010	●
150 x 100 mm	20 x 5 mm	015	●	015	●
200 x 130 mm	20 x 5 mm	020	●	020	●
250 x 160 mm	25 x 5 mm	025	●	025	●
300 x 180 mm	25 x 5 mm	030	●	030	●
400 x 230 mm	30 x 5 mm	040	●	040	●
500 x 280 mm	30 x 5 mm	050	●	050	●
600 x 330 mm	30 x 5 mm	060	●	060	●
750 x 375 mm	30 x 5 mm	075	●	075	●
1000 x 500 mm	30 x 5 mm	100	●	100	●

Prod. Gr. 3BG

ATORN Try square (DIN 875)
with thick and thin legs

W

Application:
For testing angles and marking offs workpieces

Execution:
- Made from special steel, hardened
- Test surfaces and side surfaces finely ground and precise
- Lapped test surfaces

Technical data:
- Angle: 90 Degree
- Accuracy class: 0
- DIN: 875

			Type	Try square
			Material	Hardened steel
Limb length x limb length 2	Cross-section length x cross-section width	Cross-section length 2 x cross-section width 2	38111... Ident. No.	
75 x 50 mm	18 x 2 mm	14 x 10 mm	007	●
100 x 70 mm	18 x 2 mm	16 x 10 mm	010	●
150 x 100 mm	22 x 3 mm	20 x 12 mm	015	●
200 x 130 mm	26 x 3 mm	24 x 14 mm	020	●

Prod. Gr. 3AF

ATORN Knife-edge square, hardened (DIN 875)

W

Application:
For testing planar surfaces using the light gap method

Execution:
- Test and side surfaces finely ground
- Test edges lapped
- With 2 lapped, graduated knife edges
- Hardened

- **No. 38125:** Made from special steel
- **No. 38126:** Made of INOX steel

Technical data:
- Angle: 90 Degree
- Accuracy class: 00
- DIN: 875

		Type	Knife-edge square		Knife-edge square	
		Material	Hardened steel		Steel, stainless	
Limb length x limb length 2	Cross-section length x cross-section width		38125... Ident. No.		38126... Ident. No.	
50 x 40 mm	13 x 4 mm		005	●	005	●
75 x 50 mm	15 x 4.5 mm		007	●	007	●
100 x 70 mm	19 x 6 mm		010	●	010	●
200 x 130 mm	32 x 7 mm		-	-	020	●

Prod. Gr. 3AF

ATORN Precision square

W

Application:
For inspection during toolmaking and manufacturing

Execution:
- Made from hardened INOX steel
- Test and side surfaces finely ground
- Graduated knife edge on inner side
- Inspection edges hardened and lapped

Technical data:
- Cross-section length 2 x cross-section width 2: 5 x 3.5 mm
- Accuracy class: 00

Ident. No. 025

		Type	Incision square	
		Material	Steel, stainless	
Limb length x limb length 2	Cross-section length x cross-section width	38154... Ident. No.		
25 x 20 mm	6 x 3.5 mm	025	●	
40 x 28 mm	8 x 3.5 mm	040	●	

Prod. Gr. 3AF

ORION® Adjustable knife-edge square

W

Application:
For testing planar surfaces using the light gap method

Execution:
- Continuously sliding straight edge
- Clamp spindle lock mechanism
- Hardened
- Lapped test surfaces on basic body and lapped straight test edge

Advantage:
- Very good accessibility in recesses etc.

Technical data:
- Limb length x limb length 2: 60 x 40 mm
- Cross-section length x cross-section width: 4 x 4 mm
- Cross-section length 2 x cross-section width 2: 23 x 9 mm

38160...	Ident. No.	012 ●

Prod. Gr. 3BG

ATORN Mitre try square

Application:
For precise 45° mark-off and inspection for 90° corner joints

Execution:
- Test and side surfaces finely ground
- Made from special steel

Technical data:
- Angle: 135 Degree

		Type	Mitre try square	
		Material	Unhardened steel	
Limb length x limb length 2	Cross-section length x cross-section width	38175... Ident. No.		
120 x 80 mm	20 x 5 mm	120	●	
150 x 100 mm	20 x 5 mm	150	●	
200 x 130 mm	25 x 5 mm	200	●	

Prod. Gr. 3AF

ATORN Acute mitre square 45°

Application:
For marking off and inspecting 45° angles

Execution:
- With stop
- Test surfaces precisely ground and lapped, side surfaces ground
- Made from special steel

Technical data:
- Angle: 45 Degree

		Type	Acute mitre square	
		Material	Unhardened steel	
Limb length x limb length 2	Cross-section length x cross-section width	38176... Ident. No.		
120 x 80 mm	20 x 5 mm	120	●	
150 x 100 mm	20 x 5 mm	150	●	
200 x 130 mm	25 x 5 mm	200	●	

Prod. Gr. 3AF

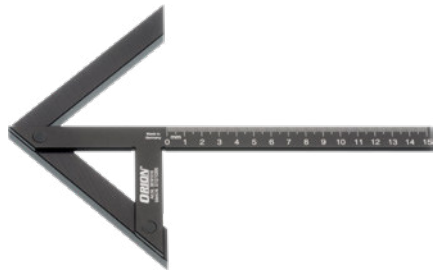
ORION® Universal centring square

Application:
For centring and marking off centre points of round discs and shafts.

Execution:
- Function faces finely ground
- mm graduation on rail

Limb length x limb length 2	38191... Ident. No.	
100 x 70 mm	011	●
150 x 130 mm	016	●
200 x 150 mm	021	●
250 x 160 mm	026	●
300 x 180 mm	031	●
400 x 240 mm	041	●
500 x 300 mm	051	○

Prod. Gr. 3BG



Ident. No. 011–026, 041–051

ORION® Flange square

Application:
For checking the angle of flanges on piping

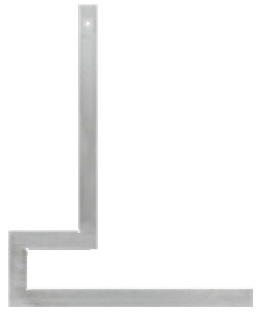
Execution:
- Zinc-plated surface
- Made from high-strength carbon steel
- Exposed inner corner

Delivery:
In cardboard box

Technical data:
- DIN: en

	Flange square	
Limb length x limb length 2	38192... Ident. No.	
300 x 300 mm	030	●
500 x 500 mm	050	●

Prod. Gr. 3BG



ORION® Bevel gauge
with flexibly adjustable blade

Application:
For setting and transferring an angle, e.g. from a part to a mitre saw, or from a reference to a component.

Execution:
- Arm made of anodised aluminium, painted steel blade
- Arm serves as stop and angle divider
- Blade can be clamped by wing nut

Advantage:
- Folding for transport and storage
- Flexible adjustment by means of a slotted hole in the blade
- The 45° tip makes it particularly easy to halve 90° angles
- A 180° angle may be divided as desired and both sections transferred simultaneously by positioning the arm of the bevel gauge in the middle

Limb length x limb length 2		250 x 150 mm
Cross-section length x cross-section width		40 x 2 mm
Cross-section length 2 x cross-section width 2		40 x 14 mm
38200...	Ident. No.	025 ●

Prod. Gr. 3BG

BMI Adjustable mitre try and carpenter square
8-in-1 model

Application:
For setting a fixed angle 0°, 22.5°, 45°, 67.5°, 90°, 112.5°, 135° or 157.5°

Execution:
- Permanent accuracy +/- 0.05° = 1 mm/m
- Arm made of anodised aluminium, blade made of stainless steel
- Scales etched on both sides

Advantage:
- Folding for transport and storage
- Fixed detent positions do not require a reference for adjustment
- Replaces multiple fixed angles, ideal for a tool bag

Limb length x limb length 2		200 x 80 mm	300 x 120 mm	400 x 150 mm
Cross-section length x cross-section width		40 x 2 mm	40 x 2 mm	40 x 2 mm
Cross-section length 2 x cross-section width 2		40 x 14 mm	40 x 14 mm	40 x 14 mm
38205...	Ident. No.	020 ●	030 ●	040 ●

Prod. Gr. 373

ATORN Analogue manual-reading protractor

R

Application:
For measuring 10–170° angles

Execution:
- Locking screw

- Made of chromium-plated special steel
- Anti-glare, brushed chromium-plated scale
- **No. 38231:** Double blade for ease of use

No. 38230

Degree arc Ø (mm)		100	150	200	300
Limb length (mm)		150	300	400	600
38230...	Ident. No.	010 ●	015 ●	020 ●	030 ●
38231...	Ident. No.	010 ●	015 ●	020 ○	-

Prod. Gr. 382

ORION Manual-reading protractor

R

Application:
For measuring 0-180° angles

Execution:
- Locking screw
- Made of chromium-plated special steel
- Anti-glare, brushed chromium-plated scale

Limb length (mm)		120	150	200	300	500
Degree arc Ø (mm)		80	120	150	200	300
38217...	Ident. No.	008 ●	012 ●	015 ●	020 ●	030 ●

Prod. Gr. 3BG

ORION Digital protractor

RD

Application:
For measuring 0-180° angles

Execution:
- Mobile measuring arm fixed using knurled thumb screw

- Adjust or set to zero on any flat surface
- 0.05 ° digit increment
- Made of stainless steel
- Error limit ±0.3°
- Overhead display

Limb length (mm)		150	200	300
Degree arc Ø (mm)		120	150	200
38235...	Ident. No.	010 ●	015 ●	020 ●

Prod. Gr. 3BM

ATORN Universal protractor
with magnifying glass

S

Application:
For measuring 0-360° angles

Execution:
- Precision adjustment
- Parallax-free reading
- Made from hardened INOX steel

- Vernier scale 1/12° = 5 ‘
- Scale and vernier scale with brushed chromium-plated finish
- Error limit 5’

Delivery:
With panoramic magnifying glass, in wooden case

Illustration may be different

Rail length (mm)		150	200	300
38240...	Ident. No.	015 ●	020 ●	030 ●

Prod. Gr. 382

ATORN Electronic universal protractor

S

Application:
For measuring 0-360° angles

Execution:
- Adjust or set to zero on any flat surface
- LCD display with very large digits (size 8.5 mm)
- Measuring surfaces, hardened and fine ground
- Switchable measuring range: 1 x 360° 2 x 180°
- Zero setting (RESET) possible at any position
- Digit increment 0.01° or 1´
- Error limit 2'

Delivery:
Includes battery and sturdy wooden case

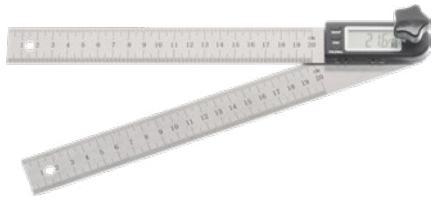
Technical data:
- Data transmission type: RS232 opto coupled

Rail length (mm)		150	200	300
38265...	Ident. No.	150 ●	200 ●	300 ●

Prod. Gr. 382

ORION Digital protractor 200 mm

S



Application:
for measuring and transferring of angles on workpieces

Execution:
- hold function
- zero setting (RESET) possible at any position
- 1-mm pitch
- easy to read display

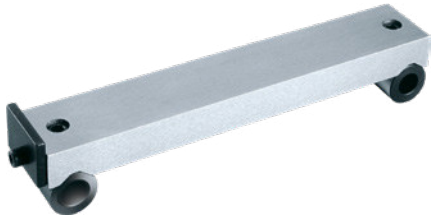
Delivery:
Includes battery (1 x 3 V lithium, type CR 2032)

Rail length (mm)		200
Digit increment		0.05
38235...	Ident. No.	100 ●

Prod. Gr. 3BM
Spare battery, see no. 56815 210 page 1682

TESA Sine bar

EXTENDED PROGRAM



Application:
For precise setting of an inclined reference surface from 0 to 60°. The sine function is used to determine the angle to be set based on linear dimensions, i.e. based on gauge blocks.

Execution:
- Made from hardened gauge steel
- With front-face stop, removable
- Two rollers form the axis points for the reference surface and gauge blocks
- The required combination of gauge blocks is calculated based on the centre distance of 127 mm multiplied by the sine (alpha) of the desired angle.

Notes:
Gauge blocks not included

Type		Sine bar 0 to 60 degrees
Axial spacing (mm)		127
Measuring surface width x Measuring surface depth		123 x 25 mm
38002...	Ident. No.	510 ○

Prod. Gr. 362

ATORN Spirit levels with magnetic base

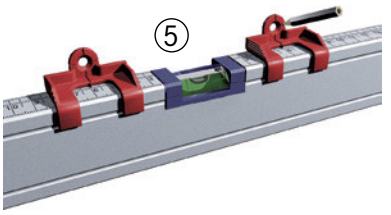
made of light metal

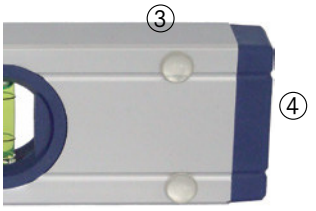
P

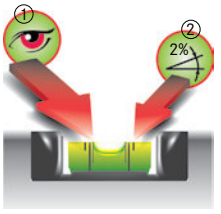
Application:
For horizontal and vertical alignment of objects

Execution:
- Laser-scaled horizontal round vials
- Read off 2% inclines
- Magnifying effect for improved reading
- 270° view of bubble from all positions without any interfering edges
- Made from high-strength non-breakable polycarbonate
- Strong aluminium rectangular profile
- Scratch-proof thanks to special anodising treatment
- Rubber end caps for impact protection
- **No. 38291:** Magnetic base

Advantage:
- Silicone pads on rear side surface for non-slip positioning on walls
- Additional divisions for exact 0-position of bubble in the horizontal vial for precise reading (zero-point deviation in normal position: 0.5 mm/m)
- **No. 38290 080–38290 120:**
  - Scale printed on upper measuring surface
  - 2 sliding measuring and marking-off tabs







Measuring accuracy (per length) (mm/m)	0.5		0.5	
Length (mm)	38290... Ident. No.		38291... Ident. No.	
200	020	●	-	-
300	030	●	-	-
400	040	●	040	●
500	050	●	-	-
600	060	●	060	●
800	080	●	080	●
1000	100	●	100	●
1200	120	●	-	-
1500	150	●+	-	-
1800	180	●	-	-
2000	200	●+	-	-

Prod. Gr. 3AG

BMI Spirit levels

with unbreakable, barrel-shaped perspex vials

Application:
For horizontal and vertical alignment of an object

Version:
- With unbreakable, barrel-shaped perspex vials
- **BMI compact and hard wood model:**
  - Made of compact and hard wood for minimal heat conduction
  - oiled and kiln-dried
- **BMI Eurostar model:**
  - Made from reinforced square profile
  - Non-glare round spirit levels with magnifying effect
  - Reads 2 % gradients
- **BMI Alustar model:**
  - Made of strong, rectangular aluminium profile
  - Scratch-proof thanks to special anodising treatment
  - 1 additional rotating vial for reading the angle in degrees and %

No. 38300

No. 38304

No. 38312

	Hardwood model		Eurostar model		Alustar model	
Measuring accuracy (per length) (mm/m)	1		0.5		0.5	
Length (mm)	38300... Ident. No.		38304... Ident. No.		38312... Ident. No.	
300	030	●	030	●	-	-
400	040	●	040	●	040	●
500	050	●	050	●	-	-
600	060	●	060	●	060	●
800	080	●	080	●	080	●
1000	100	●	100	●	100	●

Prod. Gr. 384

BMI Spirit levels

with ultrasonically welded vials and non-glare reading

Application:
For horizontal and vertical alignment of an object

Version:
- With ultrasonically welded vials and non-glare reading
- Reverse measuring possible (0.5 mm/m)
- Solid body and shock-absorbing rubber end caps maintain high measuring precision
- **BMI Superstar model:**
  - Round horizontal vial with magnifying effect
  - Two magnets in the underside, four magnets from 150 cm length
- **BMI Robust model:**
  - Two milled measuring surfaces up to 200 cm
  - Extremely torsion-resistant due to multi-chamber profile
- **BMI Superstar model:**
  - Round horizontal vial with magnifying effect.

Advantage:
- Edgeless horizontal vial for undistorted view of bubble
- Life-long high measuring accuracy (0.5 mm/m)

No. 38696 040

No. 38096 040

No. 38638 040

	Superstar model		Superstar Magnet model		Robust model	
Measuring accuracy (per length) (mm/m)	0.5		0.5		0.5	
Length (mm)	38696... Ident. No.		38096... Ident. No.		38638... Ident. No.	
400	040	●	040	●	040	●
500	050	○	050	○	-	-
600	060	●	060	●	060	●
800	080	●	080	●	080	●
1000	100	●	100	●	100	●
1200	-	-	120	○	-	-

Prod. Gr. 384

BMI Spirit levels
with increased precision

Application:
For horizontal and vertical alignment of an object

Version:
- Round vial for glare-free reading
- Vial installation accuracy 0.3 mm/m in normal position
- Four-chamber profile, extremely torsion-resistant
- Effective additional protection due to shock-absorbing rubber end caps
- Length 600-1,200 mm with 1 handle
- Length 1,800 and 2,000 mm with 2 handles
- **Model: BMI Highprecision with magnet:**
  - With magnets in underside

Advantage:
- The vial bubbles travel a longer distance than those in conventional spirit levels at the same angle of inclination. This makes inaccuracy visible more quickly
- Life-long high measuring accuracy (0.3 mm/m)

	Model: BMI Highprecision		-	
Measuring accuracy (per length) (mm/m)	0.3		0.3	
Length (mm)	38322... Ident. No.		38322... Ident. No.	
600	006	○	-	-
800	008	○	-	-
1000	010	○	110	○
1200	012	○	112	○
1800	018	○	118	○
2000	020	○	120	○+

Prod. Gr. 384

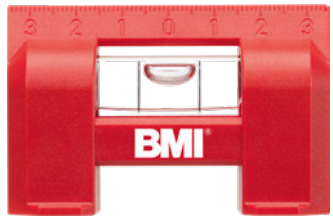
BMI Socket spirit level
E-LEVEL model

Application:
For aligning flush-mounted sockets/switches during assembly For aligning tiles, panels etc.

Execution:
- Model BMI E-LEVEL
- Made of impact-resistant plastic with acrylic glass vial
- Measurement accuracy 1.0 mm/m.
- High contrast vial, edges of bubble appear red
- Housing with built-in clearance for sockets
- With magnet

Advantage:
- Spirit level stays on socket plate by itself. This means you keep both hands free.
- High contrast within vial makes reading in poor lighting conditions significantly easier.
- With +/- 35 mm scale, allowing simultaneous measuring, centring and marking

Delivery:
in blister packaging



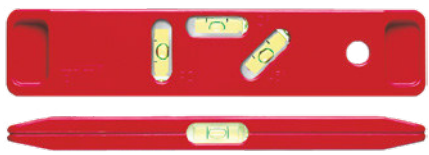
Length (mm)			70
	Measuring accuracy (per length) (mm/m)		
38325...	1	Ident. No.	030 ●

Prod. Gr. 384

BMI Spirit levels with magnet

Application:
For horizontal and vertical alignment of objects

Execution:
- **Ident. No. 010:**
  - Made of highly impact-resistant plastic, with 2 high-adhesion disc magnets on the underside
  - 3 unbreakable plexiglas bubble vials for 0°, 45° and 90°
- **Ident. No. 020:**
  - Round horizontal bubble vial with magnifying effect
  - Edgeless horizontal spirit level for undistorted view of bubble even during reverse measuring
  - Reverse measuring possible (0.5 mm/m)
  - Solid body and impact-resistant rubber end flap maintain high measuring precision
  - With internal magnet



Ident. No. 010

Ident. No. 020

Length (mm)			200
	Measuring accuracy (per length) (mm/m)		
38325...		Ident. No.	010 ●
38325...	0.5	Ident. No.	020 ●

Prod. Gr. 384

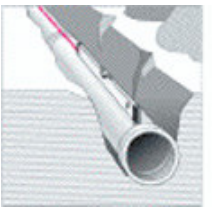
Laser spirit levels

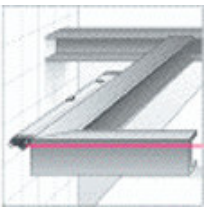
Application:
For precise alignment of objects

Execution:
- Laser beam range (wavelength 635 nm) up to 50 m
- Milled test surface
- Hybrid laser module (maximum impact-resistance) is dust-proof and splash-proof

Delivery:
Batteries in sturdy plastic tubes

Technical data:
- Coverage distance: 50 m
- Spirit level error limit: 0.25 mm/m
- Material: Aluminium





Length (mm)		333	800
38328...	Ident. No.	040 ●	080 ●

Prod. Gr. 384

Electronic digital box inclinometer
with integrated spot laser

Application:
For measuring in the horizontal (as with a spirit level) or in any other direction (as with an inclinometer)

Execution:
- Length of test face: 400 mm
- Zero point deviation of horizontal bubble vial in normal position: 0.25 mm/m
- Parallelism deviation of laser beam to test face: 0.25 mm/m
- Laser class 2
- Laser wavelength 635 nm
- Laser power < 1 mW
- Range approx. 50 m
- Digit increments 0.1° or 0.1%
- Error limit 0° and 90° = 0.05° intermediate dimensions = ±0.2°
- 8 h continuous light

Delivery:
With batteries (1x E-Block 9 V type 6LR61) in sturdy plastic tubes

Technical data:
- Length x width x height: 443 x 40 x 70 mm

38446...	Ident. No.	015 ●

Prod. Gr. 383

Laser spirit level with digital level inclinometer functions
DigiLevel Pro and DigiLevel Laser models

Application:
For detecting and measuring inclinations, aligning objects.

Version:
- Milled measurement surfaces with holding magnet on the underside
- An acoustic signal is output at 0°, 45°, 90°, 135° and 180° for easy alignment of objects
- Inclination memory for precise duplication of angles
- Illuminated flip display, auto-rotation when measuring overhead
- Calibration function for recalibrating the sensor and improving measurement reliability
- Hold function
- With additional vertical and horizontal vial with accuracy of +/-0.5 mm/m
- **Ref. no. 030-040** DigiLevel Laser:
  - Accuracy of electronics: +/-0.1° at 0° to 1° and 89° to 90°; +/-0.2° in the remaining range
  - With green point laser as an optical extension for duplicating heights and angles
- **Ref. no. 050-090** DigiLevel Pro:
  - Digital connection and free MeasureNote app for rapid data transfer to a mobile device
  - Accuracy of electronics: +/-0.05° at 0° to 1° and 89° to 90°; +/-0.1° in the remaining range
  - With red point laser as an optical extension for duplicating heights and angles

Advantage:
- **Ref. no. 030-040:** Green laser approx. 6x brighter than comparable red laser, therefore more visible

Scope of delivery:
including batteries (2x AAA), in transport bag

Technical data:
- Spirit level error limit: 0.5 mm/m
- Number of laser markings: 1-point
- Laser category: 2

EXTENDED PROGRAM

Ident. No. 040

Ident. No. 060

Length (mm)			400	600	800	1000	1200
38500...	Red laser	Ident. No.	050 ○	060 ●	070 ●	080 ○	090 ○
38500...	Green laser	Ident. No.	030 ○	-	040 ○	-	-

Prod. Gr. 3EE

Light metal spirit level

Application:
For adjusting horizontal surfaces and shafts

Execution:
- With prismatic base
- Silver-anodised surface
- Milled longitudinal bubble vial

Delivery:
In plastic protective sleeve

Technical data:
- Width: 22 mm
- Other standard: Company standard

Length (mm)			150	200	250	300
	Scale value, longitudinal spirit level (mm/m)					
38330...	0.6	Ident. No.	015 ●	020 ●	025 ●	030 ●

Prod. Gr. 3FA

Crankpin spirit levels (DIN 877)

Application:
For aligning very short, horizontal surfaces, crank shafts and pins in engines or machines

Execution:
- Precision design
- With longitudinal and transverse bubble vials
- With longitudinal and transverse v-shaped recesses
- Finely ground measuring surfaces
- Robust design in high-quality special cast iron, structural paint finish

Delivery:
In case

Technical data:
- Width: 42 mm
- Scale value, lateral spirit level: 0.8 mm/m

Length (mm)			60	90	120
Spirit level error limit (mm/m)			0.2	0.1	0.1
	Scale value, longitudinal spirit level (mm/m)				
38402...	0.2	Ident. No.	060 ●	-	-
38402...	0.1	Ident. No.	-	090 ●	120 ●

Prod. Gr. 3FA

Precision spirit levels (DIN 877)

Application:
For precise alignment of faces, shafts etc.

Execution:
- Prismatic base 150°
- With longitudinal and transverse bubble vials
- Full insulation against hand and breath warmth
- Vial can be viewed from the side
- Finely ground test surfaces

Delivery:
In case

Notes:
Special versions are available on request for an extra charge: hardened measuring surfaces, flat base, rounded measuring edges, bore holes for screwing on, adjustment of the level.

For adjustable precision spirit levels, see ATORN models, article number 38424...

Technical data:
- Width: 42 mm

Scale value, longitudinal spirit level (mm/m)	0.3		0.1		0.04		0.02	
Length (mm)	38420... Ident. No.		38421... Ident. No.		38422... Ident. No.		38423... Ident. No.	
160	016	●	016	●	016	●	016	●
200	020	●	020	●	020	●	020	●
250	025	○	025	●	025	●	025	●
300	030	●	030	●	030	○	030	●
500	-	-	050	○	050	○	050	○

Prod. Gr. 3FA

ATORN Precision spirit levels (DIN 877)

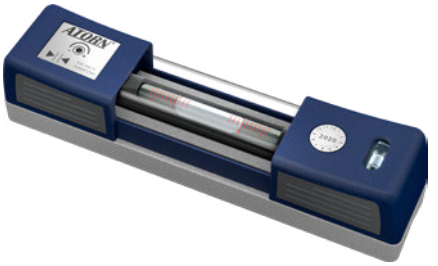
adjustable

P

Application:
For the exact levelling of surfaces, shafts etc.. The adjustment feature allows the precision spirit level to be readjusted manually at any time.

Execution:
- Prismatic base 150°
- Longitudinal and transverse bubble vials
- Full insulation against heat from hands and breath
- Bubble can be viewed from the side
- Finely ground test surfaces
- Adjustable

Delivery:
In a plastic case



Scale value, longitudinal spirit level (mm/m)	0.3		0.1		0.04		0.02		0.01	
Length (mm)	38424... Ident. No.		38424... Ident. No.		38424... Ident. No.		38424... Ident. No.		38424... Ident. No.	
160	016	●	116	●	216	●	316	●	-	-
200	020	○	120	●	220	●	320	●	420	○
250	025	○	125	○	225	●	325	●	425	○
300	030	○	130	○	230	○	330	●	430	○
500	050	○	150	○	250	●	350	○	450	○

Prod. Gr. 3FA

RÖCKLE Precision frame spirit levels (DIN 877)

Application:
For aligning horizontal and vertical faces and shafts

Execution:
- 3 prismatic measuring faces 150°, 1 vertical, flat face
- With longitudinal and transverse bubble vials
- Full insulation against hand and breath warmth
- Vial can also be viewed from the side
- Finely ground test surfaces

Delivery:
In case

Technical data:
- Width: 34 mm

Scale value, longitudinal spirit level (mm/m)	0.3		0.1		0.04		0.02	
Length (mm)	38440... Ident. No.		38441... Ident. No.		38442... Ident. No.		38443... Ident. No.	
100	010	●	010	●	010	●	-	-
150	015	●	015	●	015	○	015	●
200	020	○	020	●	020	●	020	●
300	030	○	030	○	030	○	030	○

Prod. Gr. 3FA

ATORN Electronic digital box inclinometer

RD

Application:
For easy and rapid measurement of inclinations

Execution:
- Display in degrees, mm/m or percentages
- Readouts in 0.05°, 0.01°/IN/FT, 0.1°, 0.1 % or 1.0 mm/m
- Arrow in display shows direction of gradient
- Different beeps for approaching left and right versus horizontal and vertical
- Hold function
- Intermediate angles can be defined as reference angles (0-point)
- Measurement accuracy at 0° and 90°: ± 0.05°
- Measurement accuracy at 1° to 89°: ± 0.2°

Advantage:
- Very long operating time due to large battery capacity
- Display with backlight
- optical and acoustic signals

Delivery:
Battery (1x E-Block 9 V type 6LR61) in sturdy plastic tube

Technical data:
- Length x width x height: 256 x 50 x 60 mm

38445...	Ident. No.	100 ●

Prod. Gr. 383

ORION® Electronic digital box inclinometer

RD

Application:
For easy and rapid measurement of inclinations

Execution:
- Display in degrees
- Arrow in display shows direction of inclination
- Simple adjustment in normal position (reset)
- Hold function
- 0.05 ° digit increment
- Error limit 0.5°
- Large LCD display

Advantage:
- Adhesive magnets on 3 sides
- Rotating display for overhead measurements

Technical data:
- Material of housing: Aluminium anodized
- Length x width x height: 57 x 30 x 57 mm

38600...	Ident. No.	100 ●

Prod. Gr. 383

ORION® Electronic digital box inclinometer

RD

Application:
For easy and rapid measurement of inclinations

Execution:
- Display in degrees or percentages
- Arrow in display shows direction of inclination
- Simple adjustment in normal position (reset)
- Hold function
- Made from hard-anodised light metal
- Base with narrow V-shaped recess for attachment to shafts
- 1 base with adhesive magnets
- Digit increments 0.1° or 0.1%
- Error limit 0° and 90° = 0.1° intermediate dimensions = 0.2°

Advantage:
- Short and compact shape
- Rotating display for overhead measurements

Delivery:
With battery (1 x 3 V lithium type CR2032) and holster

Technical data:
- Length x width x height: 151 x 35 x 60 mm

38600...	Ident. No.	010 ●

Prod. Gr. 383

Laserliner Electronic digital box inclinometer

DigiLevel Compact model

Application:
For detecting and measuring inclinations, aligning objects.

Execution:
- milled measurement surfaces with holding magnet on the underside
- An acoustic signal is output at 0°, 45°, 90°, 135° and 180° for easy alignment of objects
- Inclination storage for precise duplication of angles
- Illuminated flip display, auto-rotation when measuring overhead
- Digital Connection interface and free MeasureNote app for rapid data transfer to a mobile device
- Calibration function for recalibrating the sensor and improving measurement reliability
- Hold function
- Accuracy of electronics: +/- 0.05° at 0° to 1° and 89° to 90°; +/- 0.1° in the remaining range
- With rubber end caps for impact protection

Delivery:
including batteries (2x AAA), in transport bag

Technical data:
- Measuring range of inclinometer: 0 - 360° (4 x 90°)

38500...	Ident. No.	020 ●

Prod. Gr. 3EE

Electronic digital box inclinometer

CLINOBEVEL 1 USB

Application:
For fast and easy measurement of inclines using absolute and comparative measuring procedures

Execution:
- 4 precisely machined measuring bases
- Splash-proof housing (IP65)
- USB interface
- Selectable units of measure: Degrees (2 dec.), degrees/min., mm/m (2 dec.), inch/10 or 12 inch (4 dec.), mm or inch/rel. basis (optional), millira-dians and others
- Battery operation
- Measuring range +/- 45°
- Error limit: 2' + 1 digit increment
- Digit increments: 0.02 mm/m
- Includes USB data cable and software

Delivery:
Inclinometer incl. Battery (1x1.5 V type AA), USB data cable, Clinosoft software, in a case

Technical data:
- Type: TESA CLINOBEVEL 1 USB
- Length x width x height: 100 x 35 x 75 mm

38448...	ClinoBevel 1 USB in set incl. USB cable software	Ident. No.	011 ●

Prod. Gr. 366

CLINOBEVEL 3 SQUARE electronic digital box inclinometer

with and without SCS calibration certificate

Application:
For quickly and easily measuring inclines and per-pendicularity, as well as checking straightness and flatness using absolute and comparative measure-ment processes.

Execution:
- Housing design in nickel-plated grey cast iron, stainless
- Four precisely machined measuring surfaces, two with prism for cylindrical surfaces dia. 30-100 mm
- high-contrast colour display with a choice of four different background colours
- Integrated transverse vial for easy alignment of the vertical axis to avoid twist errors
- Wooden handle for heat protection

Advantage:
- different display configurations, e.g. level or bargraph
- Android app for displaying the measured values on devices such as smartphones
- Four measuring surfaces ensure quick and precise control of the parallelism of parts

Delivery:
with 2x batteries type LR14 (Baby C, alkaline), 2x calibration pins (60 degree models only), instruc-tions, SCS certificate (38448070 and 38448075 only), in robust transport case

Notes:
The models with measuring difference ±60° can also be calibrated using the two calibration pins supplied.

Technical data:
- Selectable units: DEG | mm/m | "/10" | "/12" | mRad | mm/REL | "/REL A%o | %o | GON
- Data transmission type: USB | Wireless | RS 485
- Material of housing: Grey cast iron
- Surface of the housing: Nickel plated
- Colour of housing: Silver grey
- Length x width x height: 160 x 40 x 160 mm
- Functions: Hold-function (AE lock) | Calibration | Set absolute zero | Set relative zero | Limit function | Remote display via app

NEW

Ident. No. 060, 070

Ident. No. 065, 075

Measuring range of inclinometer	Resolution inclinometer	Error limit inclinometer	38448... Ident. No.	
+/-60°	0,02 mm/m	15" + (0,027% α)	060 070	○ ○
1°(+/-20 mm/m)	0,001mm/m	1% α (min. 1 Ziffer)	065 075	○ ○

Prod. Gr. 366

TESATRONIC TWIN-T10 electronic display unit

Mobile display unit for TESA electronic half-bridge length measuring probes

Application:
Mobile electronic display unit for mains-independent measurement display from electronic half-bridge length measuring probe.

Execution:
- Large, high-contrast display, 66 x 57 mm
- Combined scale and digital display
- 1 measuring probe input for single measurement function
- Maximum value, minimum value, maximum and minimum value
- Degree of protection IP 63

Advantage:
- Mobile display unit with combined scale and digital display
- Temporary 5x zoom of the displayed scale interval

Delivery:
Operating instructions, 4 x LR6 AA batteries, 1x stencil for classification

Model		TWIN-T10
Measuring range of electronic length measuring technology		+/- 5 µm | +/- 20 µm | +/- 50 µm | +/- 200 µm | +/- 500 µm | +/- 2 mm | +/- 5 mm
Scale value, electronic display unit		0.1 µm | 1 µm
Digit increment, electronic display unit		0.1 µm | 1 µm
Compatibility length measurement scanner		TESA
Measured value memory		Yes
Data transmission type		RS232
Energy supply		Battery
39652...	Ident. No.	115 ●

Prod. Gr. 362

Electronic display units TESA TWIN T20

For TESA electronic length measuring probes + further measuring instruments (USB)

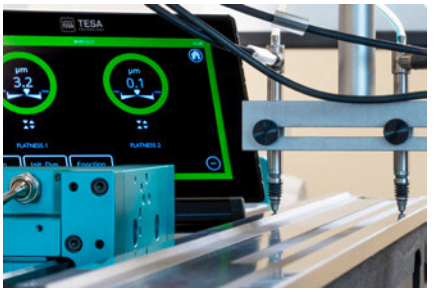
Application:
State-of-the-art touchscreen display unit for simultaneous display of several measured values. Connections are available for inductive TESA length measuring probes and USB connections for other measuring instruments. Ideal for production facilities and measuring rooms.

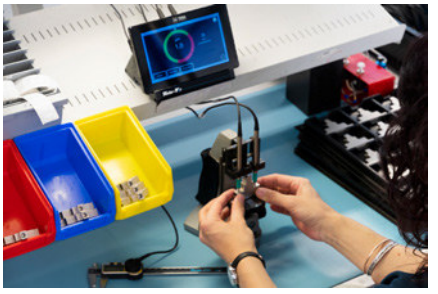
Execution:
- Modern 7" colour touchscreen display with high display quality
- dynamic measurements (min, max, max-min, average etc.)
- Formulas: +A, -A, +B, -B and combinations of A and B
- adjustable tolerances with OK/NOK display
- integrated classification function (max. 8 classes, coloured), NEW: also with nominal values
- Measured value displays: 2; measurement programmes: 2; sequences: 2
- Connections: 2x TESA length measuring probes (half bridge), 2x TESA digital length measuring probes, 1x TESA BUS, 2x USB-A
- Data output via RS232, USB or Bluetooth(R)
- 3 switches that are adjustable in parallel: 1x touchscreen function key (NEW), 2x switch inputs (for 1x USB switch, 1x jack plug switch; switches must be purchased separately)
- available languages: DE, FR, IT, EN, KO, ZH, ES and JP

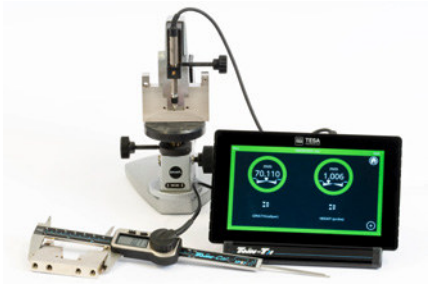
Advantage:
- 4 display modes allow for optimal measurement display.
- Automatic detection of connected inductive length measuring probes
- 4300 measurements/second for dynamic measurements
- simultaneous display of up to two measurements
- Other connection options: Modbus; via TESA module: digital I/O switching modules to controllers, 2 additional probe inputs; ASCII commands; driverless keyboard signals

Notes:
Optional accessories: Pen with pen holder 39640025, hand switch with jack plug 39640030, foot switch with jack plug 31171350, USB foot switch 39640032, TLC USB cable 39852210, TLC Bluetooth(R) transmitter 39852240

Technical data:
- Model: TWIN-T20
- Measuring range of electronic length measuring technology: +/- 5000 µm
- Digit increment, electronic display unit: 0.1 µm
- Compatibility length measurement scanner: TESA
- Data transmission type: TLC | USB | RS232
- Energy supply: Cable







Electronic display units TESA TWIN T20	39640...		Ident. No.	021 ●
Electronic display units and interface	31171...	TESA foot switch for data transmission, cable length 1.8 m, 2.5 mm jack plug	Ident. No.	350 ○
	39640...	TESA pen with holder	Ident. No.	025 ○
	39640...		Ident. No.	030 ○
	39640...	TESA USB foot switch for data transmission, cable length 2 m	Ident. No.	032 ●
	39640...	TESA TESA MODULE IOSUB relay switch	Ident. No.	300 ○
	39640...	TESA TESA MODULE IO8 digital input/output	Ident. No.	310 ○
01 Data transfer cables	39852...	TESA TWIN data cable with USB interface	Ident. No.	210 ●
07 TESA adapter cables, wireless receivers and wireless transmitters	39852...	TLC - Bluetooth wireless transmitter	Ident. No.	240 ●

Prod. Gr. 362

TESA TWIN T40 electronic display units

for TESA electronic length measuring probes + further measuring instruments (USB)

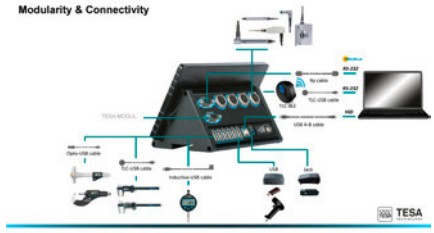
Application:
State-of-the-art touchscreen display unit for simultaneous display of several measured values. Connections are available for inductive TESA length measuring probes and USB connections for other measuring instruments. Ideal for production facilities and measuring rooms.

Execution:
- state-of-the-art 7-inch colour touchscreen display with high display quality
- dynamic measurements (min, max, max-min, average etc.)
- Formulas: +A, -A, +B, -B, +C, -C, +D, -D, combinations of A, B, C, D, advanced mathematical formulas
- adjustable tolerances with OK/NOK display
- integrated classification function (max. 16 classes, coloured), NEW: also with nominal values
- Measured value displays: 4; measurement programmes: 4; sequences: 4
- Connections: 4X TESA length measuring probes (half bridge), 1x TESA-BUS, 4x USB-A
- Data output via RS232, USB or Bluetooth(R)
- 3 switches that are adjustable in parallel: 1x touchscreen function key (NEW), 2x switch inputs (for 1x USB switch, 1x jack plug switch; switches are to be purchased separately)
- available languages: DE, FR, IT, EN, KO, ZH, ES and JP

Advantage:
- 4 display modes allow for optimal measurement display.
- automatic detection of connected inductive length measuring probes
- 6,500 measurements/second for dynamic measurements
- simultaneous display of up to four measurements
- Other connection options: Modbus; via TESA module: digital I/O switching modules to controllers, 4 additional probe inputs; ASCII commands; driverless keyboard signals

Notes:
Optional accessories: Pen with pen holder 39640025, hand switch with jack plug 39640030, foot switch with jack plug 31171350, USB foot switch 39640032, TLC USB cable 39852210, TLC Bluetooth(R) transmitter 39852240

Technical data:
- Model: TWIN-T40
- Measuring range of electronic length measuring technology: +/- 5000 µm
- Digit increment, electronic display unit: 0.1 µm
- Compatibility length measurement scanner: TESA
- Data transmission type: TLC | USB | RS232
- Energy supply: Cable

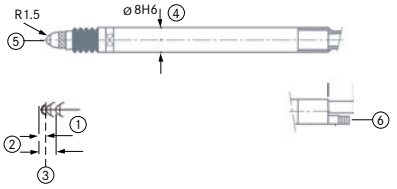


TESA TWIN T40 electronic display units	**39640...**		Ident. No.	**040** ●
Electronic display units and interface	**31171...**	TESA foot switch for data transmission, cable length 1.8 m, 2.5 mm jack plug	Ident. No.	**350** ○
	39640...	TESA pen with holder	Ident. No.	**025** ○
	39640...		Ident. No.	**030** ○
	39640...	TESA USB foot switch for data transmission, cable length 2 m	Ident. No.	**032** ●
	39640...	TESA TESA MODULE IOSUB relay switch	Ident. No.	**300** ○
	39640...	TESA TESA MODULE IO8 digital input/output	Ident. No.	**310** ○
01 Data transfer cables	**39852...**	TESA TWIN data cable with USB interface	Ident. No.	**210** ●
07 TESA adapter cables, wireless receivers and wireless transmitters	**39852...**	TLC - Bluetooth wireless transmitter	Ident. No.	**240** ●

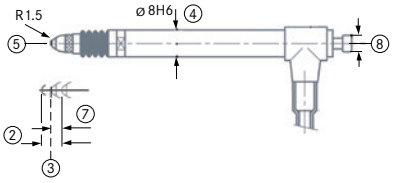
Prod. Gr. 365

Electronic length measuring probes — basic terms

Nitrile gaiter for standard applications
Viton gaiter for applications involving coolants and lubricants
Connection nipple fixed or adaptable for vacuum measuring pin retraction or compressed air measuring pin adjustment



Measuring probe without/with micrometer bolt lift-off using vacuum



Measuring probes with micrometer bolts operated using compressed air

① Front end position of measuring pin
② Max. measuring pin travel
③ Electr. zero point
④ Clamping shank (sensor housing)
⑤ Gauge slide
⑥ Connection for pneum. measuring pin retraction
⑦ Adjustment to electr. zero point
⑧ Connection for compressed air measuring pin retraction

Electronic length measuring probes with half bridge

Universal length measuring probe for a variety of standard applications

Application:

Ident. No. 021–028, 321–325: For a wide variety of standard applications in multi-point measuring technology. Can also be used as an alternative to dial gauges or precision pointers in manual measuring instruments such as internal precision measuring instruments, precision pointer snap gauges, etc.

Ident. No. 211–272: For a wide variety of standard applications in multi-point measuring systems. Can also be used as an alternative to dial gauges or precision pointers in manual measuring instruments such as internal precision measuring instruments, precision pointer snap gauges etc.

Execution:

- Precise, ball-guided measuring pin
- Mechanical or vacuum lifting of measuring pins, depending on version
- **Ident. No. 021–028, 321–325:**
  - Clamping shaft diameter 8 mm can be clamped along entire length
  - Cemented carbide gauge slide M2.5 with 3 mm ball diameter
  - 5-pin plug in line with DIN 45322, cable length 2 m
- **Ident. No. 211–272:**
  - Clamping shank diameter 8 mm, can be clamped along entire length
  - Carbide gauge slide M2.5 with ball diameter 3 mm
  - 5-pin plug in line with DIN 45322, cable length 2 m

Advantage:

- Insensitive to lateral forces and temperature fluctuations
- Excellent electromagnetic shielding
- **Ident. No. 211–272:** Pack of 10 with price savings

Delivery:

Ident. No. 021–028, 321–325: Measuring probe, test report with declaration of conformity
Ident. No. 211–272: 10x measuring probes, test report with declaration of conformity

Notes:

TESA check; Also available in a DC version with +/- 15 V or 0-24 V power supply and analogue DC output on request and for an extra charge

Ident. No. 021

Ident. No. 027

Ident. No. 325

Ident. No. 022

Ident. No. 028

Ident. No. 211

Model			GT 21	GTL 21	GTL 211	GT 22	GTL 22	GT 27	GT 271	GT 28
Max. spindle travel (mm)			4.3	4.3	4.3	4.3	4.3	10.3	10.3	10.3
Cable output direction			Axial	Axial	Axial	Radial	Radial	Axial	Axial	Radial
Material of bellow			Nitrile	Viton	Viton	Nitrile	Viton	Viton	Viton	Viton
Spindle lift			Manual	Manual	Manual | Vacuum	Manual | Vacuum	Manual | Vacuum	Manual	Manual | Vacuum	Manual | Vacuum
Measuring pin adjustment			Spring force	Spring force	Spring force	Spring force	Spring force	Spring force	Spring force	Spring force
Measuring span of electronic length measuring technology (mm)			4	4	4	4	4	4	4	4
Measuring range of electronic length measuring technology			-1,2 mm to 3 mm	+/- 2 mm	+/- 2 mm	-1,2 mm to 3 mm	+/- 2 mm	-1,2 mm to 3 mm	-1,2 mm to 3 mm	-1,2 mm to 3 mm
Measurement force (N)			0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Max. linearity error (L in mm, measured from electric zero point)			0.2 µm + (3 x L^3) µm	0.2 µm + (2.4 x L^2) µm	0.2 µm + (2.4 x L^2) µm	0.2 µm + (3 x L^3) µm	0.2 µm + (2.4 x L^2) µm	0.2 µm + (3 x L^3) µm	0.2 µm + (3 x L^3) µm	0.2 µm + (3 x L^3) µm
Repetition standard deviation acc. to DIN 1319 (µm)			0.01	0.01	0.01	0.01	0.01	0.05	0.05	0.05
Front end position of spindle			-1.2 mm	-2.2 mm	-2.2 mm	-1.2 mm	-2.2 mm	-1.2 mm	-1.2 mm	-1.2 mm
Compatibility length measurement scanner			TESA	TESA	TESA	TESA	TESA	TESA	TESA	TESA
39655...	Single pack	Ident. No.	021 ●	321 ●	324 ○	022 ●	322 ●	027 ●	325 ○	028 ●
39655...	Pack of 10	Ident. No.	211 ●	271 ●	-	212 ●	272 ●	-	-	228 ○

Prod. Gr. 362

TESANORM clamping system

For electronic length measuring probe, dial gauges and precision pointers with 8h6 shaft diameter

Application:

No. 39517: For mounting electronic length measuring probes, dial gauges and precision pointers with a shank diameter of 8 mm h6 in measuring devices.

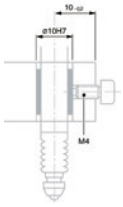
No. 39536–39537: For mounting electronic length measuring probes, dial gauges and precision pointers with a shaft diameter of 8 mm h6 in measuring devices.

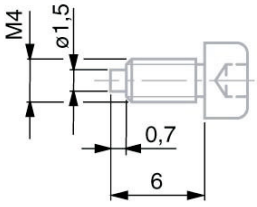
Execution:

- Tension using VKD clamping screw and VKE clamping sleeve
- Bore diameter 10H7 for holding the VKE clamping sleeve
- **No. 39517:**
  - VKD clamping screw M4 x 6 with offset diameter 1.5 mm and length 0.7 mm
  - VKE clamping sleeve diameter I = 8 mm and A = 10 mm and length 12 mm
  - The measuring instrument can be positioned horizontally to the reference surface. Distance of 28 mm between the reference surface and the centre of the measuring pin
- **No. 39536–39537:**
  - VKD clamping screw M4 x 6 with offset diameter 1.5 mm and length 0.7 mm
  - VKE clamping sleeve diameter I = 8 mm and A = 10 mm and length 12 mm

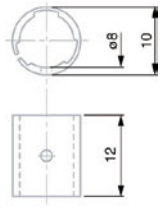
Advantage:

- **No. 39517:**
  - slotted clamping sleeve for uniform surface tension across the sleeve surface
  - no deformation of the micrometer bolt guide
- **No. 39536–39537:**
  - Slotted clamping sleeve for uniform surface tension over the sleeve surface
  - No deformation of the micrometer bolt guide





No. 39536



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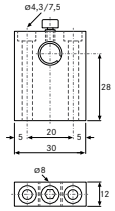


No. 39517

39536...	TESA clamping screw type VKD	Ident. No.	010 ●
39537...	TESA clamping sleeve type VKE	Ident. No.	010 ●
39517...	TESA VDE 28 fastening element	Ident. No.	028 ○

Prod. Gr. 362

Accessories for measuring pin lift

For electronic length measuring probes with compressed air or vacuum measuring pin lift

Delivery:

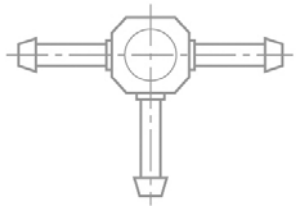
Ident. No. 010: Hand vacuum pump, 1 m air hose diameter 4.7 mm

Notes:

Ident. No. 010: Suitable for GT22, GT28, GTL22, GT42, GT44, GT62, GTL211, GT271 and GT611

Ident. No. 065: Please note: Price applies to one meter of pneumatic hose. Specify the required length when ordering!

Ident. No. 010



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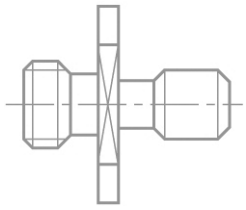
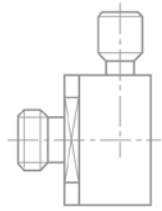


Ident. No. 070



Ident. No. 080

	Type		
39665...	TESA manually operated pneumatic measuring pin lift-off	Ident. No.	010 ○
39665...	TESA air T-distributor for 4.7/2 mm air hoses	Ident. No.	030 ○
39665...	Air hose 4.7/2 mm, product sold by the meter	Ident. No.	065 ○
39665...	TESA straight vacuum connection GT22/GTL22/GT28/GT62	Ident. No.	070 ●
39665...	TESA angled vacuum connection GT22/GTL22/GT28/GT62	Ident. No.	080 ●

Prod. Gr. 362

Extension cable for electronic length measuring probes and lever gauge probes

For 5-pin plug in line with DIN 45322

Application:

For extending the distance between the measuring probe and display unit.

Execution:

- For TESA electronic length measuring probes and lever gauge probes

Notes:

DC version of extension cable for electronic length measuring probes deliverable on request

Technical data:

- Compatibility length measurement scanner: TESA

Cable length (m)		1	2	3	5	7	10
39675...	Ident. No.	001 ○	002 ●	003 ●	005 ●	007 ○	010 ●

Prod. Gr. 362

TESA Electronic lever gauge probes

GT 31 series

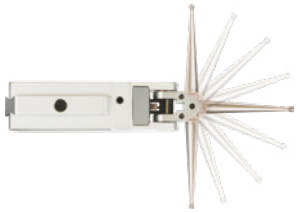
Application:
Adjustable angle lever gauge probes, suitable for measurements in two directions. Ideal for parallel and straightness measurements as well as for measuring tasks on both sides

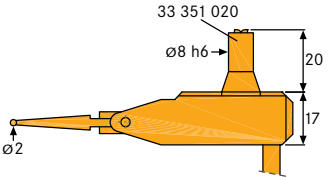
Execution:
- Lever system mounted on cones and counter-balanced
- Removable gauge slide with cemented carbide probe ball
- Probe can be swivelled by 180°
- Housing with two dovetail strips
- Includes clamping shaft diameter 8 mm
- 5-pin plug in line with DIN 45322, cable length 2 m

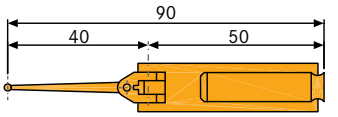
Advantage:
- Two slip couplings for collision protection
- Automatic probe direction reversal with constant display reading

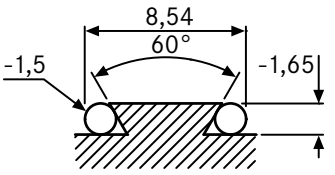
Delivery:
Measuring probe, clamping shaft diameter 8 mm, declaration of conformity

Technical data:
- Model: GT 31
- Max. spindle travel: 0.7 mm
- Sensor arm length: 40 mm
- Measuring span of electronic length measuring technology: 0.6 mm
- Measuring range of electronic length measuring technology: +/- 0.3 mm
- Max. linearity error (L in mm, measured from electric zero point): 0.2 µm + (50 x L^2) µm
- Repeat accuracy: 0.1 µm









Measurement force (N)		0.02	0.1	0.2
39659...	Ident. No.	002 ●	010 ●	020 ●

Prod. Gr. 362

TESA FMS electronic length measuring probe

With parallel guide

Application:
suitable for applications in multipoint measuring technology. the compact design permits the close arrangement of multiple FMS length measuring probes next to each other.

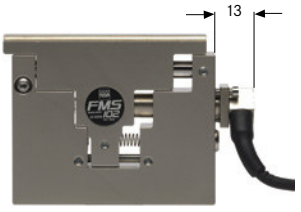
Execution:
- Precise, ball-guided measuring movement
- Compact design, designed for continuous use
- Effective direction of measuring force and lifting based on selected accessories
- 5-pin plug in line with DIN 45322, cable length 2 m
- Version with IP54 degree of protection, splash-proof
- axial or radial cable outlet can each be swivelled by 45° in both directions

Advantage:
- Parallel-guided length measuring probe for tight spaces, e.g. inside devices
- Design saves many mechanical structural elements
- Extensive range of accessories for a wide range of individual measuring tasks

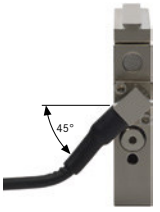
Delivery:
Measuring probe, test report with declaration of conformity

Notes:
Standard measuring force 2 N, other measuring forces via interchangeable spring elements

FMS100 and FMS130*



FMS102



Ident. No. 240

Model		FMS100	FMS102	FMS100/IP 54	FMS102/IP 54	FMS 130	FMS 132
Max. spindle travel (mm)		5.8	5.8	5.8	5.8	5.8	5.8
Cable output direction		Axial	Radial	Axial	Radial	Axial	Radial
Spindle lift		Depending on configuration	Depending on configuration	Depending on configuration	Depending on configuration	Depending on configuration	Depending on configuration
Measuring pin adjustment		Depending on configuration	Depending on configuration	Depending on configuration	Depending on configuration	Depending on configuration	Depending on configuration
Measuring span of electronic length measuring technology (mm)		4	4	4	4	5.8	5.8
Measuring range of electronic length measuring technology		+/- 2 mm	+/- 2 mm	+/- 2 mm	+/- 2 mm	+/- 2,9 mm	+/- 2,9 mm
Measurement force (N)		2	2	2	2	2	2
Max. linearity error (L in mm, measured from electric zero point)		0.2 µm + (3 x L^3) µm	0.2 µm + (3 x L^3) µm	0.2 µm + (3 x L^3) µm	0.2 µm + (3 x L^3) µm	0.2 µm + (3 x L^3) µm	0.2 µm + (3 x L^3) µm
Repetition standard deviation acc. to DIN 1319 (µm)		0.5	0.5	0.5	0.5	0.5	0.5
Front end position of spindle		-2.9 mm	-2.9 mm	-2.9 mm	-2.9 mm	-2.9 mm	-2.9 mm
Compatibility length measurement scanner		TESA	TESA	TESA	TESA	TESA	TESA
39658...	Ident. No.	100 ●	101 ●	240 ●	242 ●	230 ○	232 ○

Prod. Gr. 362

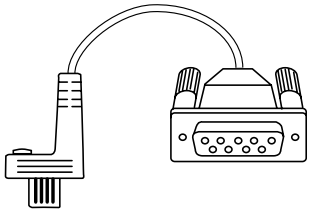
Mahr Connection cable

For measuring instruments with multiCOM interface

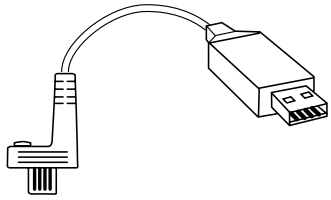
Application:

For wired data transfer from measuring instruments with multiCOM interfaces to e.g. PCs or interfaces with USB, RS232 or Digimatic interfaces.

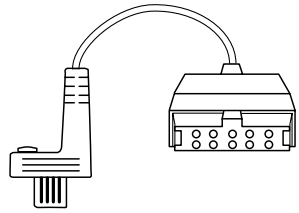
Ident. No. 010



Ident. No. 010



Ident. No. 020



Ident. No. 030

Data communication			Unidirectional
Cable length (m)			2
Data button on cable			Yes
39855...	multiCOM data cable with RS232 interface	Ident. No.	010 ●
39855...	multiCOM data cable with USB interface	Ident. No.	020 ●
39855...	multiCOM data cable with DIGIMATIC interface	Ident. No.	030 ●

Prod. Gr. 303

Mahr connection cable

For measuring devices with MarConnect interface

Application:

For wired data transfer from measuring instruments with MarConnect interfaces to e.g. PCs or interfaces with USB or Digimatic interfaces.

Data communication			Bidirectional	Unidirectional	Bidirectional
Cable length (m)			2	2	-
Data button on cable			Yes	Yes	Yes
39855...	MarConnect data cable with USB interface	Ident. No.	025 ●	-	-
39855...	MarConnect data cable with DIGIMATIC interface	Ident. No.	-	035 ●	-
39855...	MarConnect data cable with (5-pin M9) round plug interface	Ident. No.	-	-	060 ○

39855 025 = Prod. Gr. 305
39855 035 = Prod. Gr. 305
39855 060 = Prod. Gr. 307

Ident. No. 025

Ident. No. 035

TESA Connection cable

For measuring instruments with TESA TLC interfaces

Application:

For wired data transfer from measuring instruments with TLC interfaces to e.g. PCs or interfaces with USB or Digimatic interfaces

Technical data:

- Data communication: Bidirectional
- Cable length: 2 m
- Data button on cable: No

Ident. No. 210

Ident. No. 220

39852...	TESA TWIN data cable with USB interface	Ident. No.	210 ●
39852...	TESA TWIN data cable with DIGIMATIC interface	Ident. No.	220 ○

Prod. Gr. 366

TESA Connecting cable

for TESA DIALTRONIC digital dial gauges

Application:

For wired data transfer from DIALTRONIC dial gauges via Power RS interface to a PC with USB input

Technical data:

- Data communication: Bidirectional
- Cable length: 3 m
- Data button on cable: No

Notes:

Power supply via USB interface

39852...	Power RS data cable with USB interface	Ident. No.	001 ●
39852...	Power RS data cable with USB interface, 90° angled connector	Ident. No.	002 ●

39852 002 = Prod. Gr. 362
39852 001 = Prod. Gr. 366

Ident. No. 001

Ident. No. 002

Connecting cable
for TESA DIALTRONIC digital dial gauges

Application:
For wired data transfer from DIALTRONIC dial gauges via a proximity interface to a PC with USB input (not for DIALTRONIC COMPACT)

Data communication			Bidirectional
Cable length (m)			3
Data button on cable			No
39852...	Proximity data cable with USB interface	Ident. No.	003 ●

Prod. Gr. 362

Connection cable
For measuring instruments with opto RS232 interface

Application:
For wired data transfer from measuring instruments with opto RS interfaces to e.g. PCs or interfaces with USB or RS232 interfaces

Ident. No. 091

Ident. No. 101

Data communication			Unidirectional	Bidirectional
Data button on cable			No	No
39852...	Opto RS data cable with RS232 uni interface	Ident. No.	090 ●	-
39852...	Opto RS data cable with RS232 bi interface	Ident. No.	-	091 ○
39852...	Opto RS data cable with USB interface	Ident. No.	-	101 ○

Prod. Gr. 362

Connection cable
For measuring instruments with proximity interfaces

Application:
For wired data transfer from measuring instruments with proximity interfaces to e.g. PCs or interfaces with USB or RS232 interfaces

Ident. No. 105

Ident. No. 190

Data communication			Bidirectional
Cable length (m)			3
Data button on cable			No
39852...	Proximity data cable with USB interface	Ident. No.	105 ○
39852...	Proximity data cable with RS232 interface	Ident. No.	190 ●

Prod. Gr. 362

Connection cable
For measuring instruments with RS232 interface

Application:
No. 35176: For wired data transfer from measuring instruments with RS232 interfaces to e.g. PCs or interfaces with RS232 interfaces
No. 39852: For wired data transfer from measuring instruments with RS232 interfaces to e.g. PCs or hubs with USB interfaces

Notes:
No. 35176: Serial data cable, straight through
No. 39852: Driver is provided on the supplied demo CD

No. 35176

No. 39852

Data communication			Unidirectional	Bidirectional
Cable length (m)			2	2
Data button on cable			No	No
39852...	RS232 data cable with USB interface	Ident. No.	102 ●	-
35176...	RS232 data cable with RS232 interface	Ident. No.	-	150 ○

Prod. Gr. 362

TESA Connecting cable

for measuring instruments with 8-pin miniature DIN interfaces

Application:
For wired data transfer from measuring instruments with 8-pin Mini-DIN interfaces to e.g. PCs or interfaces with RS232 interfaces

Notes:
Compatible with TESATRONIC TT10 display unit and height measuring devices TESA Micro-Hite 350, 600 and 900 manual in versions 10, 11 and 12.

Data communication			Bidirectional
Cable length (m)			2
Data button on cable			No
39828...	Mini-DIN data cable with RS232 interface	Ident. No.	170 ○

Prod. Gr. 362

Mitutoyo Connecting cable

for measuring instruments with type A connection

Application:
For wired data transmission of MITUTOYO measuring instruments directly to a PC or other data processing devices, or indirectly via corresponding interfaces.

Execution:
- With data key
- For pocket, workshop, built-in and special vernier calipers with IP66/IP67 degree of protection

Notes:
Ident. No. 002–004: Suitable for MITUTOYO series 500, 571, 572, 573, 550, 554 and 552 measuring instruments
Ident. No. 030: Suitable for use with MITUTOYO measuring instruments from the 500, 571, 572, 573, 550, 554 and 552 series

Ident. No. 002–004

Ident. No. 030

Type		A	A	A
Data transmission type		DIGIMATIC	DIGIMATIC	USB
Cable length (m)		1	2	2
39853...	Ident. No.	002 ○	004 ○	030 ○

Prod. Gr. 3MA

Mitutoyo Connecting cable

for measuring instruments with type B connection

Application:
For wired data transmission of MITUTOYO measuring instruments directly to a PC or other data processing devices, or indirectly via corresponding interfaces.

Execution:
- With data key
- for outside micrometers, inside micrometers, depth micrometers, micrometer heads and special micrometers with IP65 degree of protection

Notes:
Suitable for MITUTOYO series 293, 329, 350, 468, 337, 339, 343, 314, 369, and 422 measuring instruments

Ident. No. 006–008

Ident. No. 032

Type		B	B	B
Data transmission type		DIGIMATIC	DIGIMATIC	USB
Cable length (m)		1	2	2
39853...	Ident. No.	006 ○	008 ○	032 ●

Prod. Gr. 3MA

Mitutoyo Connecting cable

for measuring instruments with type C connection

Application:
For wired data transmission of MITUTOYO measuring instruments directly to a PC or other data processing devices, or indirectly via corresponding interfaces.

Execution:
- With data key
- for pocket, workshop, built-in and special vernier calipers with ABS/AOS

Notes:
Suitable for MITUTOYO series 500, 550, 551, 571, 572 and 573 measuring instruments

Ident. No. 010–012

Ident. No. 034

Type		C	C	C
Data transmission type		DIGIMATIC	DIGIMATIC	USB
Cable length (m)		1	2	2
39853...	Ident. No.	010 ○	012 ○	034 ○

Prod. Gr. 3MA

Mitutoyo Connecting cable

for measuring instruments with type D connection

Application:
For wired data transmission of MITUTOYO measuring instruments directly to a PC or other data processing devices, or indirectly via corresponding interfaces.

Execution:
- Connecting plug, flat, 10-pin
- for dial gauges (ID-H/ID-F), roughness measuring devices SJ and height measuring devices QM-Height

Notes:
Suitable for MITUTOYO series 172, 178, 318, 515, 518, 542, 543 and 544 measuring instruments

Ident. No. 014–016

Ident. No. 036

Type		D	D	D
Data transmission type		DIGIMATIC	DIGIMATIC	USB
Cable length (m)		1	2	2
39853...	Ident. No.	014 ○	016 ○	036 ●

Prod. Gr. 3MA

Mitutoyo Connecting cable

for measuring instruments with type E connection

Application:
For wired data transmission of MITUTOYO measuring instruments directly to a PC or other data processing devices, or indirectly via corresponding interfaces.

Execution:
- Connecting plug round, 6-pin
- for quick micrometers, outside micrometers, inside micrometers and micrometer heads, Heightmaster

Notes:
Ident. No. 018–020: Suitable for use with MITUTOYO measuring instruments from the 164, 227, 293, 369, 422, 342, 33, 339, 515, 568, 810121-151-30 to 293-154-30, 293-571 to 293-578 and 340-513 to 340-519 series
Ident. No. 038: Suitable for MITUTOYO series 164, 227, 293, 369, 422, 342, 33, 339, 515, 568, 810121-151-30 to 293-154-30, 293-571 to 293-578 and 340-513 to 340-519 measuring instruments

Ident. No. 018–020

Ident. No. 038

Type		E	E	E
Data transmission type		DIGIMATIC	DIGIMATIC	USB
Cable length (m)		1	2	2
39853...	Ident. No.	018 ○	020 ○	038 ○

Prod. Gr. 3MA

Mitutoyo Connecting cable

for measuring instruments with type F connection

Application:
For wired data transmission of MITUTOYO measuring instruments directly to a PC or other data processing devices, or indirectly via corresponding interfaces.

Execution:
- Connecting plug straight
- for e.g. dial gauges ID-S/ID-C/ID-U, height measuring and marking devices, BORE GAUGE

Notes:
Ident. No. 022–024: Suitable for use with MITUTOYO measuring instruments from the 187, 192, 511, 543, 547, 570, 572, 575 and 811 series
Ident. No. 040: Suitable for MITUTOYO series 187, 192, 511, 543, 547, 570, 572, 575 and 811 measuring instruments

Ident. No. 022–024

Ident. No. 040

Type		F	F	F
Data transmission type		DIGIMATIC	DIGIMATIC	USB
Cable length (m)		1	2	2
39853...	Ident. No.	022 ○	024 ○	040 ○

Prod. Gr. 3MA

Mitutoyo Connecting cable

for measuring instruments with type G connection

Application:
For wired data transmission of MITUTOYO measuring instruments directly to a PC or other data processing devices, or indirectly via corresponding interfaces.

Execution:
- Connecting plug straight
- for dial gauges ID-N/ID-B

Notes:
suitable for use with MITUTOYO measuring instruments from the 543 series

Ident. No. 026–028

Ident. No. 042

Type		G	G	G
Data transmission type		DIGIMATIC	DIGIMATIC	USB
Cable length (m)		1	2	2
39853...	Ident. No.	026 ○	028 ○	042 ○

Prod. Gr. 3MA

Radio receiver i-Stick

for MAHR and ATORN measuring instruments with Integrated Wireless

Application:
For wireless transmission of measurement data in conjunction with measuring devices with integrated wireless.

Execution:
- Bidirectional communication
- Range max. 6 m
- number of ducts: 3
- number of radio receivers connectable to PC: 4 pieces

Advantage:
- Each i-Stick can connect up to eight measuring instruments to MarConnect/ATORN
- Secure data transfer via reverse channel

Delivery:
MarCom Standard software, driver CD

Notes:
compatible e.g. with ATORN pocket Vernier calliper 31181001-002, digital vernier callipers MarCal 16 EWRi, digital depth callipers 30 EWRi, digital dial gauges MarCator 1086 Ri, 1087 Ri and 1087 BRi

31181...	i-Stick	Ident. No.	300 ●

Prod. Gr. 305

USB keyboard interfaces

with integrated data cable (instrument side)

Application:
The USB interface simulates the manual input of measured values via a USB keyboard enabling wireless, software-neutral data transfer to a PC. Measured values can be transferred directly to EXCEL or other word processing programs or statistical programs, for example.

Execution:
- Power supply via USB interface
- USB interface is detected as a keyboard
- Closing characters such as Enter or Tab can be set on the USB interface. These are automatically sent together with the data.
- Language, separator settings etc.
- Data transfer via data button on the measuring instrument or using a timer
- Timer function can be set from 0–99 seconds for the transmission of measured values within a specified time interval
- **Ident. No. 210:** For measuring instruments with OptoRS232 connection
- **Ident. No. 225:** For measuring instruments with DIGIMATIC connection
- **Ident. No. 230:** For measuring instruments with DIGIMATIC connection (2 m cable length)
- **Ident. No. 235:** For measuring instruments with PROXIMITY connection
- **Ident. No. 240:** For measuring instruments with Power RS232 connection

Advantage:
- Cost-effective solution for transferring measured data
- Software-neutral data transmission in keyboard format HID (human interface device)
- No driver file is needed for the USB interface
- No additional data cable required for the measuring instruments

Notes:
No additional data cable is required.

Technical data:
- Interface input: en

Ident. No. 225

Interface Opto-USB-0 with TESA CAL IP67 vernier calipers and MS Excel application

Model	Opto-USB-0	Digi-USB-0	Digi-USB-0(2m)	Proxi-USB-0	Power-USB-0
Interface output	1 x OptoRS232	1 x DIGIMATIC	1 x DIGIMATIC	1 x PROXIMITY	1 x PowerRS232
Cable length (m)	2	1	2	2	2

Prod. Gr. 386

USB keyboard interfaces

for transferring measured data via keyboard interface

Application:
Ident. No. 215–217: The USB interface simulates the manual input of measured values via a USB keyboard enabling wireless, software-neutral data transfer to a PC. Measured values can be transferred directly to EXCEL or other word processing programs or statistical programs, for example.
Ident. No. 220: For transferring measured values via keyboard interface, e.g. to Microsoft® Office applications such as EXCEL, WORD etc. For measuring instruments with serial interfaces connected to USB ports via keyboard interfaces.

Execution:
- Power supply via USB interface
- USB interface is detected as a keyboard
- Closing characters such as Enter or Tab can be set on the USB interface. These are automatically sent together with the data.
- Language, separator settings etc.
- Data transfer via data button on the measuring instrument or using a timer
- Timer function can be set from 0–99 seconds for the transmission of measured values within a specified time interval
- Including pedal jack
- **Ident. No. 215:**
  - For measuring instruments with DIGIMATIC connection
  - Additional Data button on the interface
- **Ident. No. 217:** For two measuring instruments with DIGIMATIC connection
- **Ident. No. 220:** For measuring instruments with data cable RS232 connecting plug to PC

Advantage:
- Cost-effective solution for transferring measured data
- Software-neutral data transmission in keyboard format HID (human interface device)
- No driver file is needed for the USB interface

Delivery:
USB keyboard interface incl. USB cable

Notes:
Ident. No. 220: Bidirectional RS232 data cable required

Technical data:
- Interface output: en

Ident. No. 215

Ident. No. 220

Interface RS232 USB 1

Model			RS232-USB-1	Digi-USB-1/FT	Digi-USB-2
Interface input			1 x RS232	1 x DIGIMATIC	2 x DIGIMATIC
39870...	Interface RS232 USB 1	Ident. No.	220 ●	-	-
39870...		Ident. No.	-	215 ○	217 ○

Prod. Gr. 386

Keyboard interface

for transferring measured values via keyboard interface

Application:
For transferring measured values via keyboard interface, e.g. to Microsoft® Office applications such as EXCEL, WORD etc. For measuring instruments with serial interfaces connected to USB ports via keyboard interfaces.

Execution:
- Power supply via USB interface
- USB interface is detected as a keyboard
- Closing characters such as Enter or Tab can be set on the USB interface. These are automatically sent together with the data.
- Language, separator settings etc.
- Data transfer via data button on the measuring instrument or using a timer
- Timer function can be set from 0-99 seconds for the transmission of measured values within a specified time interval
- Cascadable, allowing the measuring station to be extended at any time with additional T-boxes from the 30X USB series
- Measurements triggered via optionally available foot-operated switch

Advantage:
- Cost-effective solution for transferring measured data
- No driver file needed for the USB interface

Delivery:
USB keyboard interface incl. USB cable

Notes:
39870302: Bidirectional RS232 data cable required

Technical data:
- Interface output: en

Ident. No. 300

Ident. No. 301

Ident. No. 305

Model				T-Box 300 USB	T-Box 301 USB	T-Box 302 USB	T-Box 305 USB
Interface input				3 x DIGIMATIC	6 x DIGIMATIC	4 x RS232	2 x RS232 | 3 x DIGIMATIC
Keyboard interface	39870...		Ident. No.	300 ○	301 ○	302 ○	305 ●
07 Accessories for keyboard interface	39853...	Foot-operated switch	Ident. No.	400 ○	-	-	-
	39870...	Foot-operated switch EFU.4 with cable (2 m)	Ident. No.	-	020 ○	020 ○	020 ○
	39870...	Foot-operated switch EFU.4/3 with cable (3 m)	Ident. No.	-	025 ○	025 ○	025 ○
	39870...	Hand-operated switch EHK.2 with jack plug (2 m)	Ident. No.	-	040 ○	040 ○	040 ○

Prod. Gr. 386

Mitutoyo Interface DMX 1

Application:
For transferring measured values from measuring instruments with a DIGIMATIC interface to a PC with an RS-232 interface.

Execution:
- controlled using a micro-controller
- input: MITUTOYO-Digimatic
- Output: RS-232
- Includes Pedal jack

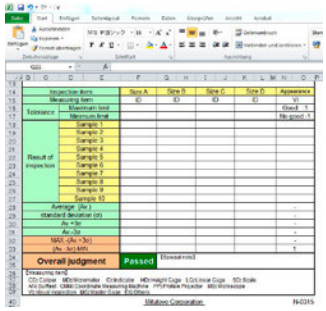
Notes:
Interface parameters: 9600 baud, 8 data bits, 1 stop bit, parity none

Number of connections (PCS)				1
Interface input				1 x DIGIMATIC
Interface output				RS232 (PC-COM)
Interface DMX 1	**39853...**	DMX 1	Ident. No.	**355** ○
07 Accessories for keyboard interface	**39853...**	Foot-operated switch	Ident. No.	**400** ○

Prod. Gr. 3ME

Mitutoyo USB-ITPAK software

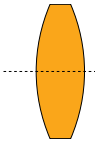
Application:
USB-ITPAK is a configuration and data collection software programme for managing multiple connected measuring instruments and foot-operated switches. The data is recorded in a Microsoft® Excel® worksheet by measuring instruments with a Digimatic/Digimatic 2 output. USB Input Tool Direct connection line, U-WAVE and USB foot-operated switch adapters can be used to transfer data to a Microsoft® Excel® worksheet.



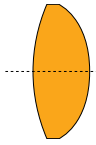
39853...	Ident. No.	**300** ○

Prod. Gr. 3MA

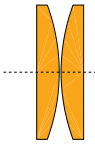
Magnifiers and reading glasses
Lens systems



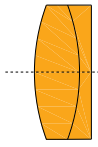
Biconvex lens system
Biconvex lens system lenses are lenses with two convex surfaces. It is the simplest and most commonly used lens shape for magnifiers. In contrast to biconvex lenses, plano-convex lens have one convex and one flat surface. Plano-convex lenses are used in aplanatic lens systems. (See aplanatic lens system).



Aspheric lens system
The surfaces of a spherical lens correspond to a section of the surface of a sphere. In contrast, aspheric lenses deviate from this spherical shape. Comparatively higher magnifications can be achieved using aspheric lenses as the defects that inevitably occur in any image produced by lenses are minimised.



Aplanatic lens system
Aplanatic lens systems consist of 2 plano-convex lenses, where the convex sides face each other internally. This allows a larger, field of vision with sharp edges at a relatively high magnification.



Achromatic lens system
Achromatic lens systems consist of at least 2 cemented lenses. The facing sides must have the identical opposite curvature. The lenses consist of crown and flint glass. Achromatic lenses deliver transparent images to the edge of the visual field, even for high-contrast objects.

ESCHENBACH Biconvex folding magnifying glasses

Application:
For magnifying small objects

Execution:
- **Ident. No. 060:**
  - matt chrome-plated brass housing
  - Coated metal lens holder
- **Ident. No. 100:** in leather bag

Delivery:
Ident. No. 100: Delivered in a pack of three

Technical data:
- Lens design: Biconvex

NEW

Ident. No. 060

Ident. No. 100

Magnification		3,5-times	4/6/10-times
Lens Ø (mm)		45	27
Material of lens		PXM®	Silicate
Colour		Black	-
41130...	Ident. No.	**100** ●	**060** ●

Prod. Gr. 4AA

ESCHENBACH Aplanatic folding magnifying glasses

Application:
For magnifying small objects

Execution:
- **Ident. No. 020:** Dust-proof plastic housing
- **Ident. No. 030–080:**
  - matt chrome-plated brass housing
- Coated metal lens holder

Advantage:
- **Ident. No. 020:** Precision magnifying glass for pin-sharp images free from chromatic aberration

Technical data:
- Lens design: Aplanatic
- Material of lens: Silicate

NEW

Ident. No. 020

Ident. No. 030

Ident. No. 040

Ident. No. 050

Ident. No. 080

Magnification		6-times	8-times	10-times	10-times	12-times
Lens Ø (mm)		21	21	23	21	15
41130...	Ident. No.	080 ●	030 ●	020 ●	040 ●	050 ●

Prod. Gr. 4AA

ESCHENBACH Achromatic folding magnifying glasses

Application:
For magnifying small objects

Execution:
- **Ident. No. 010:** Dust-proof plastic housing
- **Ident. No. 070–090:**
  - matt chrome-plated brass housing
- Coated metal lens holder

Advantage:
- **Ident. No. 010:** Precision magnifying glass for pin-sharp images free from chromatic aberration

Technical data:
- Lens design: Achromatic
- Material of lens: Silicate

NEW

Ident. No. 010

Ident. No. 070

Ident. No. 090

Magnification		3/6/9-times	10-times	20-times
Lens Ø (mm)		23	15	17
41130...	Ident. No.	010 ●	090 ●	070 ●

Prod. Gr. 4AA

ESCHENBACH Aspherical folding magnifying glasses

Application:
For magnifying small objects

Execution:
- High-magnification folding magnifying glass
- Dust-proof plastic housing

Advantage:
- with carrying strap

Technical data:
- Lens design: Aspherical
- Lens diameter: 35 mm
- Material of lens: PXM®
- Colour: White

NEW

Magnification		4-times	7-times	10-times
41130...	Ident. No.	110 ●	120 ●	130 ●

Prod. Gr. 4AA

ESCHENBACH Magnifying glass
mediaplan ergo

Application:
For magnifying small objects, e.g. for quality control during production.

Execution:
- Ergonomic, black plastic handle
- PXM plastic lightweight lens

Technical data:
- Lens design: Aplanatic
- Material of lens: PXM®

NEW

Ident. No. 005

Ident. No. 011–021

Ident. No. 030

Magnification		2.4-times	2,9-times	3,8-times	4.5-times
Lens Ø (mm)		85	75	60	50
41141...	Ident. No.	005 ●	011 ●	021 ●	030 ●

Prod. Gr. 4AA

ATORN Hand-held magnifier

Application:
For magnifying especially small objects, e.g. for quality control during production.

Execution:
- Black anodised aluminium mount and handle

Technical data:
- Lens design: Aplanatic

Magnification		8-times	15-times
Lens Ø (mm)		30	23
41145...	Ident. No.	108 ●	115 ●

Prod. Gr. 490

ESCHENBACH Pocket magnifying lamp
easyPOCKET

Application:
For magnifying small parts with additional light source.

Execution:
- illumination: bright, ultra-flat SMD LEDs
- flat, lightweight design
- Bright LED lighting when lens is extended
- LED light switches on automatically when lens is fully extracted
- PXM plastic lightweight lens

Delivery:
With 2 batteries CR 2025 (lithium, 3 V, 140 mAh)

Technical data:
- Lens design: Aspherical
- Material of lens: Plastic light lens with scratch-proof cera-tec® hard coating

Ident. No. 005

Ident. No. 010

Ident. No. 015

Ident. No. 105

Ident. No. 020

Magnification			2,5-times	3-times	3-times	4-times	6-times
Colour			Silver	Black	Silver	Blue grey	White
41570...	easyPOCKET XL	Ident. No.	020 ●	-	-	-	-
41570...	easyPOCKET	Ident. No.	-	005 ●	105 ●	010 ●	015 ●

Prod. Gr. 4AA

ESCHENBACH Pocket magnifying lamps

mobilux LED

Application:
For magnifying small parts with additional light source

Execution:
- Illuminated by SMD LED
- Large, user-friendly switch
- Lanyard eyelet
- PXM plastic lightweight lens

Advantage:
- Long LED service life: approx. 50,000 hours
- Step-up converter for voltage control (for brighter, consistent lighting over a longer period than other LED pocket magnifying lamps without step-up converters)
- Collimating lens for bright, homogeneous illumination
- 3 attachable filters (white, yellow, orange) – various colour temperatures

Delivery:
including batteries (2 x Mignon 1.5 V, type AA), case for optimum lens protection

Technical data:
- Lens design: Aspherical
- Material of lens: Plastic light lens with scratch-proof cera-tec® hard coating

Ident. No. 011

Ident. No. 016

Magnification		3-times	4-times	4-times	7-times	10-times	12,5-times
Lens Ø (mm)		-	60	-	35	35	35
Lens dimensions		90 x 54 mm	-	75 x 50 mm	-	-	-
41541...	Ident. No.	022 ●	011 ●	016 ●	021 ●	031 ●	041 ●

Prod. Gr. 4AA

ESCHENBACH LED magnifying lamp

powerlux

Application:
For magnifying small parts with additional light source.

Execution:
- illuminated by 2 SMD LEDs opposite each other
- Bright light, approx. 8000 K for true-colour images
- Automatic switch-off after 30 min.
- PXM plastic lightweight lens

Advantage:
- Compact design for simple, intuitive movement over the reading material
- Large field of vision
- Consistently bright and dazzle-free illumination

Delivery:
Protective hard foam case and batteries (3 x 1.5 V AA)

Technical data:
- Lens design: Aspherical
- Lens diameter: 58 mm
- Material of lens: Plastic light lens with scratch-proof cera-tec® hard coating

Magnification		3,5-times	5-times	7-times
41541...	Ident. No.	095 ●	100 ●	105 ●

Prod. Gr. 4AA

ESCHENBACH Large-area magnifier

visolux+

Application:
For checking surfaces and small parts

Execution:
- Two different colour temperatures for dazzle-free inspection of glossy parts
- Automatic switch-off after 30 minutes
- Illuminated by 2 SMD LEDs
- PXM plastic lightweight lens

Advantage:
- Unique, large visual field
- Ergonomic, view-friendly lens angle
- Integrated additional orange filter

Delivery:
in hard foam case

Technical data:
- Magnification: 3-times
- Lens dimensions: 75 x 100 mm
- Material of lens: Plastic light lens with scratchproof cera-tec® hard coating

41541...	Ident. No.	150 ●

Prod. Gr. 4AA

ESCHENBACH Headband magnifying glasses

laboCOMFORT

Application:
For magnifying small parts whilst working with both hands.

Execution:
- High quality plastic design
- plano-convex PXM lightweight lens
- Closed shade protects against scattered light
- Suitable for spectacle wearers
- Height adjustment with latching function

Magnification			3-times	2-times
Lens design			Binoculars	Binoculars
Working distance (mm)			130	250
Headband magnifying glasses	**41190...**	Ident. No.	**010** ●	**020** ●
	41185...	Ident. No.	**100** ●	**100** ●

Prod. Gr. 4AA

ESCHENBACH Magnifying glasses

maxDETAIL and maxDETAIL CLIP

Application:
For magnifying small parts whilst working with both hands.

Execution:
- **Ident. No. 012:**
  - ± 3 dpt diopter adjustment
  - Cannot be used in combination with glasses
- **Ident. No. 021:**
  - For clipping on any pair of glasses, a pair of glasses is required for use
  - fold up for normal vision

Advantage:
- Very light
- Large visual field (approx. 150 mm at distance of 400 mm)
- Hands remain free for working

Delivery:
Ident. No. 012: in hard foam case
Ident. No. 021: in dense foam case

Ident. No. 012

Ident. No. 021

Folded up on a pair of glasses

Magnification				2-times
Material of lens				Plastic light lens
Working distance (mm)				400
Magnifying glasses	**41185...**	maxDETAIL Clip	Ident. No.	**021** ●
	41185...	maxDETAIL	Ident. No.	**012** ●

Prod. Gr. 4AA

ESCHENBACH headlight LED

for attaching to magnifying glasses

Application:
For pinpoint illumination of components

Execution:
- Range: vertical illuminance: approx. 3200 lx at 250 mm, approx. 1200 lx at 400 mm
- Cable length: 1 m
- Bulb housing: 32 x 20 x 34 mm
- Illumination with 2 strong LEDs

Advantage:
- A clip easily attaches the headlight LED to spectacles. It can also be used on a support by non-spectacle wearers.
- For pinpoint illumination

41185...	Ident. No.	**100** ●

Prod. Gr. 4AA

ESCHENBACH Watchmaker's magnifiers

Application:
For magnifying very small objects.

Execution:
- DUPLEX anti-static coating
- Plastic frame with anti-fog air hole

Technical data:
- Lens diameter: 25 mm
- Material of lens: Plastic light lens

Magnification		3-times	5-times	7-times	10-times
41170...	Ident. No.	020 ●	040 ●	050 ●	060 ●

Prod. Gr. 4AA

ESCHENBACH Thread counters

Application:
For visual inspection of surfaces, edge sharpness etc.

Execution:
- Thread counter, precision version
- Brass housing, semi-gloss chrome plated

Technical data:
- Lens design: Biconvex
- Material of lens: Silicate

NEW

Ident. No. 100

Magnification		5-times	6-times	8-times	10-times	12-times
Lens Ø (mm)		28	20	15	12	11
Height (mm)		53	42	33	27	23
41141...	Ident. No.	100 ●	110 ●	120 ○	130 ●	140 ●

Prod. Gr. 4AA

ATORN Measuring magnifying glass
full metal version and interchangeable dial plates

Application:
For measuring surfaces in workshops, laboratories, quality assurance, e.g. measuring indentations during Brinell hardness test

Execution:
- Parallax-free, distortion-free reading

Advantage:
- Half-open tube with white background for optimum, glare-free illumination of objects
- Brass dial, chrome-plated, high-precision laser graduated
- Superb edge sharpness for near parallax-free viewing

Technical data:
- Scale value: 0.1 mm
- Lens design: Achromatic
- Material of lens: Glass

Magnification			6-times	8-times	10-times
Max. length measuring range (mm)			20	10	10
Measuring magnifying glass	41540...	Ident. No.	055 ●	105 ●	205 ●
Scale plate, measuring magnifying glass	41540...	Ident. No.	057 ●	107 ●	207 ○

Prod. Gr. 490

ORION® Measuring magnifying glass
full metal version

Application:
For measuring surfaces in workshops, laboratories, quality assurance, e.g. measuring indentations during Brinell hardness test

Execution:
- Parallax-free, distortion-free reading
- INOX steel scale, black engraved divisions

Technical data:
- Lens design: Aplanatic
- Material of lens: Glass

Magnification			6-times	8-times	10-times	12-times
Max. length measuring range (mm)			20	10	10	6
Scale value (mm)			0.1	0.1	0.1	0.05
Measuring magnifying glass	41535...	Ident. No.	060 ●	080 ●	100 ●	120 ●
Scale plate, measuring magnifying glass	41536...	Ident. No.	060 ○	080 ○	100 ○	120 ○

Prod. Gr. 454

ESCHENBACH Precision scale magnifier

interchangeable magnifier measuring scale

Application:
For measuring on flat surfaces, e.g. small hole diameters, paint damage etc.

Execution:
- Focus using focussing ring
- Measuring range 10 mm
- Reticule plate 01

Delivery:
Replaceable reticule plate, type 01, with case

Technical data:
- Max. length measuring range: 20 mm
- Scale value: 0.1 mm
- Lens design: Achromatic
- Material of lens: Silicate

Magnification		7-times	10-times
41560...	Ident. No.	110 ●	120 ●

Prod. Gr. 4AA

ESCHENBACH Precision scale magnifier

LED light

Application:
For measuring on flat surfaces, e.g. small bore diameters, paint damage etc.

Execution:
- Interchangeable magnifier measuring scale

Advantage:
- Achromatic lens: distortion-free image right up to the edge
- For direct illumination of the measuring point
- High-quality silicate lens

Technical data:
- Magnification: 10-times
- Max. length measuring range: 20 mm
- Scale value: 0.1 mm
- Lens design: Achromatic
- Material of lens: Silicate

NEW

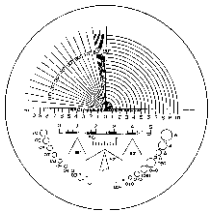
41562...	Ident. No.	011 ●

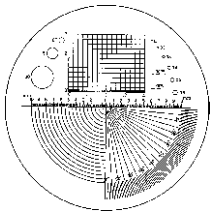
Prod. Gr. 4AA

ESCHENBACH Measurement scales

for Eschenbach scale magnifiers

Application:
Expands the application area of measuring magnifying glasses by exchanging reticulate plates.


Ident. No. 110
Reticule plate, type 03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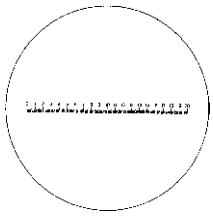
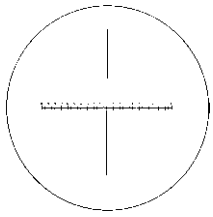
Reticule plate, type 02


Ident. No. 130
Reticule plate, type 04


Ident. No. 140
Reticule plate, type 01

Type			03	02	04	01
41561...	Type 03	Ident. No.	110 ●	-	-	-
41561...	Type 02	Ident. No.	-	120 ●	-	-
41561...	Type 04	Ident. No.	-	-	130 ●	-
41561...	Type 01	Ident. No.	-	-	-	140 ●

Prod. Gr. 4AA

ORION® LED magnifying lamp

Application:
For magnifying small parts with an additional light source.

Execution:
- 12 W LED lamp with 60 LEDs
- Outreach approx. 850 mm
- With table clamp
- Mains connection 220-240 V/50 Hz
- Colour temperature 6,500 K
- Light output 870 lm

Advantage:
- Handle for easy positioning of the magnifier head

Notes:
Replacement LED light source available on request

Technical data:
- Magnification: 1,75-times
- Lens diameter: 122 mm
- Design: Articulated arm with table clamp

41330...	Ident. No.	011 ●

Prod. Gr. 454

ATORN LED magnifying lamp

with LED segmentation

Application:
For magnifying small parts with additional light source.

Execution:
- Bright illumination with 90 ultra bright SMD LEDs
- Segmented LED switching in 2 stages
- Non-slip, well-designed, soft plastic ring for impact protection
- 6500 K colour temperature (daylight)

Advantage:
- Extremely low power consumption (only approx. 9 watts)
- Metal arm with plastic cover, no danger of pinching
- Long LED service life, no risk of breakage
- External switch for use as a table lamp
- High-quality lens

Delivery:
Magnifying lamp, 65 mm table clamp and instructions

Technical data:
- Magnification: 2,25-times
- Lens diameter: 127 mm
- Design: Articulated arm with table clamp

41333...	Ident. No.	055 ●

Prod. Gr. 490

Waldmann Magnifier ring lamp

Application:
For magnifying small parts with additional light source.

Execution:
- Output 14 W
- Membrane switch in lamp head for switching on/off and dimming
- Spring-balanced linkage
- Colour temperature of 5000 K
- Light guidance using reflector
- Mains supply 230 V, 50 Hz with 3.5 m mains cable

Technical data:
- Magnification: 2-times
- Lens diameter: 150 mm
- Design: Articulated arm with screw-on plate

41335...	Ident. No.	025 ●

Prod. Gr. 4AB

ESCHENBACH LED magnifier ring lamp

varioLED+

Application:
For magnifying small parts with additional light source.

Execution:
- Illuminated by 84 LEDs
- 6 joints can be firmly clamped in any position
- Adjustable ring lighting and segment control
- Folding and detachable lens cover
- Mains supply 100 V-240 V, 50-60 Hz
- Dimmable LEDs - individual light intensity for any work area
- Clamping range of table clamp 18 mm to 74 mm

Technical data:
- Magnification: 2-times
- Lens diameter: 132 mm
- Design: Articulated arm with table clamp

41338...	Ident. No.	011 ●

Prod. Gr. 4AA

Waldmann LED magnifying lamp

TEVISIO

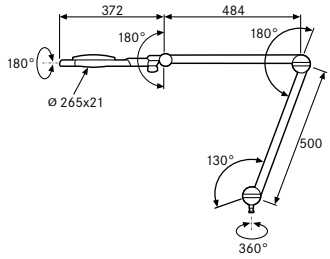
Application:
For magnifying small parts with additional light source.

Execution:
- Illuminated by LEDs
- Consumption: approx. 13 W
- IP 20 degree of protection, protection class 2
- Power supply unit, 100-240 V, 50/60 Hz, 3.4-3.6 m connection line
- Integrated membrane key for ON/OFF, dimming or visualiser function
- 3.5/8 DPT

Advantage:
- Long service life thanks to stable and robust aluminium frame
- Optimum support in the evaluation and verification of colour and surface qualities
- Moving 2D and 3D head joint provides large action radius
- No distracting reflections thanks to clouded screen
- Lens is simple to replace

Technical data:
- Model: TEVISIO TVD 750/940/DM
- Magnification: 3,5-times
- Lens diameter: 160 mm
- Design: Articulated arm with screw-on plate

Ident. No. 200



Ident. No. 200

A/B (mm)			484/500	384/400
41335...	3.5 dpt.	Ident. No.	200 ●	220 ●
41335...	3.5 + 8 dpt. (integrated additional lens)	Ident. No.	210 ●	230 ●

Prod. Gr. 4AB

Laserliner VideoPocket HD inspection camera

Compact entry-level model

Application:
For detailed visual inspections in hard-to-reach places. Record and store images and videos.

Execution:
- VideoPocket HD model
- Compact entry-level model with 4.3 inch colour TFT display, 480 x 272 pixels
- 2x digital zoom in 25 % increments
- Evaluation and documentation using internal photo memory, micro SD card and USB interface, image and video
- Image comparison function to determine differences
- DOF: depth of focus 30-80 mm
- TopClips: Magnet, mirror and hook attachment for mounting on the camera head

Delivery:
with TopClips, 8 GB micro SD card, batteries (4x AA), in case

Notes:
Supports micro SD cards up to 32 GB

Technical data:
- Model: VideoPocket HD
- Camera head diameter: 5.2 mm
- Cable length: 1 m
- Probe design: Flexible
- Line of sight: 0 Degree
- Min./max. sharpness range: 30-80 mm
- Display resolution: 480 x 272 pix
- Screen size: 4.3 in
- Data transmission type: 1 x micro USB 3.0 | SD
- Image rotation: 360° (2 x 180°)
- External memory on SD card: Up to 32 GB
- Number of LEDs: 6
- IP protection class: IP 67

41501...	Ident. No.	000 ●

Prod. Gr. 3EE

PCE-VE 200 inspection camera

Compact entry-level model

Application:
For detailed visual inspections in hard-to-reach places. Record and store images and videos.

Execution:
- PCE-VE 200 model
- Compact entry-level model with 3.5 inch colour LCD display, 640 x 480 pixels
- 2x, 3x and 4x digital zoom
- Evaluation and documentation using micro SD card and USB interface, image (1,600 x 1,200 JEP) and video (640 x 480 AVI)
- DOF: depth of focus 15-100 mm

Advantage:
- Resistant to machine oil, light oil and 5 % saline solution
- IP67 probe

Delivery:
with USB cable, USB adapter, operating instructions

Notes:
Micro SD card not included in scope of delivery

Camera head Ø (mm)		4.5
Cable length (m)		1
Data transmission type		1 x micro USB 3.0 | SD
Image rotation		360° (2 x 180°)
Number of LEDs		6
41453...	Ident. No.	022 ○

Prod. Gr. 4AD

Laserliner VideoInspector inspection camera

with and without 3D camera control

EXTENDED PROGRAM

Application:
For detailed visual inspections in hard-to-reach places. Record and store images and videos.

Execution:
- VideoInspector 3DX model
- Video inspection system with 3.5 inch TFT colour display, 640 x 480 pixels
- 2x digital zoom in 10 % increments
- Media gallery showing the date and time of the images and videos
- 3DX 1.5 m camera unit with 9 mm head diameter
- DOF: depth of field 30-80 mm
- Camera head with manual control via joystick. Can be rotated 360° and folded out to max. 150°

Advantage:
- Camera probe resistant to petrol and diesel
- Interchangeable camera unit
- Magnetic holder keeps both hands free

Delivery:
with Li-ion battery pack, magnetic holder, USB charging cable, HDMI cable, 8 GB micro SD card, card reader, screwdriver, in case

Notes:
Supports micro SD cards up to 32 GB

Technical data:
- Line of sight: 0 Degree
- Display resolution: 640 x 480 pix
- Screen size: 3.5 in
- Data transmission type: USB-C | SD
- Image rotation: 360° (2 x 180°)
- External memory on SD card: Up to 32 GB
- Number of LEDs: 6
- IP protection class: IP 68

Ident. No. 050 | Ident. No. 110

Model		VideoInspector	VideoInspector 3DX
Camera head Ø (mm)		7.9	9
Cable length (m)		1.5	1
Probe design		Flexible	3D controllable
Min./max. sharpness range		30-80 mm	15-100 mm
41501...	Ident. No.	050 ●	110 ○

Prod. Gr. 3EE

Laserliner VideoFlex HD inspection camera

with various camera units

EXTENDED PROGRAM

Application:
For detailed visual inspections in hard-to-reach places. Record and store images and videos.

Execution:
- VideoFlex HD model
- High resolution video inspection system with 5 inch TFT colour display, 1,280 x 720 pixels
- 2x digital zoom in 10 % increments
- 1:1 reproduction: Camera and display with the same resolution, hence no loss in quality.
- Mirror function for the correction of mirror-inverted images
- Webcam function for live transfer to PC, ideal for stationary use in industry
- Optimum contrast reproduction of grey scales
- Replaceable camera unit
- Camera dia. 7.9 mm, probe length 1.5 m, DOF: depth of field 30-80 mm

Advantage:
- Camera probe resistant to petrol and diesel
- 1:1 reproduction: Camera and display with the same resolution, hence no loss in quality.
- Magnetic holder keeps both hands free

Delivery:
with HighCapacityPack (Li-ion), power supply/charger with international adapter, USB-C cable, magnetic holder, micro SD card, TopClips camera attachments, in case

Notes:
Supports micro SD cards up to 32 GB

Technical data:
- Line of sight: 0 Degree
- Min./max. sharpness range: 30-80 mm
- Display resolution: 1280 x 720 pix
- Screen size: 5 in
- Data transmission type: USB-C | SD
- Image rotation: 360° (2 x 180°)
- External memory on SD card: Up to 32 GB
- IP protection class: IP 68

Ident. No. 020

Ident. No. 010

Model		VideoFlex HD Duo	VideoFlex HD Duo 3 m	VideoFlex HD Micro	VideoFlex HD
Camera head Ø (mm)		5	7.9	3.9	7.9
Cable length (m)		2	3	2	1.5
Probe design		Flexible | Additional side view	Flexible | Additional side view	Flexible	Flexible
Line of sight 2 (Degree)		90	90	-	-
Min./max. sharpness range side view		20-50 mm	20-50 mm	-	-
Number of LEDs		7	7	6	8
41501...	Ident. No.	020 ●	130 ○	010 ○	120 ○

Prod. Gr. 3EE

Laserliner

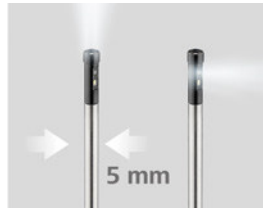
HD BoreScope-Duo camera accessories

Camera unit for VideoInspector and VideoFlex HD

Application:
To expand the viewing options of inspection cameras VideoInspector and VideoFlex HD

Execution:
- HD BoreScope Duo camera model
- Fixed camera head for inspection cameras VideoFlex HD and VideoInspector
- Camera head diameter 5 mm, probe length 300 mm
- Camera head with front and side camera, resolution 1,280 x 720 pixels
- DOF: Depth of focus front 30-80 mm/side 20-50 mm
- 6 high-performance LEDs and one additional LED on the side camera

Advantage:
- Fixed camera probe makes positioning in bore holes or cavities easier
- Rapid change of view between front and side camera at the touch of a button



Model		HD BoreScope-DuoCamera
Camera head Ø (mm)		5
Cable length (m)		0.3
Probe design		Rigid | Additional side view
Line of sight (Degree)		0
Line of sight 2 (Degree)		90
Min./max. sharpness range		30-80 mm
Min./max. sharpness range side view		20-50 mm
IP protection class		IP 67
Number of LEDs		7
41501...	Ident. No.	030 ●

Prod. Gr. 3EE

Laserliner

VideoInspector 3D inspection camera

with tilting camera and joystick

EXTENDED PROGRAM

Application:
For detailed visual inspections in hard-to-reach places. Record and store images and videos.

Execution:
- VideoInspector 3D model
- Professional video inspection system with 3.5 inch TFT colour display, 640 x 480 pixels and separately moving camera head
- 4x digital zoom in 10 % increments
- 3D titanium camera head with manual control via joystick. Can rotate by 360° and fold by max. 210°
- Evaluation and documentation using micro SD card and USB interface, image and video
- HDMI port for direct connection to external monitor
- Hold function: still image
- Micro camera, dia. 6 mm, probe length 1 m, depth of field: 25-100 mm, high-grade, durable and flexible tubing made of tungsten

Advantage:
- Replaceable camera unit
- Magnetic holder keeps both hands free

Delivery:
with Li-ion battery pack, magnetic holder, USB charging cable, HDMI cable, 8 GB micro SD card, card reader, screwdriver, in case

Notes:
Supports micro SD cards up to 8 GB

Technical data:
- Camera head diameter: 6 mm
- Probe design: 3D controllable
- Line of sight: 0 Degree
- Min./max. sharpness range: 25-100 mm
- Bending angle: 210 Degree
- Display resolution: 640 x 480 pix
- Screen size: 3.5 in
- Data transmission type: HDMI | SD
- Image rotation: 360° (4 x 90°)
- External memory on SD card: Up to 8 GB
- Number of LEDs: 6
- IP protection class: IP 68

Model		VideoInspector 3D	VideoInspektor 3D 1m
Cable length (m)		2	1
41501...	Ident. No.	040 ●	150 ○

Prod. Gr. 3EE

PCE-VE 100N4 inspection camera

with tilting camera and joystick

Application:
For detailed visual inspections in hard-to-reach places. Record and store images and videos.

Execution:
- PCE-VE 100N4 model
- Professional video inspection system with 3.5 inch IPS colour display, 640 x 480 pixels and separately moving camera head
- 5x digital zoom in 0.5x increments
- 3D camera head with manual control via joystick. Can rotate by 360° and fold by max. 220°
- Evaluation and documentation using micro SD card and USB interface, image (960 x 720 JPG) and video (1,280 x 720 MP4)
- mini HDMI port for direct connection to external monitor
- Micro camera, dia. 6 mm., probe length 1 m, DOF: depth of focus 7-110 mm, high-grade, durable flexible tungsten tubing

Delivery:
with 3.7 V 18650 rechargeable battery, micro USB cable, USB power supply, micro SD card, micro SD card adapter, screwdriver, operating instructions, in case

Camera head Ø (mm)		6
Cable length (m)		1
Data transmission type		1 x micro USB 3.0 | HDMI | SD
Number of LEDs		6
41453...	Ident. No.	000 ○

Prod. Gr. 4AD

Rigid endoscopes Top-Line Pro

with fixed viewing direction and remote focusing ring

Application:
For inspecting straight bores and cavities. The high-quality specially calculated lens systems offer outstanding image reproduction and facilitate the inspection of the smallest details with their excellent resolution and brightness.

Execution:
- Modern, multi-layered gradient lens (GRIN lens technology)
- Remote focusing ring for diopter adjustment
- Optimised fibre-optic connection for connecting external light sources
- Rigid endoscope tube
- Temperature in air: Complete endoscope: -20°C to +50°C, (endoscope probe only: up to +120°C)
- Pressure resistance in air: up to 5 bar
- Fluid resistance: Endoscope probe can be submerged for a short time in water, salt solution (5%), kerosene, petrol, diesel or 70% alcohol
- Humidity: up to 95% at 40°C (non-condensing)

Advantage:
- very good luminous efficacy, high image quality and clear display with optional light source
- optional add-on and rotating 90° reflective tube available for 360° view
- can be adapted for camera systems for documentation tasks
- Top-Line Pro available with temperature resistance of up to +300 °C on request

Delivery:
Endoscope, cardboard packaging

Notes:
Light source and reflective tube not included in the scope of delivery

Technical data:
- Model: Top-Line Pro
- Line of sight: 0 Degree
- Endoscope tube: Rigid
- Design: EL light guide 41450450

Ident. No. 060, 064–090, 094–096

Model variant	Probe Ø (mm)	Effective length of endoscope (mm)	Opening angle (Degree)	41451... Ident. No.	
Top-Line ProMicroslim	1.85	80	40	060	○
Top-Line ProMicroslim	1.85	120	40	062	○
Top-Line ProMicroslim	1.85	178	40	064	○
Top-Line ProSuperslim	2.4	102	42	066	○
Top-Line ProSuperslim	2.4	185	42	068	○
Top-Line ProSuperslim	2.8	265	42	070	○
Top-Line ProSuperslim	2.8	350	42	072	○
Top-Line ProSuperslim	2.8	435	42	074	○
Top-Line ProSlim	4.2	50	42	076	○
Top-Line ProSlim	4.2	180	42	078	○
Top-Line ProSlim	4.2	305	42	080	○
Top-Line ProSlim	4.2	435	42	082	○
Top-Line ProSlim	4.2	560	42	084	○
Top-Line ProHardy	6.35	180	50	086	○
Top-Line ProHardy	6.35	305	50	088	○
Top-Line ProHardy	6.35	435	50	090	○
Top-Line ProHardy	6.35	560	50	092	○
Top-Line ProSuperHardy	7.2	711	50	094	○
Top-Line ProSuperHardy	7.2	940	50	096	○

Prod. Gr. 4EA

Flexible endoscope Top-Line Flexible

Probe outer diameter 2.5 mm to 5 mm

Application:

For visual inspection of hard-to-reach areas, such as curved components with narrow radii. The manually controlled angled probe tip also allows a flexible view. Ideal for inspecting closed housings with transverse channels. In addition, the probe position can be easily fixed from the outside.

Execution:

- Probe outer diameter 2.5 mm to 5 mm
- Working lengths from 700 mm to 1200 mm
- Resolution up to 18,000 pixels
- Probe tip can be angled 2 times with locking function
- Remote focusing ring for diopter adjustment
- Light sources such as LED, halogen, xenon and inspection lamps for mobile applications can be connected
- Adaptable to camera systems

Advantage:

- High-brilliance and high-contrast images
- Highly flexible probe with manually controlled angled probe tip
- Locking function for fixing the angled probe position
- Robust, waterproof probe with protective sheath made of stainless tungsten braid
- Adaptable to camera systems for documentation tasks

Delivery:

Top-Line endoscope, 90° mirror head, (with Flexible Pro dia. 5mm optional 90° prism head), LED manual light source SuperNova, Li-ion battery with charger and robust aluminium case

Technical data:

- Model: Flexible Pro
- Probe tip angular offset: 2-fold per 120°
- Line of sight: 0 Degree
- Diopter compensation: Adjustable

Probe Ø (mm)		2.5	2.5	3.3	4	5
Design		-	-	-	-	With 90° mirror head | optional 90° prism head
Effective length of endoscope (mm)		700	1200	850	850	850
Min. bending radius (mm)		35	35	40	40	40
Resolution (pixels) (pix)		7000	7000	18000	18000	18000
Opening angle (Degree)		60	60	45	45	45
41452...	Ident. No.	**100** ○	**102** ○	**104** ○	**106** ○	**108** ○

Prod. Gr. 4EA

Flexible endoscopes

MTFS series for the smallest diameters without angled probe tip

Application:

For visual inspection of hard-to-reach areas, such as curved components with narrow radii. Particularly suitable for inspecting miniature components and channels in the field of micro-electronics, precision engineering.

Execution:

- Probe outer diameter 0.5 mm to 2.5 mm
- Working lengths from 500 mm to 15000 mm
- Resolution up to 30,000 pixels
- Flexible probe with rigid probe head
- Remote focusing ring for diopter adjustment
- Separate or fixed 1500 mm length light guides for external light sources.
- IP65 protection class
- Optional 90° mirror head from 1.0 mm probe diameter on request
- Adaptable to camera systems

Advantage:

- For inspections in the smallest components and channels
- Flexible, robust in use due to high breaking resistance
- Repairable quartz-fibre bundle

Technical data:

- Model: MTFS
- Line of sight: 0 Degree
- Diopter compensation: Adjustable

Probe Ø (mm)	Effective length of endoscope (mm)	Max. length of rigid part (mm)	Min. bending radius (mm)	Resolution (pixels) (pix)	Opening angle (Degree)	Min./max. sharpness range	**41452...** Ident. No.	
0.5	500	5	10	4000	70	3-50 mm	**002**	○
0.5	1000	5	10	4000	70	3-50 mm	**004**	○
0.5	1500	5	10	4000	70	3-50 mm	**006**	○
0.5	2000	5	10	4000	70	3-50 mm	**008**	○
0.75	500	5	15	6000	70	3-50 mm	**010**	○
0.75	1000	5	15	6000	70	3-50 mm	**012**	○
0.75	1500	5	15	6000	70	3-50 mm	**014**	○
0.75	2000	5	15	6000	70	3-50 mm	**016**	○
1	500	6	30	10000	70	3-50 mm	**018**	○
1	1000	6	30	10000	70	3-50 mm	**020**	○
1	1500	6	30	10000	70	3-50 mm	**022**	○
1	2000	6	30	10000	70	3-50 mm	**024**	○
1.5	500	7	50	30000	60	-	**026**	○
1.5	1000	7	50	30000	60	-	**028**	○
1.5	1500	7	50	30000	60	-	**030**	○
1.5	2000	7	50	30000	60	-	**032**	○
2	500	10	60	30000	70	-	**034**	○
2	1000	10	60	30000	70	-	**036**	○
2	1500	10	60	30000	70	-	**038**	○
2	2000	10	60	30000	70	-	**040**	○
2	3000	10	60	30000	70	-	**042**	○
2	4000	10	60	30000	70	-	**044**	○
2	5000	10	60	30000	70	-	**046**	○
2.5	500	12	80	30000	70	-	**048**	○

Probe Ø (mm)	Effective length of endoscope (mm)	Max. length of rigid part (mm)	Min. bending radius (mm)	Resolution (pixels) (pix)	Opening angle (Degree)	Min./max. sharpness range	41452... Ident. No.	
2.5	1000	12	80	30000	70	-	050	○
2.5	1500	12	80	30000	70	-	052	○
2.5	2000	12	80	30000	70	-	054	○
2.5	5000	12	80	30000	70	-	056	○
2.5	10000	12	80	30000	70	-	058	○
2.5	15000	12	80	30000	70	-	060	○

Prod. Gr. 4EA

Dino-Lite Digital Microscope USB hand-held microscopes

with DinoCapture measuring software

Application:
For image and video inspection and documentation tasks.

Execution:
- Polariser (anti-reflection)
- **Ident. No. 062–071:**
  - 10-70x, 200x magnification
  - Magnification lock
- **Ident. No. 062–076:** 1.3 megapixel resolution
- **Ident. No. 071, 078, 134:** Long Working Distance optics enable a long working distance
- **Ident. No. 076–077:**
  - 20-220x magnification
  - Automatic Magnification Reading (AMR)
- **Ident. No. 076–134:**
  - interchangeable front caps
  - Locking of the magnification setting
- **Ident. No. 077–078:**
  - Enhanced Depth of Field (EDOF)
  - Extended Dynamic Range (EDR)
- **Ident. No. 077–134:**
  - 5 megapixel resolution
  - Flexible LED Control (FLC)
- **Ident. No. 078, 134:** 10-140x magnification
- **Ident. No. 116:** 10-220x magnification

Notes:
Ident. No. 077–078: EDOF/EDR only works with Windows OS

Technical data:
- Data transmission type: USB 2.0
- Extended Flexible LED Control (eFLC): No
- Measuring function + calibration: Yes

Ident. No. 062–071

Ident. No. 076

Ident. No. 077–078

Ident. No. 116

Ident. No. 134

Model		AM4113ZT	AM4113TL	AM4515ZT	AM7915MZT	AM7915MZTL	AM7115MZT	AM7115MZTL
long working distance		No	Yes	No	No	Yes	No	Yes
Camera resolution (Mpix)		1.3	1.3	1.3	5	5	5	5
Magnification		10 to 70-times	10 to 90-times	20 to 220-times	10 to 220-times	10 to 140-times	10 to 220-times	10 to 140-times
Max. magnification		200-times	-	-	-	-	-	-
Image resolution		1280 x 1024 pix	1280 x 1024 pix	1280 x 1024 pix	2592 x 1944 pix	2592 x 1944 pix	2592 x 1944 pix	2592 x 1944 pix
Polariser		Yes	No	Yes	Yes	Yes	Yes	Yes
Automatic magnification detection (AMR)		No	No	Yes	Yes	Yes	No	No
Extended dynamic range (EDR)		No	No	No	Yes	Yes	No	No
Extended depth of field (EDOF)		No	No	No	Yes	Yes	No	No
Flexible LED control (FLC)		No	No	No	Yes	Yes	Yes	Yes
Replaceable front caps		No	No	Yes	Yes	Yes	Yes	Yes
Material of housing		Plastic	Plastic	Plastic	Aluminium	Aluminium	Metal	Metal
ESD-capable		No	No	No	Yes	Yes	Yes	No
Magnification Lock		-	-	-	-	-	Yes	Yes
41613...	Ident. No.	062 ●	071 ○	076 ●	077 ●	078 ○	116 ○	134 ○

Prod. Gr. 4AC

Dino-Lite Digital Microscope USB hand-held microscope

with DinoCapture software

Technical data:
- Camera resolution: 1.3 Mpix
- Image resolution: 1280 x 1024 pix
- Data transmission type: USB 2.0
- Polariser: Yes
- Flexible LED control (FLC): Yes
- Extended Flexible LED Control (eFLC): No
- Replaceable front caps: Yes
- Material of housing: Metal
- ESD-capable: No
- Magnification Lock: Yes
- Measuring function + calibration: Yes

Model		AM4117MZT	AM4517MZT	AM4917MZT	AM4117MZTL	AM4517MZTL	AM4917MZTL
long working distance		No	No	No	Yes	Yes	Yes
Magnification		10 to 220-times	10 to 220-times	10 to 220-times	10 to 140-times	10 to 140-times	10 to 140-times
Automatic magnification detection (AMR)		No	Yes	Yes	No	Yes	Yes
Extended dynamic range (EDR)		No	No	Yes	No	No	Yes
Extended depth of field (EDOF)		No	No	Yes	No	No	Yes
41613...	Ident. No.	104 ○	108 ○	114 ○	126 ○	128 ○	132 ○

Prod. Gr. 4AC

USB hand-held microscope 8 Mpix

with DinoCapture software

Technical data:

- Camera resolution: 8.0 Mpix
- Image resolution: 3840 x 2160 pix
- Data transmission type: USB 2.0
- Polariser: Yes
- Flexible LED control (FLC): No
- Extended Flexible LED Control (eFLC): Yes
- Replaceable front caps: Yes
- Material of housing: Metal
- Magnification Lock: No
- Measuring function + calibration: Yes

NEW

Model		AM8117MZT	AM8517MZT	AM8917MZT	AM8117MZTL	AM8517MZTL	AM8917MZTL
long working distance		No	No	No	Yes	Yes	Yes
Magnification		10 to 220-times	10 to 220-times	10 to 220-times	10 to 140-times	10 to 140-times	10 to 140-times
Automatic magnification detection (AMR)		No	Yes	Yes	No	Yes	Yes
Extended dynamic range (EDR)		No	No	Yes	No	No	Yes
Extended depth of field (EDOF)		No	No	Yes	No	No	Yes
ESD-capable		No	No	No	No	-	No
41613...	Ident. No.	302 ○	304 ○	306 ○	136 ○	138 ○	142 ○

Prod. Gr. 4AC

Stands for USB microscopes

Application:

Ident. No. 085: Sturdy column stand with large boom arm, fast vertical adjustment and fine focus adjustment. 180 mm height adjustable, 150 mm horizontal extension arm incl. 150 mm extension, holder on column rotatable by 360°, focussing facility.

Ident. No. 089: Column stand with extension arm and 150-mm range + 150-mm extension to extend the range. Z-axes can be precisely adjusted using the turning knob.

Ident. No. 092: Sturdy telescopic stand with base plate and table clamp (12.5 to 38 mm). Working area horizontal approx. 580 mm and vertical 910 mm. Extendable and can be rotated 360°.

Ident. No. 093: Column stand with Z-axis fine adjustment via turning knob, enabling precise positioning during microscopy.

Ident. No. 094: Column stand with Z-axis fine adjustment via turning knob, enabling precise positioning during microscopy. In addition, the column stand can be tilted on the underside, therefore extending its range of applications.

Ident. No. 085
RK-10A

Ident. No. 089

Ident. No. 092

Ident. No. 093

Ident. No. 094

Model		RK-10A	RK-06A	MS53BA2	RK-04F	RK-05F
Stand design		Column stand	Column stand	Telescopic stand with triped mount	Column stand	Column stand
Width x height x depth		150 x 230 x 220 mm	150 x 270 x 220 mm	335 x 50 x 165 mm	110 x 165 x 140 mm	110 x 165 x 140 mm
41613...	Ident. No.	085 ●	089 ●	092 ●	093 ●	094 ○

Prod. Gr. 4AC

ATORN Digital microscope

with extensive software functions

Application:
ATORN digital microscopes for inspection and documentation tasks. Ideally suited to enabling dynamic inspections with no motion blur.

Execution:
- Robust aluminium stand design with fine focusing system
- Premium-quality 30x digital camera for fast live image display in Full HD (1080p) resolution at 60 fps (frames per second)
- 5x lens for 2.1x to 131.6x magnification
- Interchangeable lens connection for quick lens changing
- Integrated and intuitive software for measurement and documentation tasks
- Wireless keyboard and wireless mouse
- Internal 16 GB memory for remote storage
- Advanced camera settings
- Extensive software functions
- **Ident. No. 015:** LED ring light (segmentable) for different lighting scenarios
- **Ident. No. 020:** LED ring light (segmentable) and LED transmitted light (dimmable) for different lighting scenarios

Advantage:
- Auto calibration saves time-consuming recalibration of individual zoom levels
- Integrated system with powerful image processing software and control engine. No additional PC required.
- Multiple focus functions for fast inspections
- Network-capable

Delivery:
Digital microscope, 5x lens, wireless mouse and keyboard, HDMI cable, mini USB cable (for PC connection), 16 GB USB memory stick, quick start manual

Notes:
Supplied without monitor. We recommend using a 24-inch Full HD monitor with HDMI connection

Ident. No. 015

Ident. No. 020

Digital microscope	41619...	Version without transmitted light	Ident. No.	015 ●
	41619...	Version with transmitted light	Ident. No.	020 ●
04 Lenses	41619...	5x lens	Ident. No.	100 ○
	41619...	25x lens	Ident. No.	105 ○
	41619...	50x lens	Ident. No.	110 ○
	41619...	10x plane lens	Ident. No.	115 ○
05 Lens protection and polarising filters	41619...		Ident. No.	145 ○
06 Lighting	41619...	Polarised ring light with analyser	Ident. No.	150 ○
	41619...	Diffuse LED dome light	Ident. No.	155 ○
	41619...	UV ring light	Ident. No.	160 ○
08 Accessories for digital microscopes	41619...	360° rotation viewer for OMNI 3 digital microscope	Ident. No.	172 ○
	41619...	PC module for live image and video capture	Ident. No.	175 ○
02 External control units	41619...	KPII	Ident. No.	210 ○

Prod. Gr. 412

KERN Stereo microscopes

incl. three interchangeable lenses

Application:
for simple viewing of mechanical components, electronic PCBs and for general surface inspections. Ideal for workshops and training facilities

Execution:
- Interchangeable lenses for 10x, 20x and 40x magnification
- binocular lens barrel with 45° viewing angle
- Rotatable eyepieces with dioptre adjustment
- LED reflected and transmitted lighting, individually dimmable

Advantage:
- 45° viewing angle for convenient and effortless work

Technical data:
- Lens tube type: Binoculars
- Stand design: Section pillar
- Viewing angle: 45 Degree
- Eyepiece type: WF 10x/20
- Field of view figure: 20
- Tripod plate width: 164 mm
- Tripod plate depth: 202 mm

41612...	Ident. No.	025 ●

Prod. Gr. 412

KERN Stereo zoom microscope

binocular or trinocular, with manual zoom

Application:
For viewing mechanical components, electronic PCBs and for general surface inspections in quality assurance, in production environments and in education.

Execution:
- 7.5x to 45x magnification
- Manual zoom with zoom factor 6.4: 1
- LED ring light, 3 W, dimmable
- **Ident. No. 180:**
  - binocular lens barrel, with 45° viewing angle, rotatable eyepieces
  - widefield eyepieces, HSWF10x/23 mm
  - working distance 110 mm
  - visual field diameter 32.8 to 5.1 mm
- **Ident. No. 185:**
  - Trinocular lens barrel, with 45° viewing angle, rotatable eyepieces
  - Light distribution 50:50
  - Widefield eyepieces, HSWF 10x/23 mm
  - Working distance 110 mm
  - Visual field diameter 32.8 to 5.1 mm
  - C-Mount adapter, 0.5x, for mounting a USB digital camera

Advantage:
- Convenient and effortless work thanks to 45° inclination
- Clear and distortion-free images with Greenough lens system

Delivery:
Ident. No. 180: Stand with LED ring light, microscope head and holder, eyepieces, eye cups and dust cover
Ident. No. 185: Stand with LED ring light, microscope head and holder, eyepieces, eye cups, 0.5x C-Mount adapter and dust cover

Notes:
Ident. No. 185: Ideal for documentation tasks when used in conjunction with an optional digital camera and software.

Technical data:
- Viewing angle: 45 Degree
- Eyepiece type: HSWF 10x/23
- Field of view figure: 23
- Min. zoom magnification: 0.75x
- Max. zoom enlargement: 4.5x
- Zoom factor: 6.4 : 1
- Column diameter: 25 mm
- Tripod plate width: 280 mm
- Tripod plate depth: 290 mm

Ident. No. 180

Ident. No. 185

Lens tube type				Binoculars	Trinocular
Stereo zoom microscope	**41611...**		Ident. No.	**180** ○	**185** ○
08 Digital cameras and software	**41614...**	USB 2 digital camera 3.1 MP	Ident. No.	-	**340** ○
	41614...	USB 3 digital camera 3.1 MP	Ident. No.	-	**350** ○
	41614...	USB 3 digital camera 5.1 MP	Ident. No.	-	**360** ○
	41614...	HDMI/USB 2 digital camera 2 MP	Ident. No.	-	**370** ○

Prod. Gr. 412

KERN Stereo microscope with boom stand

binocular or trinocular, with manual zoom

Application:
For viewing mechanical components, electronic PCBs and for general surface inspections in quality assurance, in production environments and in education. Ideally suited for inspecting e.g. large components

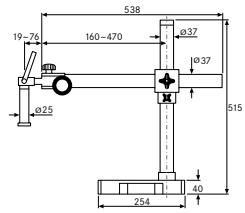
Execution:
- 7.5x to 45x magnification
- Manual zoom with zoom factor 6.4: 1
- Eyepieces, adjustable 52-76 mm with dioptre adjustment (-6/6)
- Widefield eyepieces, HSWF 10x/23 mm
- 4.5 W LED ring light
- **Ident. No. 190, 195:** Binocular lens barrel
- **Ident. No. 190–191:** Telescopic tripod with tripod plate 254x254x40 mm
- **Ident. No. 191, 196:**
  - Trinocular lens barrel
  - incl. C-mount adapter, 0.5x
- **Ident. No. 195–196:**
  - Articulated tripod with table clamp
  - Table clamp clamping width: 62mm

Advantage:
- 45° inclination for convenient and effortless work
- Clear and distortion-free images with Greenough lens system

Technical data:
- Viewing angle: 45 Degree
- Eyepiece type: HSWF 10x/23
- Field of view figure: 23
- Min. zoom magnification: 0.75x
- Max. zoom enlargement: 4.5x
- Zoom factor: 6.4 : 1
- Column diameter: 37 mm

Ident. No. 190

Ident. No. 196



Ident. No. 190

Lens tube type		Binoculars	Trinocular	Binoculars	Trinocular
Stand design		Telescopic stand with triped mount	Telescopic stand with triped mount	Articulated arm stand with table clamp	Articulated arm stand with table clamp
Max. throat depth (mm)		546	546	599	599
Tripod plate width (mm)		254	254	-	-
Tripod plate depth (mm)		254	254	-	-
41611...	Ident. No.	**190** ○	**191** ○+	**195** ○	**196** ○

Prod. Gr. 412

Mobile impact hardness tester

POLDI system

Application:
For indirect determination of Brinell hardnesses of materials made from steel, bronze, aluminium, copper, brass, grey cast iron and chilled cast iron. Suitable for components with masses from approx. 5 kg.

Execution:
- Reference rod with 686.7 N/mm² strength
- Measuring magnifying glass with 8x magnification
- Hardness comparison tables for steel, cast iron, copper and aluminium alloys, rolled and cast brass, bronze, grey cast iron and chilled cast iron
- Ball holder

Advantage:
- Simple and cost-effective entry-level device for components from a minimum mass of 5 kg

Delivery:
Delivered in case, includes reference rod (686.7 N/mm² strength), measuring magnifying glass 8x magnification, 1 set of tables.

Technical data:
- Min. strength range: 343.35 N/mm²
- Max. strength range: 1962 N/mm²
- Scale magnifier: 8x
- Length x width x depth: 17.5 x 6.5 x 3.5 mm

Mobile impact hardness tester	**42110...**		Ident. No.	**010** ●
01 Mobile impact hardness tester Poldi + accessories	**42111...**	Reference rod 686.7 N/mm²	Ident. No.	**010** ●
	42111...	Reference rod 706.3 N/mm²	Ident. No.	**015** ●
	42112...	Spare collection table	Ident. No.	**010** ○
	42113...	Spare ball holder	Ident. No.	**010** ●

Prod. Gr. 421

2000N mobile rebound hardness tester

with external type D impact device

Application:
For calculating and directly displaying hardness values in HL (Leeb), HB, HV, HRA (Rockwell A), HRB (Rockwell B), HRC and HS (Shore). Suitable for large components made from steel, stainless steel, cast iron, aluminium alloys, brass, bronze and copper forged alloys from a mass of approx. 5 kg upwards.

Execution:
- OLED colour display resolution 128 x 64 pixels

Advantage:
- The measured values are stored on the USB flashdrive
- Measurements can be carried out at a range of different angles
- Data storage for up to 600 average values in 6 data groups

Delivery:
PCE-2000N display unit, hardness reference block, type-D impact device, transport case, cleaning brush, operating instructions, 3x AA 1.5 V batteries, 2x stabilisation rings, 2 GB USB flashdrive

Battery designation		1.5 V Mignon AA
Length x width x height		160 x 80 x 40 mm
Min./max. HLD measuring range		170-960 HLD
Min./max. HV measuring range		80-1042 HV
Min./max. HRB measuring range		13.5-101.7 HRB
Min./max. HRC measuring range		17.9-69.5 HRC
Min./max. HB measuring range		19-683 HB
42160...	Ident. No.	**126** ○

Prod. Gr. 4AD

2500N mobile rebound hardness tester

with integrated type D impact device

Application:
For calculating and directly displaying hardness values in HL (Leeb), HB, HV, HRB (Rockwell B), HRC and HS (Shore). Suitable for large components made from steel, stainless steel, cast iron, aluminium alloys, brass, bronze and copper forged alloys from a mass of approx. 5 kg upwards.

Execution:
- OLED colour display resolution 128 x 64 pixels

Delivery:
PCE-2500N display unit, hardness reference block, type-D impact device, transport case, cleaning brush, operating instructions

Battery designation		1.5 V Mignon AA
Length x width x height		148 x 32 x 25 mm
Min./max. HLD measuring range		170-960 HLD
Min./max. HV measuring range		80-1042 HV
Min./max. HRB measuring range		13.5-101.7 HRB
Min./max. HRC measuring range		17.9-69.5 HRC
Min./max. HB measuring range		19-683 HB
42160...	Ident. No.	**128** ○

Prod. Gr. 4AD

3000ULS mobile UCI hardness tester

with 50N UCI hand-held probe and LEEB type D rebound probe

Application:
For determining and directly displaying hardness values in line with HB (Brinell), HV (Vickers), HRC (Rockwell) on metallic materials. Ideal for fine-grain materials and alloys. Includes 50N standard probe for performing e.g. hardness tests on nitride-hardened, case-hardened and high-frequency-hardened parts and coating tests from 30 microns. Suitable test attachments are optionally available for curved surfaces.

Execution:
- UCI hand-held probe 50N
- LEEB type D rebound probe
- Evaluation: ASTM A1038, ASTM A956
- Single-point adjustment function

Advantage:
- Internal memory for up to 500 user-defined adjustments

Delivery:
Display unit, 50N UCI probe, type D rebound probe, charger, USB cable, case, operating instructions

Min./max. HV measuring range		230-940 HV
Min./max. HRC measuring range		20-70 HRC
Min./max. HB measuring range		30-650 HB
Testing method		Vickers
Vickers pyramid (Degree)		136
Number of rechargeable batteries/batteries (PCS)		4
Battery designation		1.2 V Mignon AA
42170...	Ident. No.	615 ○

Prod. Gr. 4AD

SHORE hardness tester (ISO DIN ISO 7619-1 | 7619-1 | 868)

Shore A for soft materials and Shore D for hard materials

Application:
Ident. No. 100: For determining Shore A hardness in line with DIN ISO 7619-1, ISO 7619-1, ISO 868 and ASTM D 2240. Suitable for e.g. soft rubber, elastomers, natural rubber, neoprene, polyester, casting resins etc.
Ident. No. 110: For determining Shore D hardness in line with DIN ISO 7619-1, ISO 7619-1, ISO 868 and ASTM D 2240. Suitable for e.g. hard rubber, acrylic glass, stiff thermoplastics, Formica, vinyl sheets, cellulose/acetate, hard rubber materials etc.

Execution:
- Trailing pointer
- Large glare-free display rotates through 360°
- Accurate to 0.5 hardness units

Advantage:
- Ergonomic handles for excellent handling

Notes:
The devices can be used as hand-held devices or for series testing using ATORN test stands.
Please note: When using with an ATORN test stand, the adapter is also required.

Ident. No. 100

Model		HD-3000 Shore A	HD-3000 Shore D
Scale value, Shore		1	1
Shore error limit		± 0.5	± 0.5
Meter Ø (mm)		57	57
Trailing pointer		Yes	Yes
Contact force (DIN 53505) (N)		12.5	50
42195...	Ident. No.	100 ●	110 ●

Prod. Gr. 426

Digital SHORE hardness testers

Shore OO for very soft, Shore A for soft and Shore D for hard materials

Application:
Ident. No. 200: For determining Shore A hardness in line with DIN ISO 7619-1, ISO 7619-1, ISO 868 and ASTM D 2240. Suitable for e.g. soft rubber, elastomers, natural rubber, neoprene, polyester, casting resins etc.
Ident. No. 210: For determining Shore D hardness in line with DIN ISO 7619-1, ISO 7619-1, ISO 868 and ASTM D 2240. Suitable for e.g. hard rubber, acrylic glass, stiff thermoplastics, Formica, vinyl sheets, cellulose/acetate, hard rubber materials etc.
Ident. No. 220: For determining Shore OO hardness in line with ASTM D 2240. Suitable for e.g. foams, cellular and micro cellular rubber, etc.

Execution:
- Large, high-contrast LCD display
- Data output OPTO-RS 232
- Accurate to 0.5 hardness units

Advantage:
- Ergonomic handles for excellent handling
- Large, clear display
- Optional accessories for serial measurements

Notes:
The devices can be used as hand-held devices or for series testing using ATORN test stands.
Please note: When using with an ATORN test stand, the adapter is also required.

Ident. No. 200

Scale value, Shore			0,1	0,1	0,1
Shore error limit			± 0.5	± 0.5	± 0.5
Contact force (DIN 53505) (N)			12.5	50	3.924
42195...	ATORN Shore A	Ident. No.	200 ●	-	-
42195...	ATORN Shore D	Ident. No.	-	210 ●	-
42195...	ATORN Shore OO	Ident. No.	-	-	220 ○

Prod. Gr. 426

ATORN Test sample set
for Shore hardness testers

Application:
For checking Shore hardness testers

Execution:
- Incl. factory calibration certificate

Number of test samples (PCS)			7	3
Shore hardness range			30 | 40 | 50 | 60 | 70 | 80 | 90	60 | 75 | 85
42195...	ATORN test sample set Shore A	Ident. No.	140 ●	-
42195...	ATORN test sample set Shore D	Ident. No.	-	150 ○

Prod. Gr. 426

Ident. No. 140

Ident. No. 150

ATORN Test stands
for ATORN Shore hardness testers with digital or manual measurement display

Application:
For mounting ATORN SHORE hardness testers. Ideal for accurate and reproducible individual and series measurements.

Execution:
- Robust aluminium test unit

- **Ident. No. 120:** Height adjustable
- **Ident. No. 240:** Height-adjustable

Advantage:
- Tilt lever for shock-free and constant test force

Overhang (mm)			115
Test table Ø (mm)			98
Max. sample thickness (mm)			180
Material of test unit			Alu construction
42195...	ATORN test stand OS-2 for SHORE A and D	Ident. No.	120 ○
42195...	ATORN test stand OS-2-OO for SHORE OO	Ident. No.	240 ○

Prod. Gr. 426

Shore A and Shore D test stands

Ident. No. 120
Test stand with SHORE A hardness tester

Ident. No. 240

ATORN Shore D loading weight
for ATORN test stand 42195120

Application:
ATORN loading weight 4,000 g for Shore D hardness tester. For standard-compliant testing in accordance with Shore D in the test stand.

Loading weight (g)			4000
Material of load weight			Stainless steel A1 1.4305
42195...	ATORN loading weight Shore D	Ident. No.	130 ●

Prod. Gr. 426

ATORN Measurement and analysis software HiMeasure
for ATORN digital Shore hardness testers

Application:
Ideal for documentation tasks.

Execution:
- Measurement display, analogue and digital
- Comprehensive statistical evaluations
- Configurable test report (pdf)
- Output data as a .csv or .jpg
- Configurable user interface
- Pre-adjustable user profile

- Automatic device recognition
- Multilingual
- Compatible with MS Windows 7 and Windows 10
- Single user license

Delivery:
including USB data cable

Notes:
Further licenses on request.

42195...	Measurement and analysis software HiMeasure	Ident. No.	260 ○

Prod. Gr. 426

Rockwell indenter

for stationary hardness testers

Application:

Ident. No. 400: Rockwell indenter, with pressed-in ball for e.g. QNESS macro and Rockwell, REICHERTER Briro UVn-/EMCOTEST macro hardness testers

Ident. No. 500: Indenter with test diamond Rockwell 120° offset, for e.g. QNESS macro/REICHERTER Briro UVN-/ EMCOTEST macro hardness testers

Ident. No. 510: Indenter with test diamond Rockwell 120° for EMCOTEST hardness testers

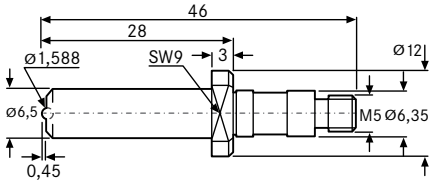
Ident. No. 520: Rockwell indenter 120° HR13 for example QNESS macro/REICHERTER Briro UVN-/ EMCOTEST macro hardness testers

Ident. No. 530: Indenter with test diamond 120° Rockwell, for e.g. WOLPERT TESTOR/WPM/FRANK hardness testers

Ident. No. 540: Indenter with test diamond 90° for e.g. QNESS macro/REICHERTER Briro UVN-/ EMCOTEST macro hardness testers

Technical data:

- Testing method: Rockwell
- Shank diameter: 6.35 mm



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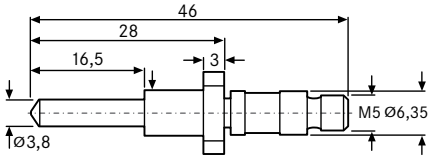

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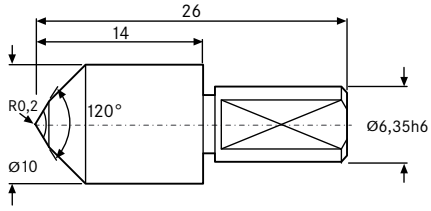

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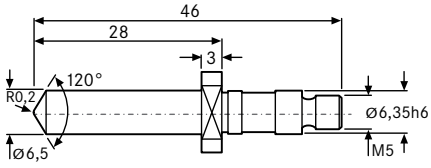

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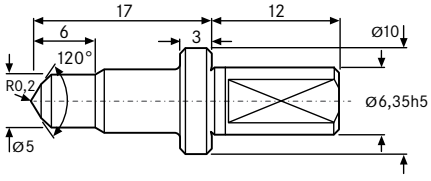

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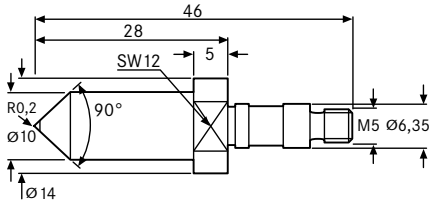


Ident. No. 540

Calibration certificate			DAkkS calibration certificate according to DIN EN ISO	DAkkS calibration certificate according to DIN EN ISO	DAkkS calibration certificate according to DIN EN ISO	Test certificate based on DIN EN ISO 6508-2	DAkkS calibration certificate according to DIN EN ISO
Length indenter (mm)			46	46	29	46	26
Functional Ø indenter (mm)			6.5	6.5	6	10	10
Offset functional Ø indenter (mm)			-	3.8	5	-	-
Functional length indenter (mm)			28	28	17	28	14
Offset functional length indenter (mm)			-	16.5	6	-	-
	Test body						
42215...	Diamond taper 120°	Ident. No.	520 ●	500 ○	530 ○	-	510 ○
42215...	Tungsten carbide ball, 1/16 inch	Ident. No.	400 ○	-	-	-	-
42215...	Diamond taper 90°	Ident. No.	-	-	-	540 ○	-

Prod. Gr. 427

Brinell indenter 42215440-461

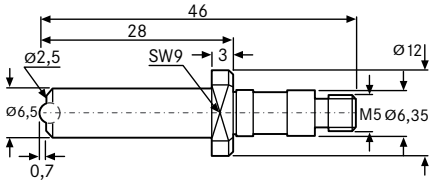
for stationary hardness testers

Application:

Brinell indenter, with pressed-in ball for example QNESS macro and Rockwell, REICHERTER Briro UVn-/EMCOTEST macro hardness testers

Technical data:

- Testing method: Brinell
- Calibration certificate: DAkkS calibration certificate according to DIN EN ISO
- Length indenter: 46 mm
- Functional length indenter: 28 mm
- Shank diameter: 6.35 mm



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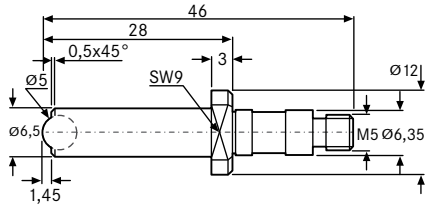

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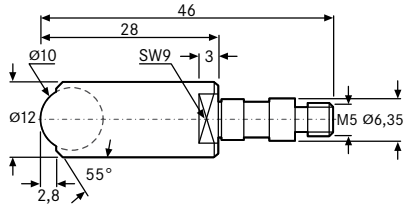


Ident. No. 460

Functional Ø indenter (mm)			6.5	12
	Test body			
42215...	Tungsten carbide ball, 2.5 mm	Ident. No.	440 ○	-
42215...	Tungsten carbide ball, 5 mm	Ident. No.	450 ○	-
42215...	Tungsten carbide ball, 10 mm	Ident. No.	-	460 ○

Prod. Gr. 427

Vickers indenter

for stationary hardness testers

Application:

Ident. No. 300–310: Vickers indenter for low-load hardness testers e.g. QNESS CHD-Master, CHD-Master+, QNESS Q10/Q30/Q60 from model series M, A and A+, QNESS 60 EVO from model series M, A and A+.

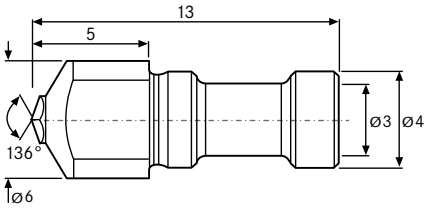
Ident. No. 600: Indenter with test diamond 136° Vickers, for e.g. WOLPERT TESTOR/WPM/FRANK hardness testers

Ident. No. 610: Vickers indenter HV28 ≥5HV e.g. QNESS macro/REICHERTER Briro UVN-/ EMCOTEST macro hardness testers

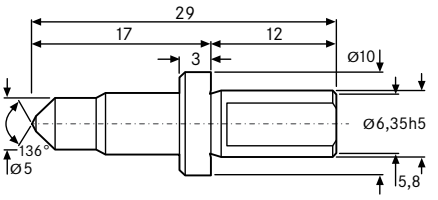
Ident. No. 620: Vickers indenter HV28 ≥0.01HV for e.g. QNESS macro/REICHERTER Briro UVN-/ EMCOTEST macro hardness testers

Technical data:

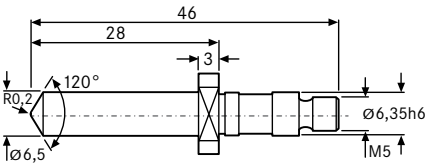
- Testing method: Vickers



Ident. No. 300–310



Ident. No. 600



Ident. No. 610–620

Suitable for min. testing method			HV 0,01	HV 0,2	HV 5	HV 5	HV 0,01
Calibration certificate			DAkkS calibration certificate according to DIN EN ISO | DAkkS calibration certificate according to ASTM	DAkkS calibration certificate according to DIN EN ISO | DAkkS calibration certificate according to ASTM	DAkkS calibration certificate according to DIN EN ISO	DAkkS calibration certificate according to DIN EN ISO	DAkkS calibration certificate according to DIN EN ISO
Length indenter (mm)			13	13	29	46	46
Functional Ø indenter (mm)			6.5	6.5	6	6.5	6.5
Offset functional Ø indenter (mm)			-	-	5	-	-
Functional length indenter (mm)			5	5	17	28	28
Offset functional length indenter (mm)			-	-	6	-	-
Shank Ø (mm)			4	4	6.35	6.35	6.35
	Test body						
42215...	Diamond pyramid 136°	Ident. No.	300 ○	310 ●	600 ○	610 ○	620 ○

Prod. Gr. 427

Hardness comparison plates

Periodic testing of hardness testing devices

Periodic testing is an important part of monitoring hardness testing devices in terms of the quality management system and must be performed with calibrated and certified hardness reference plates in accordance with ISO 6506-3:2015 (Brinell, part 1 appendix), ISO 6507-3:2005 (Vickers part 1 appendix), ISO 4545-3 (Knoop), ISO 6508-3:2015 (Rockwell part 1 appendix), ASTM E10-14 (Brinell), ASTM E18-15 (Rockwell) and ASTM E384-11 (Vickers and Knoop), and must be documented accordingly.

To avoid a potential systematic measurement error, the test parameters must be derived from the associated certificate. Without a certificate, hardness reference plates are practically useless.

This check is required each time the machine settings are changed, e.g. after switching the test procedure or the indenter. Furthermore, at least one or two test indentations per hardness area and hardness scale are prescribed daily (per working day). Documentation is normatively prescribed or at the very least strongly recommended, as an audit usually includes a review of the documentation of the results of periodic testing. Please consult the corresponding currently applicable standards for further information.

HRA hardness reference plates (ISO 6508-3)

including DAkkS certificate

Application:

For indirect and periodic checking of the functionality and measurement accuracy of hardness testers in line with the HRA test method.

Execution:

- fine-grained, homogeneous material
- DAkkS certificate

Testing method	HRA	
ISO	6508-3	
Dimension hardness comparison plate	60 x 60 x 16 mm	
Form	Square	
Hardness value	42368... Ident. No.	
29	000	○
40	001	○
45	002	○
53	003	○
57	004	○
60	005	○
62	006	○
66	007	○
69	008	○
71	009	○

Testing method	HRA	
ISO	6508-3	
Dimension hardness comparison plate	60 x 60 x 16 mm	
Form	Square	
Hardness value	42368... Ident. No.	
73	010	○
75	011	○
77	012	○
79	013	○
80	014	○
81	015	○
82	016	○
83	017	○
84	018	○
85	019	○

Prod. Gr. 486

HRB hardness reference plates (ISO 6508-3)

including DAkkS certificate

Application:

For indirect and periodic checking of the functionality and measurement accuracy of hardness testers in line with the HRB-W test method.

Execution:

- fine-grained, homogeneous material
- DAkkS certificate

Testing method	HRB	
ISO	6508-3	
Dimension hardness comparison plate	60 x 60 x 16 mm	
Form	Square	
Hardness value	42368... Ident. No.	
32	020	○
60	021	○
72	022	○

Testing method	HRB	
ISO	6508-3	
Dimension hardness comparison plate	60 x 60 x 16 mm	
Form	Square	
Hardness value	42368... Ident. No.	
86	023	○
94	024	○
98	025	○

Prod. Gr. 486

HRC hardness reference plates (ISO 6508-3)

including DAkkS certificate

Application:

For indirect and periodic checking of the functionality and measurement accuracy of hardness testers in line with the HRC test method.

Execution:

- fine-grained, homogeneous material
- DAkkS certificate

Testing method	HRC	
ISO	6508-3	
Dimension hardness comparison plate	60 x 60 x 16 mm	
Form	Square	
Hardness value	42368... Ident. No.	
15	030	○
19	031	○

Testing method	HRC	
ISO	6508-3	
Dimension hardness comparison plate	60 x 60 x 16 mm	
Form	Square	
Hardness value	42368... Ident. No.	
24	032	○
31	033	○

Testing method	HRC	
ISO	6508-3	
Dimension hardness comparison plate	60 x 60 x 16 mm	
Form	Square	
Hardness value	42368... Ident. No.	
37	034	○
41	035	○
46	036	○
49	037	○
52	038	○
55	039	○
58	040	○

Testing method	HRC	
ISO	6508-3	
Dimension hardness comparison plate	60 x 60 x 16 mm	
Form	Square	
Hardness value	42368... Ident. No.	
60	041	○
62	042	○
63	043	○
64	044	○
65	045	○
66	046	○
68	047	○

Prod. Gr. 486

HBW 1 hardness reference plates (ISO 6506-3)

including DAkkS certificate

Application:

For indirect and periodic checking of the functionality and measurement accuracy of hardness testers in line with the HBW test method.

Execution:

- fine-grained, homogeneous material
- DAkkS certificate

Testing method	HBW 1/5		HBW 1/10		HBW 1/30		HBW 2,5/31,25		HBW 2,5/62,5		HBW 2,5/187,5	
ISO	6506-3		6506-3		6506-3		6506-3		6506-3		6506-3	
Dimension hardness comparison plate	60 x 60 x 16 mm		60 x 60 x 16 mm		60 x 60 x 16 mm		60 x 60 x 16 mm		60 x 60 x 16 mm		60 x 60 x 16 mm	
Form	Square		Square		Square		Square		Square		Square	
Hardness value	42368... Ident. No.		42368... Ident. No.		42368... Ident. No.		42368... Ident. No.		42368... Ident. No.		42368... Ident. No.	
80	200	○	201	○	-	-	219	○	220	○	-	-
110	-	-	202	○	206	○	-	-	221	○	225	○
130	-	-	203	○	207	○	-	-	222	○	226	○
170	-	-	204	○	208	○	-	-	223	○	227	○
200	-	-	205	○	209	○	-	-	224	○	228	○
250	-	-	-	-	210	○	-	-	-	-	229	○
300	-	-	-	-	211	○	-	-	-	-	230	○
350	-	-	-	-	212	○	-	-	-	-	231	○
400	-	-	-	-	213	○	-	-	-	-	232	○
450	-	-	-	-	214	○	-	-	-	-	233	○
500	-	-	-	-	215	○	-	-	-	-	234	○
550	-	-	-	-	216	○	-	-	-	-	235	○
600	-	-	-	-	217	○	-	-	-	-	236	○
650	-	-	-	-	218	○	-	-	-	-	237	○

Prod. Gr. 486

HBW 5 hardness reference plates (ISO 6506-3)

including DAkkS certificate

Application:

For indirect and periodic checking of the functionality and measurement accuracy of hardness testers in line with the HBW test method.

Execution:

- fine-grained, homogeneous material
- DAkkS certificate

Testing method	HBW 5/250		HBW 5/750		HBW 10/1000		HBW 10/1500		HBW 10/3000	
ISO	6506-3		6506-3		6506-3		6506-3		6506-3	
Dimension hardness comparison plate	150 x 100 x 16 mm		150 x 100 x 16 mm		150 x 100 x 16 mm		150 x 100 x 16 mm		150 x 100 x 16 mm	
Form	Rectangular		Rectangular		Rectangular		Rectangular		Rectangular	
Hardness value	42368... Ident. No.		42368... Ident. No.		42368... Ident. No.		42368... Ident. No.		42368... Ident. No.	
80	239	○	-	-	258	○	263	○	-	-
110	240	○	244	○	259	○	264	○	270	○
130	241	○	245	○	260	○	265	○	271	○
170	242	○	246	○	261	○	266	○	272	○
200	243	○	247	○	262	○	267	○	273	○
250	-	-	248	○	-	-	268	○	274	○
300	-	-	249	○	-	-	269	○	275	○

Testing method	HBW 5/250		HBW 5/750		HBW 10/1000		HBW 10/1500		HBW 10/3000	
ISO	6506-3		6506-3		6506-3		6506-3		6506-3	
Dimension hardness comparison plate	150 x 100 x 16 mm		150 x 100 x 16 mm		150 x 100 x 16 mm		150 x 100 x 16 mm		150 x 100 x 16 mm	
Form	Rectangular		Rectangular		Rectangular		Rectangular		Rectangular	
Hardness value	42368... Ident. No.		42368... Ident. No.		42368... Ident. No.		42368... Ident. No.		42368... Ident. No.	
350	-	-	250	○	-	-	-	-	276	○
400	-	-	251	○	-	-	-	-	277	○
450	-	-	252	○	-	-	-	-	278	○
500	-	-	253	○	-	-	-	-	279	○
550	-	-	254	○	-	-	-	-	280	○
600	-	-	255	○	-	-	-	-	281	○
650	-	-	256	○	-	-	-	-	282	○

Prod. Gr. 486

HV1, HV2 hardness reference plates (ISO 6507-3)

including DAkkS certificate

Application:
For indirect and periodic checking of the functionality and measurement accuracy of hardness testers in line with the HV test method

Execution:
- fine-grained, homogeneous material
- DAkkS certificate

Ident. No. 398

Testing method	HV 1		HV 2	
ISO	6507-3		6507-3	
Dimension hardness comparison plate	30 x 30 x 6 mm		30 x 30 x 6 mm	
Form	Square		Square	
Hardness value	42368... Ident. No.		42368... Ident. No.	
200	398	○	415	○
250	399	○	416	○
300	400	○	417	○
350	401	○	418	○
400	402	○	419	○
450	403	○	420	○
500	404	○	421	○
550	405	○	422	○
600	406	○	423	○
650	407	○	424	○
700	408	○	425	○
750	409	○	426	○
800	411	○	428	○
850	413	○	430	○
900	414	○	431	○

Prod. Gr. 486

HV1 to HV10 hardness reference plates (ISO 6507-3)

including DAkkS certificate

Application:
For indirect and periodic checking of the functionality and measurement accuracy of hardness testers in line with the HV test method

Execution:
- fine-grained, homogeneous material
- DAkkS certificate

Ident. No. 500

Testing method	HV 1		HV 2		HV 3		HV 5		HV 10	
ISO	6507-3		6507-3		6507-3		6507-3		6507-3	
Dimension hardness comparison plate	60 x 60 x 16 mm		60 x 60 x 16 mm		60 x 60 x 16 mm		60 x 60 x 16 mm		60 x 60 x 16 mm	
Form	Square		Square		Square		Square		Square	
Hardness value	42368... Ident. No.		42368... Ident. No.		42368... Ident. No.		42368... Ident. No.		42368... Ident. No.	
80	500	○	519	○	538	○	556	○	575	○
110	501	○	520	○	539	○	557	○	576	○
130	502	○	521	○	540	○	558	○	577	○
170	503	○	522	○	541	○	559	○	578	○
200	504	○	523	○	542	○	560	○	579	○
250	505	○	524	○	-	-	561	○	580	○
300	506	○	525	○	543	○	562	○	581	○
350	507	○	526	○	544	○	563	○	582	○
400	508	○	527	○	545	○	564	○	583	○
450	509	○	528	○	546	○	565	○	584	○
500	510	○	529	○	547	○	566	○	585	○

Testing method	HV 1		HV 2		HV 3		HV 5		HV 10	
ISO	6507-3		6507-3		6507-3		6507-3		6507-3	
Dimension hardness comparison plate	60 x 60 x 16 mm		60 x 60 x 16 mm		60 x 60 x 16 mm		60 x 60 x 16 mm		60 x 60 x 16 mm	
Form	Square		Square		Square		Square		Square	
Hardness value	42368... Ident. No.		42368... Ident. No.		42368... Ident. No.		42368... Ident. No.		42368... Ident. No.	
550	511	○	530	○	548	○	567	○	586	○
600	512	○	531	○	549	○	568	○	587	○
650	513	○	532	○	550	○	569	○	588	○
700	514	○	533	○	551	○	570	○	589	○
750	515	○	534	○	552	○	571	○	590	○
800	516	○	535	○	553	○	572	○	591	○
850	517	○	536	○	554	○	573	○	592	○
900	518	○	537	○	555	○	574	○	593	○

Prod. Gr. 486

Conductivity tester for metals

PCE-COM 20

Application:

The conductivity measuring instrument for the electrical conductivity of non-ferrous metals such as aluminium or copper belongs to the NDT group of devices. The conductivity measuring instrument is used in non-destructive material testing. Using the eddy current measuring principle, which has been proven for this application, the electrical conductivity of metallic materials can be determined quickly and precisely.

Execution:

- Determination of metals and characterisation of alloys
- Assessment of differences in strength in heat-treated or hardened materials
- Authenticity testing of coin alloys
- Checking of alloy inhomogeneities in critical components and material sorting
- Menu languages: German, English, Chinese (simplified)
- 14 mm diameter sensors
- Measured value storage for up to 500 values
- with USB interface

Delivery:

with probe dia. 14 mm, calibration plate set, software, USB data cable, charging adapter, hexagon socket wrench, operating instructions, in case

Type description		PCE-COM 20
48603...	Ident. No.	100 ○

Prod. Gr. 4AD

Material flow index tester

for thermoplastics

Application:

The melt flow index tester is designed for both incoming goods inspection and continuous production monitoring. Ideally suited for a wide range of thermoplastic materials to determine the melt mass flow rate.

Execution:

- Measuring range/melting rate: 0.1 to 400 g/10 min
- Temperature: +120 to +400 °C
- Measuring accuracy temperature: ±0.2 °C
- Resolution: 0.1 °C
- Test load: 0.325 to 21.6 kg
- Capillary diameter: 2.095 mm
- Standards: ISO1133-1997, ASTM 1238-04C, GB/T3682-2000

Delivery:

Melt flow index tester PCE-MFI 400, tweezers, funnel, cleaning rod, operating instructions, weight set consisting of 1x 325 g, 1x 875 g, 1x 960 g, 1x 1,200 g, 1x 1,640 g, 1x 2,500 g, 1x 4,100 g, 2x 5,000 g

Min./max. temperature measuring range		+120 to +400 °C
Piston Ø (mm)		9.48
Length x width x height		500 x 320 x 500 mm
48405...	Ident. No.	010 ○

Prod. Gr. 4AD

Paint and powder coating gauge

includes separate combination sensor for ferrous (F) and/or non-ferrous (NF) metal substrates

Application:
For measuring non-magnetic layers, such as paint, plastic, chrome, copper, zinc, enamel etc. on steel/iron, as well as non-electrically conductive layers, such as paint, plastic, enamel, paper, glass, rubber etc. on copper, aluminium, brass and stainless steel, as well as anodised aluminium.

Execution:
- Precision: ±(2 % of measured value ± 1 µm)
- Probe diameter: 17 mm
- Device dimensions (H x W x D): 143 x 71 x 37 mm
- Curvature radius: convex 5 mm, concave 25 mm
- Base material thickness: 0.2 mm on magnetic substrates, 0.05 mm on non-magnetic substrates
- **Ident. No. 100:** incl. combination sensor **Fe**: 0 to 500 µm, **NFe**: 0 to 500 µm
- **Ident. No. 100–105:** Measuring range display unit: **Fe**: 0 to 5,000 µm and **NFe**: 0 to 3,000 µm
- **Ident. No. 105:** incl. combination sensor **Fe**: 0 to 1,500 µm, **NFe**: 0 to 1,500 µm
- **Ident. No. 110:** incl. combination sensor **Fe**: 0 to 2000 µm, **NFe**: 0 to 2000 µm
- **Ident. No. 110–125:** Measuring range display unit: **Fe**: 0 to 5,000 µm and **NFe**: 0 to 3000 µm
- **Ident. No. 115:** incl. combination sensor **Fe**: 0 to 2500 µm, **NFe**: 0 to 2500 µm
- **Ident. No. 120:** incl. combination sensor **Fe**: 0 to 3000 µm, **NFe**: 0 to 3000 µm
- **Ident. No. 125:** incl. combination sensor **Fe**: 0 to 5000 µm, **NFe**: 0 to 3000 µm

Advantage:
- Warning on measurements outside of maximum measuring range
- wear-proof, spring-mounted measuring head for precision measurements
- for measurements on iron/steel and non-ferrous metals
- automatic mode with ferrous/non-ferrous material detection

Delivery:
PCE-CT 80 coating thickness gauge, 3x AAA batteries, operating instructions, transport case, set of standard films
1x calibration plates (Fe and NFe), combination probe

Technical data:
- Probe design: FNF
- Test probe: Separately
- Layer thickness resolution: < 100 µm: 0.1 µm | > 100 µm: 1 µm
- Data transmission type: USB
- Calibration methods: 1-point | 2-point | 4-point | Null-offset according to ISO 19840

Ident. No. 100

Type description		PCE-CT 80-FN0D5	PCE-CT 80-FN1D5	PCE-CT 80-FN2	PCE-CT 80-FN2D5	PCE-CT 80-FN3	PCE-CT 80-F5N3
Type		PCE-CT 80-FN0D5	PCE-CT 80-FN1D5	PCE-CT 80-FN2	PCE-CT 80-FN2D5	PCE-CT 80-FN3	PCE-CT 80-F5N3
45801...	Ident. No.	100 ○	105 ○	110 ○	115 ○	120 ○	125 ○

Prod. Gr. 4AD

Laserliner Coating thickness gauge CoatingTest-Master

with integrated combination probe

Application:
For determining the thickness of layers, e.g.: paint, anodisation on metallic substrates

Execution:
- Induction and eddy current principle
- Non-magnetic coatings on magnetic substrates and insulating coatings on conductive substrates
- Automatic detection of substrate material (ferromagnetic/non-ferromagnetic)
- Internal memory for 400 measured values
- One-point and two-point calibration
- Digital connection: USB interface for transferring measured values using software
- Min./max./avg. display
- Clear, illuminated display

Delivery:
with calibration references, software, USB cable, batteries (2x AAA), in case

Model		CoatingTest-Master
Probe design		FNF
Test probe		Integrated
Min./max. layer thickness of measuring range		0-1250 µm
Layer thickness resolution		1 µm
Number of measurements		400
Calibration methods		One-point calibration | Two-point calibration
45901...	Ident. No.	000 ●

Prod. Gr. 3EE

elcometer® Coating thickness gauges, model series 456C

Integrated Bigfoot™ sensor

Application:

Ident. No. 600: For measuring non-magnetic coatings (paintwork, plastics, chrome, copper, zinc etc.) on magnetic substrates.

Ident. No. 605: For measuring non-magnetic coatings (paints, plastics, chrome, copper, zinc etc.) on magnetic substrates and for measuring non-conductive coatings (paints, plastics etc.) on non-metallic substrates (copper, aluminium, zinc, bronze, brass, etc.)

Execution:

- Robust ABS plastic housing
- Large, easy-to-read 2.4" colour display
- Degree of protection: IP 64, dust-proof and water-resistant
- Internal memory for displaying the last 5 measured values
- Data logging, concave from R=2
- **Ident. No. 600:** Built-in Bigfoot™ F sensor for ferrous (F) metal substrates
- **Ident. No. 605:** Integrated Bigfoot™ combined sensor FNF for ferrous (F) or non-ferrous (NF) metal substrates

Advantage:

- Fast samplings rates of over 70 measurements per minute
- Various calibration methods stored
- Integrated Bigfoot™ sensor for high measuring certainty
- Statistical display

Delivery:

Measuring instrument, calibration films (25, 50, 125, 250, 500, 1000 µm), hand strap, plastic bag, 2x AA batteries, operating instructions

Technical data:

- Type: B
- Test probe: Integrated
- Min./max. layer thickness of measuring range: 0-1500 µm
- Layer thickness resolution: < 100 µm: 0.1 µm
- Accuracy (+/-): 2.5 µm
- Min./max. accuracy (+/-) in %: 1-3 %
- Measuring rate: > 70 measurements/min
- Data transmission type: USB
- Internal memory: 5 measured values
- Adjustable limit values: No
- Calibration methods: One-point calibration | Two-point calibration | Reset to factory calibration

Model		A456CFBLI	A456CFNFBI1
Probe design		F	FNF
45800...	Ident. No.	600 ●	605 ●

Prod. Gr. 451

PCE INSTRUMENTS Coating thickness gauge

includes separate combination sensor for ferrous (F) and/or non-ferrous (NF) metal substrates

Application:

for measuring non-magnetic coatings (paints, plastics, chrome, copper, zinc etc.) on ferromagnetic substrates and for measuring non-conductive coatings (paints, plastics etc.) on non-ferrous metal substrates (copper, aluminium, zinc, bronze, brass etc.)

Execution:

- Measuring range display unit: **Fe**: 0 to 5,000 µm and **NFe**: 0 to 3,000 µm
- Precision: ±(1.5 % of measured value ± 1 µm)
- Zero-setting accuracy: ±(1.75 % of measured value ± 1 µm)
- Probe diameter: 17 mm
- Device dimensions (H x W x D): 143 x 71 x 37 mm
- Curvature radius: convex 5 mm, concave 25 mm
- Base material thickness: 0.2 mm on magnetic substrates, 0.05 mm on non-magnetic substrates
- **Ident. No. 130:** incl. combination sensor **Fe**: 0 to 500 µm, **NFe**: 0 to 500 µm
- **Ident. No. 135:** incl. combination sensor **Fe**: 0 to 1500 µm, **NFe**: 0 to 1500 µm
- **Ident. No. 140:** incl. combination sensor **Fe**: 0 to 2000 µm, **NFe**: 0 to 2000 µm
- **Ident. No. 145:** incl. combination sensor **Fe**: 0 to 2500 µm, **NFe**: 0 to 2500 µm
- **Ident. No. 150:** incl. combination sensor **Fe**: 0 to 3000 µm, **NFe**: 0 to 3,000 µm
- **Ident. No. 155:** incl. combination sensor **Fe**: 0 to 5,000 µm, **NFe**: 0 to 3,000 µm

Advantage:

- Warning on measurements outside of maximum measuring range
- wear-proof, spring-mounted measuring head for precision measurements
- for measurements on iron/steel and non-ferrous metals
- automatic mode with ferrous/non-ferrous material detection

Delivery:

PCE-CT 80HP coating thickness gauge, 3x AAA batteries, operating instructions, transport case, set of standard films

1x calibration plates (Fe and NFe), combination sensor

Technical data:

- Probe design: FNF
- Test probe: Separately
- Layer thickness resolution: < 100 µm: 0.1 µm | > 100 µm: 1 µm
- Data transmission type: USB
- Calibration methods: 1-point | 2-point | 4-point | Null-offset according to ISO 19840

Type		PCE-CT 80HP-F5N3	PCE-CT 80HP-FN0D5	PCE-CT 80HP-FN1D5	PCE-CT 80HP-FN2	PCE-CT 80HP-FN2D5	PCE-CT 80HP-FN3
45801...	Ident. No.	130 ○	135 ○	140 ○	145 ○	150 ○	155 ○

Prod. Gr. 4AD

elcometer® Coating thickness gauges, model series 456C

For separate Bigfoot™ sensors

Application:

Ident. No. 610: For measuring non-magnetic coatings (paintwork, plastics, chrome, copper, zinc etc.) on magnetic substrates.

Ident. No. 615–625: For measuring non-magnetic coatings (paints, plastics, chrome, copper, zinc etc.) on magnetic substrates and for measuring non-conductive coatings (paints, plastics etc.) on non-metallic substrates (copper, aluminium, zinc, bronze, brass, etc.)

Execution:

- Robust ABS plastic housing
- Large, easy-to-read 2.4" colour display
- Degree of protection: IP 64, dust-proof and water-resistant
- Data logging, concave from R=2 and convex from R=25
- **Ident. No. 610:** Connection for F measuring probe for ferrous (F) metal substrates
- **Ident. No. 615:** Connection for FNF combination measuring probe for ferrous (F) and non-ferrous (NF) metal substrates
- **Ident. No. 620–625:** Connection for FNF combination sensor for ferrous (F) and/or non-ferrous (NF) metal substrates

Advantage:

- Fast samplings rates of over 70 measurements per minute
- Various calibration methods stored
- **Ident. No. 620:** View and delete measured values and delete batches
- **Ident. No. 625:**
  - View and delete measured values and batches
  - Alphanumeric batch names entered into device by user
  - Scanning and auto repeat mode with connected ultra/scan probe

Delivery:

Ident. No. 610–615: Measuring instrument, hand strap, plastic bag, 2x AA batteries, operating instructions

Ident. No. 620–625: Measuring instrument, hand strap, transport case, screen protector, USB cable, ElcoMaster 2.0™ software, 2x AA batteries, operating instructions

Notes:

Probes not included in scope of delivery. For suitable probes, see 45800 650-665.

Technical data:

- Test probe: Separately
- Min./max. layer thickness display range: 0-31 mm
- Layer thickness resolution: < 100 µm: 0.1 µm
- Measuring rate: > 70 measurements/min

Model		A456CFBS	A456CFNFBS	A456CFNFSS	A456CFNFTS
Type		B	B	S	T
Probe design		F	FNF	FNF	FNF
Data transmission type		USB	USB	USB/Bluetooth	USB/Bluetooth
Internal memory		5 measured values	5 measured values	1500 measured values	150000 measured values
Adjustable limit values		No	No	Yes	Yes
Calibration methods		One-point calibration | Two-point calibration | Reset to factory calibration	One-point calibration | Two-point calibration | Reset to factory calibration	One-point calibration | Two-point calibration | Null-offset according to ISO 19840 | Reset to factory calibration	One-point calibration | Two-point calibration | Null-offset according to ISO 19840 | Reset to factory calibration
45800...	Ident. No.	610 ●	615 ●	620 ●	625 ●

Prod. Gr. 451

Accessories for		45800 610	45800 615	45800 620	45800 625
45800... USB Bluetooth(R) receiver for Elcometer layer thickness measuring instruments	Ident. No.	690 ○	-	690 ○	-
45800... USB cable for Elcometer layer thickness measuring instruments	Ident. No.	-	692 ○	692 ○	692 ○

elcometer® Sensors

For coating thickness gauges in the 456C model series with separate sensors

Application:

Bigfoot™ sensor for high measuring certainty, for use with coating thickness gauges in the 456C model series with sensor inputs

Execution:

- **Ident. No. 650–655:** Separate Bigfoot ™ probe for devices with F probes
- **Ident. No. 660–665:** Separate Bigfoot ™ combination sensor for devices with F/NF sensors

Ident. No. 655, 665
Radial cable outlet direction

Model		T456CF1S	T456CF1R	T456CFNF1S	T456CFNF1R
Probe design		F	F	FNF	FNF
Accuracy (+/-) (µm)		2.5	2.5	2.5	2.5
Min./max. accuracy (+/-) in %		1-3 %	1-3 %	1-3 %	1-3 %
Min./max. layer thickness of measuring range		0-1500 µm	0-1500 µm	0-1500 µm	0-1500 µm
Layer thickness resolution		< 100 µm: 0.1 µm | > 100 µm: 1 µm	< 100 µm: 0.1 µm | > 100 µm: 1 µm	< 100 µm: 0.1 µm | > 100 µm: 1 µm	< 100 µm: 0.1 µm | > 100 µm: 1 µm
Probe Ø (mm)		4	4	6	6
Probe working height (mm)		85	28	88	38
Cable output direction		Axial	Radial	Axial	Radial
Suitable for		Iron	Iron	Iron | Non-ferrous	Iron | Non-ferrous
45800...	Ident. No.	650 ●	655 ●	660 ●	665 ●

Prod. Gr. 451

elcometer® Ultrasonic wall thickness measuring instrument

incl. 5 MHz dual-element probe, 1/4”

Application:
For non-destructive recording of material thickness, for use on steel materials only. Ideal for monitoring corrosion and erosion on closed components and structures or those accessible only from one side, e.g. pipes, tanks, large metal sheets etc.

Execution:
- Robust ABS plastic housing
- Large, easy-to-read 2.4” colour display
- IP 54 degree of protection, splash-proof
- Integral zero disc
- Red/green LEDs on the housing, for displaying the upper and lower limit value
- Includes 5 MHz 1/4” dual element measuring head

Notes:
Delivery includes 5 MHz 1/4” dual element measuring head

Technical data:
- Model: MTG 2
- Min./max. Pulsed-Echo (P-E) measuring range: 0.63-500 mm
- Resolution of wall thickness: 0.1 mm
- Accuracy (+/-): 0.1 mm
- Accuracy (+/-) in %: 1 %
- Calibration methods: Precalibrated
- Calibration memory: No
- Display mode: Measurement

46100...	Ident. No.	100 ●

Prod. Gr. 451

elcometer® Ultrasonic wall thickness measuring instrument

For separate test probes

Application:
For non-destructive recording of the material thickness of a wide range of acoustically conductive materials such as metals, NF metals, ceramic, plastics, glass, etc. Ideal for monitoring corrosion and erosion on closed components and structures or those accessible only from one side, e.g. pipes, tanks, large metal sheets etc.

Execution:
- Robust ABS plastic housing
- Large, easy-to-read 2.4” colour display
- IP 54 degree of protection, splash-proof
- Integral zero disc
- Red/green LEDs on the housing, for displaying the upper and lower limit value
- **Ident. No. 120–130:** Scan mode for uniform inspections

Advantage:
- **Ident. No. 110:**
  - Easy to use
  - High measuring accuracy
  - Efficient measurement

Notes:
Test sensor not included in scope of delivery!

Ident. No. 110

Ident. No. 120

Ident. No. 130

Model		MTG 4	MTG 6	MTG 8
Min./max. Pulsed-Echo (P-E) measuring range		0.63-500 mm	0.63-500 mm	0.63-500 mm
Min./max. Echo-Echo ThruPaint (E-E) measuring range		2.54-25.4 mm	2.54-25.4 mm	2.54-25.4 mm
Resolution of wall thickness		0.1 mm	0.1 mm | 0.01 mm switchable	0.1 mm | 0.01 mm switchable
Accuracy (+/-) (mm)		0.1	0.05	0.05
Accuracy (+/-) in % (%)		1	1	1
Number of measurements (PCS)		-	1500	100000
Number of batches (PCS)		-	1	1500
Calibration methods		1-point | Reset to factory calibration	1-point | 2-point | Material | Speed of sound | Known thickness | Reset to factory calibration	1-point | 2-point | Material | Speed of sound | Known thickness | Reset to factory calibration
Calibration memory		No	No	Yes
Display mode		Measurement	Measurement | Statistics | Bar chart of the scanned thickness | History chart	Measurement | Statistics | Bar chart of the scanned thickness | History chart | Measurements and difference | B-cross sectional view
Data recording		-	Sequence off function | Delete last measurement | Date and time signature	Sequence off function | Raster off function | Delete last measurement | Date and time signature | Alphanumeric lot names | Lot chart
46100...	Ident. No.	110 ○	120 ○	130 ○

Prod. Gr. 451

Dual-element probes

For ultrasonic wall thickness measuring instruments in the MTG model series

Application:
Suitable for measuring e.g. steel, glass and thin plastics in conjunction with an Elcometer ultrasonic wall thickness gauge from the MTG series.

Advantage:
- **Ident. No. 206:** ThruPaint technology – ignores the thickness of coatings in Echo-Echo mode

Technical data:
- Probe diameter inch: 1/4
- Test frequency: 5 MHz
- Cable output direction: Radial

Ident. No. 202

Damper			No	High cushioned
Measuring mode			-	Echo-Echo ThruPaint (E-E)
46100...	TXC5M00CP-4	Ident. No.	202 ○	-
46100...	TXC5M00CP-10	Ident. No.	-	206 ○

Prod. Gr. 451

Ultrasonic wall thickness measuring instrument

with separate probe

Application:
For undisturbed recording of material thicknesses of highly-diverse acoustically conductive materials such as metals, NF metals, ceramic, plastics, glass etc. Ideal for monitoring corrosion and erosion on closed components and structures or those accessible only from one side, e.g. pipes, tanks, large metal sheets etc. Large-area inspections can be conveniently carried out in scan mode.

Execution:
- Robust plastic housing
- Graphic-capable, backlit LCD display
- Incl. standard 5 MHz probe with 10 mm probe diameter
- Single point measurement and/or scan mode (10 measurements per second)
- Internal memory for 20 files (up to 100 measured values per file)

Advantage:
- Simple operation via user-friendly menu
- Optional probes available for numerous applications
- Integrated calibration standard

Delivery:
Measuring instrument with 5 MHz probe, 2x 1.5 V, AA batteries, 70 ml coupling liquid, operating instructions, transport case

Technical data:
- Min./max. length measuring range: 1.2-230 mm
- Min./max. sound velocity of measuring range: 1000-9999 m/s
- Resolution of wall thickness: 0.1 mm
- Probe: Separately
- Transceiver probe diameter: 10 mm
- Test frequency: 5 MHz

TN 230-0.1 US display unit with optional miniature test head

45900...	Ident. No.	010 ●

Prod. Gr. 451

Accessories for		45900 010
45900... Test head 0.75–80 mm For ultrasonic wall thickness gauge TN 230-01 US	Ident. No.	110 ●
45900... Test head 1–225 mm For ultrasonic wall thickness gauge TN 230-01 US	Ident. No.	115 ○
45900... Test head 1–230 mm For ultrasonic wall thickness gauge TN 230-01 US	Ident. No.	150 ○
46100... Coupling liquids 500 ml for ultrasonic wall thickness gauges	Ident. No.	090 ●

Probe for ultrasonic wall thickness measuring instrument

Model TN 230-0.1 US

Execution:
- **Ident. No. 110:** Measuring range for steel 0.75-80 mm
- **Ident. No. 115:** Measuring range for steel 1-225 mm at normal temperature, 4-100 mm for applications up to 300°

Technical data:
- Test frequency: 7 MHz

Probe height (mm)		25	86
45900...	Ident. No.	110 ●	115 ○

Prod. Gr. 451

Example application with standard test head

Surface-roughness reference samples

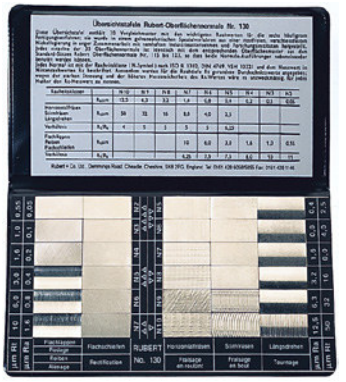
for the six most common machining processes

Application:
Surface-roughness reference samples for assessing surface roughness through simple visual and tactile comparison in line with DIN ISO 4287, DIN ISO 4288, BS 2634 and ANSI B 46.1. Machining method: Horizontal milling, face milling, longitudinal milling, reaming, flat grinding, lapping

Execution:
- Wear-resistant and non-rusting
- Evaluation parameters Ra and Rz
- Extract from machining methods such as horizontal and face milling, longitudinal turning, reaming, flat grinding and lapping

Advantage:
- Galvanoplastic manufacturing method for high accuracy and uniformity

Delivery:
Set of surface-roughness reference samples for all machining methods: Horizontal milling, face milling, longitudinal milling, reaming, flat grinding, lapping



Machining method		Horizontal milling | Front milling | Longitudinal turning | Flat grinding | Lapping | Reaming
Model		130
Number of comparative patterns (PCS)		30
ISO surface roughness categories		N2-N10
Board width (mm)		90
Board length (mm)		120
44810...	Ident. No.	010 ●

Prod. Gr. 445

Surface-roughness reference samples

for machining processes

Application:
Surface-roughness reference samples for assessing surface roughness through simple visual and tactile comparison in line with DIN ISO 4287, DIN ISO 4288, BS 2634 and ANSI B 46.1.

Execution:
- Wear-resistant and non-rusting
- Evaluation parameters Ra and Rz

Advantage:
- Galvanoplastic manufacturing method for high accuracy and uniformity

Delivery:
In a case

Ident. No. 070

Machining method		Hand-polishing	Longitudinal turning	Face turning	Front milling	Flat grinding	Cylindrical grinding	Electrical discharge machining
Model		336	320	319	321	315	316	331
Number of comparative patterns (PCS)		5	8	8	8	8	8	8
Min. Ra comparison range (µm)		0.0125	0.4	0.4	0.4	0.025	0.025	0.4
Max. Ra comparison range (µm)		0.2	50	50	50	3.2	3.2	50
Min. Rz comparison range (µm)		0.25	1.6	1.6	1.6	0.25	0.25	2.5
Max. Rz comparison range (µm)		1.6	160	160	160	16	1.6	160
Min./max. Rz comparison range		0.25-1.6 µm	1.6-160 µm	1.6-160 µm	1.6-160 µm	0.25-16 µm	0.25-1.6 µm	2.5-160 µm
ISO surface roughness categories		N0-N4	N5-N12	N5-N12	N5-N12	N1-N8	N1-N8	N5-N12
Board width (mm)		60	60	60	60	60	60	60
Board length (mm)		130	130	130	130	130	130	130
44810...	Ident. No.	050 ○	070 ●	076 ●	080 ●	100 ○	110 ●	120 ○

Prod. Gr. 445

MarSurf PS 10 roughness measuring instrument

mobile roughness measuring instrument with removable feed unit

Application:
Compact, mobile roughness measuring device for standardised roughness measurement in production and measuring rooms.

Execution:
- Stylus instrument with feed unit for skid-type probe
- calibration standard integrated in feed unit
- Roughness parameters in line with DIN ISO, JIS and ASME
- inductive skid-type probe with 2 µm diamond probe tip

Advantage:
- simple and intuitive operation, no training required
- reliable measurement using automatic cut-off selection (patented)
- Measurements in all directions: horizontal, vertical and overhead

Probe system		Runner probe system
Surface roughness measuring range		350 µm
Surface roughness resolution		0.01 µm | 0.001 µm
Threshold wave length		0.25 mm | 0.8 mm | 2.5 mm
Measurement profile memory (number of profiles) (PCS)		3900
Data transmission type		MarConnect
47100...	Ident. No.	**020** ●

Prod. Gr. 307

SJ-220 roughness tester

with external feed unit

Application:
Compact, mobile roughness tester for standardised roughness measurement in production and measuring rooms.

Execution:
- mobile roughness tester with removable feed unit
- 2.8 inch backlit colour LCD touchscreen display
- Roughness characteristics in accordance with EN ISO 21920, EN ISO 4287, ISO 13565, ISO 12085, VDA, ASME, JIS and user-defined conditions
- Skid probe with 2 µm diamond probe tip
- **Ident. No. 012:** Standard feed unit with motorised feed and retraction
- **Ident. No. 022:** Type S feed unit with motorised feed and retraction and additional motorised probe lowering
- **Ident. No. 032:** Type R feed unit with motorised crossfeed

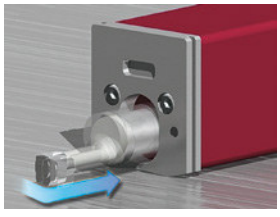
Advantage:
- clear display of measurement results
- Calculation results, evaluated profiles, BAC curves and ADC curves can be displayed
- free SJ Communication Tool software
- operated using buttons on the front and touchscreen

NEW

- optional Bluetooth connection to PC or smartphone

Delivery:
Roughness tester, roughness standard Ra 3 µm, standard probe 2µm 60°, AC charger plug, USB-C cable and transport case

Notes:
Suitable accessories are listed below each article in the online shop www.hahn-kolb.de.



Feed unit Type R, lowers via motor

Feed unit Type S for cross probing

Standard feed unit

Probe system			Runner probe system
Min./max. scanning path			0-17.5 mm
Threshold wave length			0.08 mm | 0.25 mm | 0.8 mm | 2.5 mm | 8 mm
Data transmission type			USB-C
47106...	SJ-220 Surftest 178-741-11 standard feed unit	Ident. No.	**012** ●
47106...	SJ-220R Surftest 178-743-11 type R feed unit with motorised lowering	Ident. No.	**022** ○
47106...	SJ-220S Surftest 178-745-11 type S feed unit with crossfeed	Ident. No.	**032** ○

Prod. Gr. 3MD

Roughness measuring instrument DIAVITE MICRO

with internal feed unit VH and external feed unit VHF

Application:
Compact, mobile roughness measuring device for standardised roughness measurement in production and measuring rooms.

Execution:
- Roughness parameters in accordance with DIN ISO, JIS, ASME
- including SH standard probe with diamond probe tip 5 µm
- **Ident. No. 110:** with VH internal feed unit for skidded tracers
- **Ident. No. 120:** with VHF external feed unit for skidded and skidless tracers

Advantage:
- selectable standardised evaluation of parameters in accordance with ISO standard 4287 (withdrawn) and new ISO standard 21920-2:2021
- simple and intuitive operation, no training required
- Measurements in all directions: horizontal, vertical and overhead

Delivery:
Display unit with feed unit, SH 5 µm/90° standard probe, power supply/charger, DIAVITE App light software, roughness standard approx. Ra 3 µm, case

Ident. No. 110

Ident. No. 120

Probe system		Runner probe system	Runner probe system | Reference plane probe system
Surface roughness measuring range		20 µm | 350 µm	20 µm | 350 µm
Min./max. scanning path		0.48-16 mm	0.48-16 mm
Threshold wave length		0.08 mm | 0.25 mm | 0.8 mm | 2.5 mm	0.08 mm | 0.25 mm | 0.8 mm | 2.5 mm
Data transmission type		USB	USB
47100...	Ident. No.	110 ○	120 ●

Prod. Gr. 445

Mahr Roughness measuring instrument MarSurf M 310

mobile roughness measuring instrument with feed unit for skid-type probes

Application:
Compact, mobile roughness measuring device for standardised roughness measurement in production and measuring rooms.

Execution:
- 4.3 inch TFT touch display, colour, backlit
- Stylus instrument with feed unit for skid-type probe
- Status indicated by LED light bar
- inductive skid-type probe with 2 µm diamond probe tip
- integrated calibration standard
- USB Bluetooth(R) interface, e.g. for printer
- Roughness parameters in line with DIN ISO, JIS and ASME
- MarWin Explorer software for easy analysis (free version can be downloaded from the MAHR website)
- Data backup as TXT, X3P, CSV and PDF file
- **Ident. No. 040:** Including thermal printer for wireless printing of profiles and results via Bluetooth(R) or cable connection

Advantage:
- simple and intuitive operation, no training required
- dynamic calibration function enables reliable measurement through automatic cut-off selection (patented)
- Measurement results transferred via Bluetooth(R) or cable connection
- Quick access to individually used functions via favourites list in the display
- Tolerance input and monitoring

Ident. No. 040

Probe system			Runner probe system
Surface roughness measuring range			350 µm
Threshold wave length			0.25 mm | 0.8 mm | 2.5 mm
Measurement profile memory (number of profiles) (PCS)			3900
47100...	MarSurf M310	Ident. No.	030 ●
47100...	MarSurf M310 + printer	Ident. No.	040 ○

Prod. Gr. 307

DIAVITE AG Roughness measuring instrument DIAVITE DH-9

with VH external feed unit for skid-type probes and VHF for skid-type probes and free tracers

Application:
Compact, mobile roughness measuring device for standardised roughness measurement in production and measuring rooms.

Execution:
- integrated thermal printer for roughness values and profile
- Roughness parameters in accordance with DIN ISO, JIS, ASME
- including SH standard probe with diamond probe tip 5 µm
- **Ident. No. 210:** with VH external feed unit for skidded tracers
- **Ident. No. 220:** with VHF external feed unit for skidded and skidless tracers

Advantage:
- selectable standardised evaluation of parameters in accordance with ISO standard 4287 (withdrawn) and new ISO standard 21920-2:2021
- simple and intuitive operation, no training required
- Measurements in all directions: horizontal, vertical and overhead

Delivery:
Display unit with feed unit with connecting cable, SH 5 µm/90° standard probe, USB connecting cable, screwdriver, DIAVITE App light software, roughness standard approx. Ra 3 µm, test record, operating instructions, case

Probe system		Runner probe system	Runner probe system | Reference plane probe system
Surface roughness measuring range		20 µm | 350 µm	20 µm | 350 µm
Min./max. scanning path		0.48-16 mm	0.48-16 mm
Threshold wave length		0.08 mm | 0.25 mm | 0.8 mm | 2.5 mm	0.08 mm | 0.25 mm | 0.8 mm | 2.5 mm
Data transmission type		USB-C	USB-C
47100...	Ident. No.	210 ●	220 ○

Prod. Gr. 445

DIAVITE AG Roughness measuring instrument DIAVITE NANO

with VH external feed unit for skid-type probes and VHF for skid-type probes and free tracers

Application:
For standardised roughness measurement in production and measuring rooms. Depending on the application, the NANO feed unit with integrated interface can be connected to an MS Windows PC or tablet. Evaluation, storage and documentation carried out via the DIAVITE App Light software.

Execution:
- Roughness parameters in accordance with DIN ISO, JIS, ASME
- including SH standard probe with diamond probe tip 5 µm
- Calibration of up to 8 probes
- A range of optional measuring probes are available, for almost all measuring tasks, customer-specific solutions possible
- **Ident. No. 240:** with VH external feed unit for skidded tracers
- **Ident. No. 260:** with VHF external feed unit for skidded and skidless tracers

Advantage:
- selectable standardised evaluation of parameters in accordance with ISO standard 4287 (withdrawn) and new ISO standard 21920-2:2021
- simple and intuitive operation, no training required
- Measurements in all directions: horizontal, vertical and overhead
- Measurement programs optionally accessible via barcode scanner. Image of the measuring task can be stored in the measurement program.
- Storage of measurement conditions in measurement program and creation of test record in pdf, csv and txt format

Delivery:
NANO roughness tester, SH standard probe with test report, calibration standard metal Ra = 3.0 µm, USB stick with DIAVITE APP REGULAR software and operating instructions, USB connection cable and charging cable. Not included in scope of delivery: PC, laptop or tablet.

Probe system		Runner probe system	Runner probe system | Reference plane probe system
Surface roughness measuring range		20 µm | 350 µm	20 µm | 350 µm
Min./max. scanning path		0.48-16 mm	0.48-16 mm
Threshold wave length		0.08 mm | 0.25 mm | 0.8 mm | 2.5 mm	0.08 mm | 0.25 mm | 0.8 mm | 2.5 mm
Data transmission type		USB	USB
47100...	Ident. No.	240 ○	260 ○

Prod. Gr. 445

ATORN Roughness measuring instrument

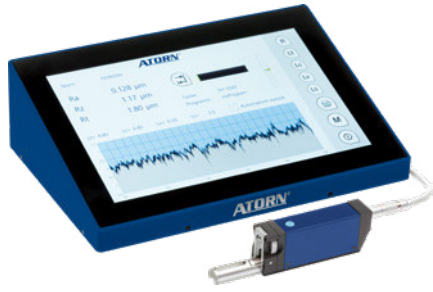
Skid-type probe and free tracer system

Application:
Roughness measuring device for standardised roughness measurement in production and the measurement room.

Execution:
- 10.1" Full HD industrial touchscreen PC with Windows IoT operating system
- Feed unit for skid-type probes and reference surface probes (free tracers)
- Wide range of optional sensors available for virtually any measuring task
- Outputs: 2x USB 3.0, 1x mini HDMI, 1x LAN RJ45, optional Bluetooth(R)/Wi-Fi
- Data output in PDF, CSV or TXT format for log creation
- Internal 32 GB memory
- Intuitive menu guidance, multiple languages available
- Network-capable

Advantage:
- Measurement conditions are stored with an image for a visual representation of the measuring task
- Mini HDMI for image transfer, e.g. to an external monitor
- Maximum process reliability with measuring programs that you can call up with barcode scanners
- 3-stage user level selection for individual access privileges
- Up to eight sensors can be calibrated individually to shorten testing times

Delivery:
Roughness measuring device, feed unit, standard 5 µm skid-type probe, connection cable, power cable, roughness standard approx. 3 µm, inspection log, plastic case



Probe system		Runner probe system | Free probe system
Surface roughness measuring range		350 µm | 20 µm
Min./max. scanning path		0.5-15 mm
Measurement force (mN)		0.5
Device dimensions		250 x 170 x 65 mm
Surface roughness sensing speed		0.25 mm/s | 0.5 mm/s | 1 mm/s
Surface roughness resolution		0.001 µm | 0.01 µm
Parameters		Ra | Rz | Rmax | R3z | Rt | Rq | RMS | Rk | Rp | Rv | Rpk | Rvk | MR1 | MR2 | Rpc | C1 | C2 | Rmr | C0 | Cz | R | AR | Rx
Threshold wave length		0.08 mm | 0.25 mm | 0.8 mm | 2.5 mm
47105...	Ident. No.	010 ●

Prod. Gr. 445

Roughness measuring instrument MarSurf M 410

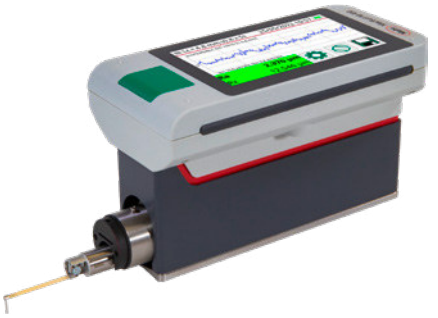
Skid-type probe and free tracer system

Application:
Mobile roughness measuring device for standardised roughness and waviness measurements in production and measuring rooms. The magnetic probe arm holder enables probes to be changed quickly without tools.

Execution:
- Large, illuminated 4.3-inch TFT rotating touch display
- BFW probe with magnetic holder and probe arm protection
- 2 µm BFW A 10-45-2/90° probe arm
- **Ident. No. 412:** external thermal printer with Bluetooth(R) interface

Advantage:
- Automatic cut-off selection (threshold wavelength Lc) ensures correct measurement results even for non-measuring technicians. Cut-off selection can also be shortened or variably defined
- Menu-guided inclination adjustment
- Display and feed unit separate

Delivery:
Ident. No. 410: MarSurf M 410, MarSurf MD 26 feed unit, BFW 250 probe system, 2 µm BFW A 10-45-2/90° probe arm, probe arm protection, USB-A to Micro-USB connecting cable, MarSurf M 410 docking station, wide-range power supply with 3 mains power supply adapters, hexagon key, operating instructions, case
Ident. No. 412: MarSurf M 410, MarSurf MD 26 feed unit, BFW 250 probe system, 2 µm BFW A 10-45-2/90° probe arm, probe arm protection, USB-A to Micro-USB connection cable, MarSurf M 410 docking station, wide-range power supply with 3 mains power supply adapters, hexagon key, operating instructions, external thermal printer, case



Ident. No. 410

Ident. No. 412

Probe system			Runner probe system | Reference plane probe system
Min./max. scanning path			0.48-25 mm
Threshold wave length			0.08 mm | 0.25 mm | 0.8 mm | 2.5 mm
Measurement profile memory (number of profiles) (PCS)			3900
Data transmission type			USB | MarConnect bidirektional | SD
47100...	without thermal printer	Ident. No.	410 ○
47100...	with thermal printer	Ident. No.	412 ○

Prod. Gr. 307

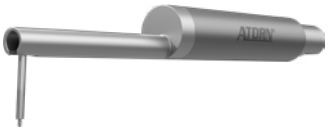
Probe for ATORN roughness measuring instrument

Skids and free tracers

Application:
Ident. No. 100: For measuring on flat surfaces and in drill holes from a diameter of 8 mm
Ident. No. 200: For measuring small holes from 1.5 mm and tooth flanks from module 0.75
Ident. No. 210: For measuring small holes from 0.8 mm and tooth flanks from module 0.5
Ident. No. 235–290: For measuring in grooves and recesses: Min. groove width: 1.5 mm + Lt (scanning path)

Ident. No. 100

Ident. No. 200



Ident. No. 260

Ident. No. 285

Button type		Probe with skid	Probe without skid	Probe without skid	Probe without skid	Probe without skid	Probe without skid	Probe without skid	Probe without skid
Type		Standard probe SKT/5	Bore/tooth flank probe BZFT/5	Bore/tooth flank probe BZFT-06/5	Groove free tracer NFT-5/5	Groove free tracer NFT-10/5	Groove free tracer NFT-15/5	Groove free tracer NFT-20/5	Groove free tracer NFT-25/5
Measuring depth max. (mm)		27	15	15	-	-	-	-	-
Min. groove width (mm)		-	-	-	1.5	1.5	1.5	1.5	1.5
Suitable for		Measurement of plane surfaces and bore diameter from 8mm	Bore diameter from 1,5 mm | Tooth flanks from module 0,75	Bore diameter from 0.8 mm | Tooth flanks from module 0,5	Measurement in grooves and recesses	Measurement in grooves and recesses	Measurement in grooves and recesses	Measurement in grooves and recesses	Measurement in grooves and recesses
Sensor length (mm)		-	-	-	5	10	15	20	25
Sensor arm length (mm)		27	26	26	25	25	25	25	25
47105...	Ident. No.	100 ○	200 ○	210 ○	235 ○	260 ○	280 ○	285 ○	290 ○

Prod. Gr. 445

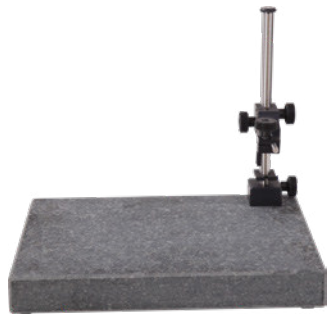
ATORN Measuring stands for ATORN roughness measuring instruments

Execution:
- Includes adapter for attaching feed unit
- Rubber feet for table top, 4 pieces

Plate size		300 x 195 mm	400 x 250 mm
Plate height (mm)		10	50
Column Ø (mm)		20	20
Column height (mm)		285	285
47105...	Ident. No.	410 ○	415 ●

Prod. Gr. 445

Ident. No. 410



Ident. No. 415

DIAVITE AG Measuring stands for DIAVITE roughness measuring instruments

Application:
Tripod with drawer for DIAVITE roughness tester

Execution:
- with T-groove for accommodating clamping devices, for example

Delivery:
Measuring stand, holder, adapter for VH/VHF feed unit

Type			Measuring stand with drawer, column height 250 mm, T-groove 6 mm	Measuring stand with drawer, column height 500 mm, T-groove 6 mm
Plate size			330 x 350 mm	330 x 350 mm
Column height (mm)			250	500
Measuring stands for DIAVITE roughness measuring instruments	47100...	Ident. No.	280 ○	285 ○

Prod. Gr. 445

Ident. No. 280

ATORN Contour measuring instrument easyCONTOUR 120

Probe direction - downwards

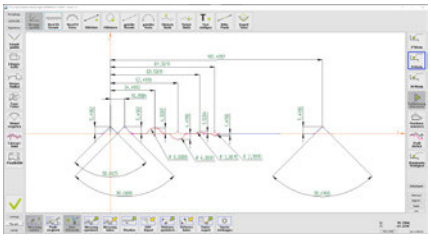
Application:
for measuring and evaluating functional geometries of components. workpieces can be measured over the entire measurement range using a fully automated process. the latest teach-in programming method requires no special programming skills.

Execution:
- Touchscreen PC with Windows 10 64-bit operating system
- Wireless keyboard and mouse
- High-performance measurement and evaluation software
- Base plate made of hard stone with enclosed T-groove
- **Y/R** support table, 190x190 mm, adjustable 38 mm in **Y** and +/-3° **R**adial
- High-quality industrial joystick for easy probe positioning
- Standard probe 120/20.5 (25 µm ceramic)
- Motorised Z-pillar
- Optional: comprehensive sensor range

Advantage:
- Generate automatic measuring sequences using teach-in: no programming skills required
- Automatic measurement and evaluation over the entire measuring range
- Scanning arms can be changed smoothly, easily and quickly
- Software-controlled scanning arm lifting function
- Options: Barcode scanner with QR code toolkit software module

Material of base plate		Hard stone
Measuring range of X axis (Lx) (mm)		120
Measuring range of Z axis (Lz) (mm)		30
Probe direction of Z axis		Probe downwards
Min./max. measurement speed		0.03-1.75 mm/s
X axis error limit		1.2 µm + 2 Lx/25 (L in mm)
Z axis error limit		1.8 µm + 2 Lz/25 (L in mm)
35206...	Ident. No.	010 ●+

Prod. Gr. 369



ATORN Spring balances with spherical probes

Application:
For testing and setting control elements with adjustable friction moments, contact forces in electrical switch gears and regulating and controlling elements in motor vehicles.

Execution:
- Measuring possible in both directions
- Dial face with scale in centinewtons (cN) or newtons (N)
- Error limit 0.01 x (final value + measured value)
- Trailing pointer
- **Ident. No. 151:** Shortened sensor lever

Delivery:
In case

Ident. No. 041–131

Min./max. force of measuring range	Scale value, force (cN)	Meter Ø (mm)	Sensor length (mm)	Weight (g)	44100... Ident. No.	
3-30 cN	1	36	29	64	041	○
5-50 cN	1	36	29	64	051	○
10-100 cN	2	36	29	64	061	●
25-250 cN	5	36	29	64	081	●
50-500 cN	10	72	48	260	091	●
100-1000 cN	20	72	48	260	101	○
300-3000 cN	50	72	48	278	121	●
500-5000 cN	100	72	48	294	131	○
1000-10000 cN	200	72	8	290	151	○

Prod. Gr. 440

Cylindrical spring force meter

Application:
Convenient, precision spring scale for tensile force measurement

Execution:
- Chrome-nickel steel and brass, bright nickel-plated
- Suspension at the top end with round eyelet
- Suspension at the bottom end with hook
- Error limit <= 1 % of end value

Advantage:
- laser scale for high-contrast reading
- Overload protection up to approx. 20 % above end value

Min./max. force of measuring range	Scale value, force (N)	Length (mm)	Sleeve Ø (mm)	44210... Ident. No.	
0-2 N	0.02	250	14.5	010	○
0-5 N	0.05	250	14.5	020	●
0-10 N	0.1	250	14.5	030	●
0-25 N	0.25	250	14.5	040	●
0-50 N	0.5	250	14.5	050	●
0-100 N	2	255	14.5	060	●
0-200 N	4	255	18	070	●
0-300 N	5	290	21	080	●
0-600 N	10	342	28	090	●
0-1000 N	20	368	28	100	○

Prod. Gr. 443

PESOLA Cylindrical spring force scale
with hook

Application:
Convenient, precision spring scale for tensile force measurement

Execution:
- Anodised, abrasion-resistant aluminium tube
- upper and lower bracket, can be rotated 360° and swivelled
- "click and go" suspension system at the bottom end
- Suspension at the top end with round eyelet

Advantage:
- laser scale for high-contrast reading
- Swiss quality product with high degree of accuracy
- can be converted for compressive force measurement

Delivery:
In plastic case with operating instructions

Technical data:
- Suspension type: Hook
- Error limit, based on end value: +/- 0.3 %
- Tare range (zero position) min./max.: 15-20 %

Ident. No. 240

Ident. No. 280

Min./max. force of measuring range	Scale value, force (N)	Ø (mm)	Design	Trailing pointer	44210... Ident. No.	
0-1 N	0.01	12	With click and go system	No	200	○
0-3 N	0.02	12	With click and go system	Optional	210	○
0-6 N	0.05	12	With click and go system	Optional	220	●
0-10 N	0.1	12	With click and go system	Optional	230	●
0-25 N	0.2	12	With click and go system	Optional	240	●
0-50 N	0.5	32	With click and go system	Yes	250	●
0-100 N	1	32	Without click and go system	Yes	260	●
0-200 N	2	32	Without click and go system	Yes	270	●
0-500 N	5	32	Without click and go system	Yes	280	●

Prod. Gr. 443

Cylindrical spring scale
with hook

Application:
Convenient, precision spring scale for measuring weight

Execution:
- Anodised, abrasion-resistant aluminium tube
- upper and lower bracket, can be rotated 360° and swivelled
- "click and go" suspension system at the bottom end
- Suspension at the top end with round eyelet

Advantage:
- laser scale for high-contrast reading
- Swiss quality product with high degree of accuracy
- can be converted for compressive force measurement

Delivery:
In plastic case with operating instructions

Technical data:
- Suspension type: Hook
- Error limit, based on end value: +/- 0.3 %
- Tare range (zero position) min./max.: 15-20 %

Ident. No. 360

Ident. No. 480

Min./max. weight measuring range	Scale value, weight (g)	Ø (mm)	Design	Trailing pointer	44210... Ident. No.	
0-0.01 kg	0.1	12	With click and go system	No	300	○
0-0.03 kg	0.25	12	With click and go system	No	320	○
0-0.06 kg	0.5	12	With click and go system	No	340	○
0-0.1 kg	1	12	With click and go system	No	360	○
0-0.3 kg	2	12	With click and go system	Optional	380	○
0-0.6 kg	5	12	With click and go system	Optional	400	○
0-1 kg	10	12	With click and go system	Optional	420	○
0-2.5 kg	20	12	With click and go system	Optional	440	●
0-5 kg	50	32	Without click and go system	Yes	450	○
0-10 kg	100	32	Without click and go system	Yes	460	●
0-20 kg	200	32	Without click and go system	Yes	470	●
0-35 kg	500	32	Without click and go system	Yes	480	○
0-50 kg	500	32	Without click and go system	Yes	490	●

Prod. Gr. 443

Special cylindrical spring force scale
with hook

Application:
Convenient, precision special spring scale for tensile and compressive force measurement

Execution:
- Anodised, abrasion-resistant aluminium tube
- upper and lower bracket, can be rotated 360° and swivelled
- "click and go" suspension system at the bottom end
- Suspension at the top end with round eyelet
- Tare and zero setting device

Advantage:
- laser scale for high-contrast reading
- Swiss quality product with high degree of accuracy
- can be retrofitted with optional accessories for compressive force measurement
- Tare range (zero setting) up to 20 %

Delivery:
In plastic case with operating instructions

Technical data:
- Diameter: 32 mm
- Suspension type: Hook
- Design: Without click and go system
- Error limit, based on end value: +/- 0.3 %
- Trailing pointer: Yes
- Tare range (zero position) min./max.: 15-20 %

Ident. No. 500

Ident. No. 510

Min./max. force of measuring range	Scale value, force (N)	44210... Ident. No.	
0-100 N	1	500	●
0-200 N	2	510	●

Prod. Gr. 443

Accessories for PESOLA spring scales and spring force scales

Ident. No. 610

Ident. No. 615

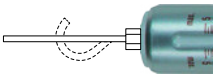
Ident. No. 620

Ident. No. 625

Ident. No. 645

Ident. No. 650

Ident. No. 655


Ident. No. 660

Ident. No. 665

44210...	Clips and hooks for Micro/Medio	Ident. No.	600 ●
44210...	Drag pointers for Medio Line spring scales	Ident. No.	610 ○
44210...	Strong clamp for Medio Line	Ident. No.	615 ●
44210...	Yarn clamp for Medio Line	Ident. No.	620 ●
44210...	M3 bolt for Medio Line	Ident. No.	625 ●
44210...	Multi-purpose cap for pressure rod	Ident. No.	635 ●
44210...	Drag pointer for Macro Line spring scales	Ident. No.	645 ●
44210...	Strong clamp for Macro Line	Ident. No.	650 ●
44210...	Adaptation set for Macro Line	Ident. No.	655 ●
44210...	6 mm adaptation rod for Macro Line	Ident. No.	660 ●
44210...	Large hook with protective sleeve	Ident. No.	665 ●

Prod. Gr. 443

Conversion set to compressive force measuring unit for Medio spring scales up to 2,500 g/25 N

Delivery: Pressure rod, hooked screw, force sensor and other small parts

Conversion set to compressive force measuring unit for Medio spring scales up to 2,500 g/25 N	44210...	Pressure set for Medio Line spring scales up to 2,5 g/25 N	Ident. No.	605 ●
	44210...	Pressure set for Macro Line spring scales	Ident. No.	640 ●
Accessories for spring scales and spring force scales	44210...	Multi-purpose cap for pressure rod	Ident. No.	635 ●

Prod. Gr. 443

Ident. No. 605

Ident. No. 640

Tensile and compressive force measuring instrument

Mechanical

Execution:
- Trailing pointer
- Measuring travel approx. 10 mm
- Overload max. 10%, thus not suitable for dynamic loads
- Adjustment for vertical applications
- Error limit 1% in relation to final value

Technical data:
- Meter diameter: 58 mm

Min./max. force of measuring range		0-2 N	0-5 N	0-10 N	0-15 N	0-20 N
Scale value, force (N)		0.05	0.1	0.2	0.4	0.4
44200...	Ident. No.	010 ○	020 ○	030 ●	040 ●	050 ○

Prod. Gr. 443

Ident. No. 030–050

Handheld tensile and pressure force tester, model 326

With electronic measurement display

Application:
Robust, electronic handheld force measuring unit for mobile applications, for checking actuation forces and rigidity of assemblies and components such as springs, buttons, switches, levers, closures etc. This unit is used primarily in quality assurance, incoming goods inspections, production and research and development.

Execution:
- Fixed measuring frequency from 1000 Hz
- High-resolution force sensor
- Processor-controlled electronics with the latest software
- Calibration is carried out using reference measuring devices or weights
- Rechargeable batteries ensure smooth operation
- Peak value memory for tensile and compressive forces
- 5-digit LCD display + comma with optional backlight
- Display resolution +/- 20,000 digits
- design with path encoder deliverable on request

Advantage:
- Simple and safe to use
- Maintenance-free, electronic handheld force measuring device for mobile applications
- Once saved, basic settings remain stored even when the device is switched off
- Ergonomic design, therefore suitable for left and right-handed users
- Fixed installation possible in testing devices

Delivery:
Unit with battery pack set, 230 V AC power supply unit/charger, USB charging cable, factory calibration certificate, transport case, accessories

Technical data:
- Error limit, based on end value: 0.1%

Min./max. force of measuring range		0-50 N	0-100 N	0-200 N	0-500 N	0-1000 N	0-2000 N	0-5000 N
Digit increment, force (N)		0.02	0.05	0.1	0.2	0.5	1	2
Connection thread for clamping device		M6	M6	M6	M6	M6	M12	M12
44166...	Ident. No.	006 ○	011 ●	021 ●	051 ●	101 ●	201 ○	501 ○

Prod. Gr. 443

Handheld tensioning and compression force tester with integrated force sensor

with or without encoder (measuring channel extension)

Application:
For checking actuation forces and strength on components, e.g. springs, buttons, switches, levers, closures, etc. The main areas of application for these handheld force testers are in quality assurance, incoming goods inspection, production, research and development.

Execution:
- Robust aluminium housing with ergonomic grip recesses
- Data logger/measured value recording via built-in 2 GB memory, used via USB 3.0
- Exported data output to ASCII/CSV
- Adjustable measuring frequencies from 50 Hz to 2000 Hz
- Incl. factory calibration certificate
- **Ident. No. 295, 300, 305, 310, 315, 320, 325, 330:**
  - Modern, colour touch-screen display 128x128 pixels, 7 digit + comma
  - without encoder
- **Ident. No. 296, 301, 306, 311, 316, 321, 326, 331:**
  - Modern, colour touchscreen display 128x128 pixels, 7 digit + comma
  - with encoder (measuring channel extension) for connecting to a path measurement system (test stands) or for additional use of an external force or torque recorder

Advantage:
- Rechargeable lithium-ion batteries ensure a long operating life
- Measured value display is flexible and intuitive to configure
- Comprehensive functions and features
- Two M6x10 mounting screws on each face and on the rear which can be used e.g. for a fixed installation
- **Ident. No. 296, 301, 306, 311, 316, 321, 326, 331:** Encoder enables interactions with motorised load frames (test stands) for e.g. the display of force/path diagrams

Delivery:
Tensile and compressive force measuring unit; USB power supply unit; pressure piece, extension, CE declaration of conformity and operating instructions (digital, in the device memory); factory calibration certificate, (for measuring range 20 N to 1000 N, additional draw hooks and cone tip 90°)

p. 1308

Min./max. force of measuring range			0-20 N	0-50 N	0-100 N	0-200 N	0-500 N	0-1000 N	0-2000 N	0-5000 N
Digit increment, force (N)			0.001	0.001	0.01	0.01	0.01	0.1	0.1	0.1
Min. measurement frequency (Hz)			50	50	50	50	50	50	50	50
Max. measuring frequency (Hz)			2000	2000	2000	2000	2000	2000	2000	2000
Measurement uncertainty based on end value			0.05 %	0.05 %	0.05 %	0.05 %	0.05 %	0.05 %	0.05 %	0.05 %
Connection thread for clamping device			M6	M6	M6	M6	M6	M6	M12	M12
44181...	without encoder	Ident. No.	295 ○	300 ●	305 ○	310 ○	315 ●	320 ●	325 ○	330 ●
44181...	with encoder	Ident. No.	296 ○	301 ○	306 ○	311 ○	316 ○	321 ○	326 ○	331 ○

Prod. Gr. 486

ATORN Tensile and compressive force display units for external force or torque recorders

with or without encoder (measurement channel extension)

Application:
Can be used in combination with external force and/or torque recorders for a wide range of testing tasks. The main areas of application for these handheld force testers are in quality assurance, incoming goods inspection, production, research and development.

Execution:
- Robust aluminium housing with ergonomic grip recesses
- Modern, colour touchscreen display 128x128 pixels, 7 digit + comma
- Data logger/measured value recording via built-in 2 GB memory, used via USB 3.0
- Exported data output to ASCII/CSV
- Adjustable measuring frequencies from 50 Hz to 2000 Hz
- **Ident. No. 400:** without encoder
- **Ident. No. 405:** with encoder (measuring channel extension) for connecting to a path measurement system (test stands) or for additional use of an external force or torque recorder

Advantage:
- For the use of external force and/or torque recorders with TEDS (Transducer Electronic Data Sheet) technology
- Rechargeable lithium-ion batteries ensure a long operating life
- Measured value display is flexible and intuitive to configure
- Two M6x10 mounting screws on each face and on the rear which can be used e.g. for a fixed installation
- **Ident. No. 405:** Encoder enables interactions with motorised load frames (test stands) for e.g. the display of force/path diagrams

Delivery:
Display unit; USB power supply unit; micro SD card 2 GB; CE declaration of conformity; manual

Notes:
TEDS (Transducer Electronic Data Sheet) enables “plug and measure”. The display unit allows in the sensor identification data, which is stored in the form of an electronic data sheet in the TEDS chip. This facilitates the use of external force and/or torque recorders significantly.

44181...	without encoder	Ident. No.	400 ●
44181...	with encoder	Ident. No.	405 ○

Prod. Gr. 486

Software 924

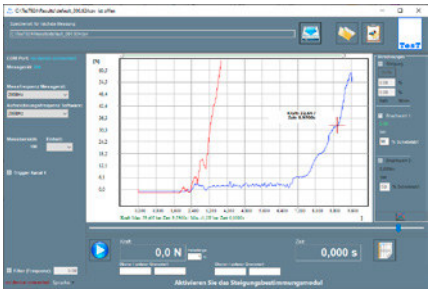
for electronic tensile and compressive force measuring instruments

Application:
For data logging and evaluation of force measuring units, torque measuring units and measurement units with different physical variables. Readings are transmitted to a PC in the form of Excel-compatible CSV files and evaluated there in simplified form.

Execution:
- Live display of measured values as values and diagrams
- Recording of measurement curves with measuring frequency up to 2,000 Hz
- Test reports generated in pdf format
- manual evaluation of measuring points on curves
- Determining the graph’s gradient in the specified range, e.g. for determining the spring rate
- Diagram range for averaging can be limited using a slider
- Compatible with Windows 10

Advantage:
- Device is detected automatically and settings read
- Data stream is started and stopped by software
- Settings for measurement frequency, units and limits are synchronised with the device
- Test report editor with templates for tailoring the structure of reports
- Displays the force limits in a diagram

Notes:
Force/path diagram only in conjunction with tensile and compressive force measuring devices with a path encoder.



44181...	Ident. No.	699 ○

Prod. Gr. 486

ATORN tensile and compressive force recorder ZD1 (DIN 50100)

ready assembled incl. plug and TEDS module

Application:
Electric force sensors in the ZD1 model series are suitable for static and slightly dynamic compressive and tensile force measurements.

Execution:
- Robust design
- Incl. TEDS module (electronically stored data sheet)
- Pre-assembled with 3-m cables and connector configuration according to ATORN display unit ZD3
- Incl. factory calibration certificate

Advantage:
- Force sensor is automatically detected by the ATORN display unit ZD3
- All relevant data is loaded from the TEDS module into the ATORN display unit ZD3, thus no additional settings are required on the display unit
- If replacement is required, the measuring instrument does not need to be sent in

Delivery:
Force sensor with 3-m connection cable and measuring instrument plug, factory calibration certificate

Notes:
TEDS = Transducer Electronic Data Sheet according to IEEE 1451.4. An electronic data sheet stored in the force sensor, which contains all relevant data.

Technical data:
- Sensitivity of force sensor: 2 mV/V
- Max. supply voltage: 10 V

Min./max. force of measuring range	Height (mm)	Width (mm)	Depth (mm)	Fastening thread	44181... Ident. No.	
0-10 N	52	22	54	M6	495	○
0-20 N	52	22	54	M6	501	○
0-50 N	52	22	54	M6	505	○
0-100 N	52	22	54	M6	510	○
0-200 N	52	22	54	M6	515	○
0-500 N	52	22	54	M6	520	○
0-1000 N	72	25	70	M12	525	○
0-2000 N	72	25	70	M12	530	○
0-5000 N	72	25	70	M12	535	●
0-10000 N	72	25	70	M12	540	○
0-20000 N	72	25	70	M16	545	○

Prod. Gr. 4CD

Compressive force recorder D1 (DIN 50100)

ready assembled incl. plug and TEDS module

Application:
Electric force sensors in the D1 model series are space-saving and their low height also makes them suitable for small installation spaces.

Execution:
- Robust design
- Incl. TEDS module (electronically stored data sheet)
- Pre-assembled with 3-m cables and connector configuration according to ATORN display unit ZD3
- Incl. factory calibration certificate

Advantage:
- Force sensor is automatically detected by the ATORN display unit ZD3
- All relevant data is loaded from the TEDS module into the ATORN display unit ZD3, thus no additional settings are required on the display unit
- If replacement is required, the measuring instrument does not need to be sent in

Delivery:
Force sensor with 3-m connection cable and measuring instrument plug, factory calibration certificate

Notes:
TEDS = Transducer Electronic Data Sheet according to IEEE 1451.4. An electronic data sheet stored in the force sensor, which contains all relevant data.

Min./max. force of measuring range	Outer Ø (mm)	Piston Ø (mm)	Protruding piston height (mm)	Fastening thread	Sensitivity of force sensor (mV/V)	Cable length (m)	Max. supply voltage (V)	44181... Ident. No.	
0-1 kN	50	13	7	M5	2	3	15	550	○
0-2 kN	50	13	7	M5	2	3	15	555	○
0-5 kN	50	13	7	M5	2	3	15	560	○
0-10 kN	50	13	7	M5	2	3	15	565	○

Prod. Gr. 4CD

ATORN Compressive force recorder D2 (DIN 50100)

ready assembled incl. plug and TEDS module

Application:
Electric force sensors in the D2 model series are suitable for static and dynamic compressive force measurements in harsh environments. The ball-shaped pressure piece ensures correct force input and thus achieves excellent measurement results.

Execution:
- Robust design made of stainless steel, hermetically welded
- Incl. TEDS module (electronically stored data sheet)
- Pre-assembled with 3-m cables and connector configuration according to ATORN display unit ZD3
- High degree of accuracy
- Incl. factory calibration certificate

Advantage:
- Force sensor is automatically detected by the ATORN display unit ZD3
- All relevant data is loaded from the TEDS module into the ATORN display unit ZD3, thus no additional settings are required on the display unit
- If replacement is required, the measuring instrument does not need to be sent in

Delivery:
Force sensor with 3-m connection cable and measuring instrument plug, factory calibration certificate

Notes:
TEDS = Transducer Electronic Data Sheet according to IEEE 1451.4. An electronic data sheet stored in the force sensor, which contains all relevant data.

Technical data:
- Sensitivity of force sensor: 2 mV/V
- Cable length: 3 m
- Max. supply voltage: 15 V

Min./max. force of measuring range	Outer Ø (mm)	Piston Ø (mm)	Protruding piston height (mm)	Fastening thread	44181... Ident. No.	
0-2 kN	82	21.5	14	M8	570	○
0-5 kN	82	21.5	14	M8	575	○
0-10 kN	82	21.5	14	M8	580	○
0-25 kN	82	21.5	14	M8	585	○
0-50 kN	82	21.5	14	M8	590	○
0-75 kN	100	25	13	M10	595	○
0-100 kN	100	25	13	M10	600	○
0-200 kN	100	25	13	M10	605	○
0-350 kN	114	26	13	M12	610	○
0-500 kN	124	35	13	M12	615	○

Prod. Gr. 4CD

ATORN Torque recorder DM1 (DIN 50100)

ready assembled incl. plug and TEDS module

Application:
The electric torque recorders in the DM1 model series are ideal for measuring static reaction torque.

Execution:
- Robust design with standard square connection
- Incl. TEDS module (electronically stored data sheet)
- Pre-assembled with 3-m cables and connector configuration according to ATORN display unit ZD3
- Incl. factory calibration certificate

Advantage:
- Force sensor is automatically detected by the ATORN display unit ZD3
- All relevant data is loaded from the TEDS module into the ATORN display unit ZD3, thus no additional settings are required on the display unit
- If replacement is required, the measuring instrument does not need to be sent in
- Ideal for permanent installation due to the high rigidity and accuracy
- Torque absorption on both sides, for e.g. torque tests (load/relief)

Delivery:
Torque recorder with 3-m connection cable and measuring instrument plug, factory calibration certificate

Notes:
TEDS = Transducer Electronic Data Sheet according to IEEE 1451.4. An electronic data sheet stored in the force sensor, which contains all relevant data.

Technical data:
- Model: DM1
- Design: TEDS module integrated
- IP protection class: IP 64
- Material: Steel, stainless
- Cable length: 3 m

Min./max. torque measuring range	Outer Ø (mm)	Overall height	Tip size	44181... Ident. No.	
0-1 Nm	19	64 mm	1/4 inch	620	○
0-2 Nm	19	64 mm	1/4 inch	625	○
0-5 Nm	19	64 mm	1/4 inch	630	○
0-10 Nm	19	64 mm	1/4 inch	635	○
0-20 Nm	30	71 mm	3/8 inch	640	○
0-50 Nm	30	71 mm	3/8 inch	645	○

Min./max. torque measuring range	Outer Ø (mm)	Overall height	Tip size	44181... Ident. No.	
0-100 Nm	30	76 mm	1/2 inch	650	○
0-200 Nm	49	100 mm	3/4 inch	655	○
0-500 Nm	49	100 mm	3/4 inch	660	○
0-1000 Nm	64	132 m	1 inch	665	○
0-2000 Nm	100	250 mm	1 1/2 inch	670	○
0-5000 Nm	100	250 mm	1 1/2 inch	675	○

Prod. Gr. 4CD

ATORN Torque recorder DM2 (DIN 50100)

ready assembled incl. plug and TEDS module

Application:
The electric torque recorders in the DM2 model series are ideal for measuring static reaction torque.

Execution:
- Robust design with flange union
- Incl. TEDS module (electronically stored data sheet)
- Pre-assembled with 3-m cables and connector configuration according to ATORN display unit ZD3
- Incl. factory calibration certificate

Advantage:
- Force sensor is automatically detected by the ATORN display unit ZD3
- All relevant data is loaded from the TEDS module into the ATORN display unit ZD3, thus no additional settings are required on the display unit
- If replacement is required, the measuring instrument does not need to be sent in
- Ideal for permanent installation due to the high rigidity and accuracy
- Torque absorption on both sides, for e.g. torque tests (load/relief)

Delivery:
Torque recorder with 3-m connection cable and measuring instrument plug, factory calibration certificate

Notes:
TEDS = Transducer Electronic Data Sheet according to IEEE 1451.4. An electronic data sheet stored in the force sensor, which contains all relevant data.

Technical data:
- Model: DM2
- Design: TEDS module integrated
- IP protection class: IP 64
- Material: Steel, stainless
- Cable length: 3 m

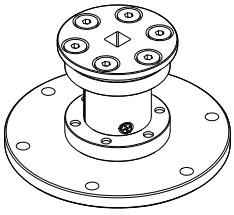
Min./max. torque measuring range	Overall height (mm)	Flange Ø (mm)	Bore Ø (mm)	Reference circle Ø (mm)	44181... Ident. No.	
0-1 Nm	58	55	5.3	46	680	○
0-2 Nm	58	55	5.3	46	685	○
0-5 Nm	58	55	5.3	46	690	○
0-10 Nm	58	55	5.3	46	695	○
0-20 Nm	65	70	8	58	701	○
0-50 Nm	65	70	8	58	706	○
0-100 Nm	65	70	8	58	710	○
0-200 Nm	65	70	8	58	715	○
0-500 Nm	80	100	10	82	720	○
0-1000 Nm	80	100	10	82	725	○
0-2000 Nm	100	130	12	100	730	○
0-5000 Nm	100	130	12	100	735	○

Prod. Gr. 4CD

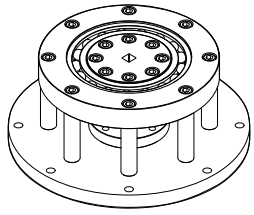
ATORN Mounting flange for ATORN torque recorder

Application:
For mounting on e.g. a workbench. Enables torque testing directly at the workplace.

Execution:
- Flange plate with 1/2 inch square cutout
- **Ident. No. 745:**
- Adapter plate with support bearing
- includes spacers, screws and mounting



Ident. No. 740



Ident. No. 745

Overall height (mm)			85	124
Flange Ø (mm)			150	300
Bore Ø (mm)			9	11
Reference circle Ø (mm)			130	275
44817...	for torque recorder DM2 20–200 Nm	Ident. No.	740 ○	-
44817...	for torque recorder DM2 500 Nm	Ident. No.	-	745 ○

Prod. Gr. 486

Test stand, model 101

for tensile and compressive force measuring instruments

Application:
For reliable acquisition of forces and paths, torques and angles required when inspecting materials and assemblies. Potential areas of application are, for example, incoming/outgoing goods inspection and occasional quality checks in production.

Execution:
- Height-adjustable test stand
- Lever-operated manual test stand
- Robust design, primarily for tensile and compressive forces up to 500 N

Advantage:
- Easy to use
- Sturdy guide pillar with cross beam on one side for high stability
- Cost-effective and high-quality solution for small-scale inspections

Technical data:
- Max. force range: 500 N
- Travel motion: Manual
- Overall stroke: 250 mm

42455...	Ident. No.	010 ○

Prod. Gr. 443

Example application: Test stand with tensile and compressive force measuring unit. Delivered without tensile and compressive force measuring unit

Test stand, model 102

for tensile and compressive force measuring instruments

Application:
For reliable acquisition of forces and paths, torques and angles required when inspecting materials and assemblies. Potential areas of application are, for example, incoming/outgoing goods inspection and occasional quality checks in production.

Execution:
- Manually-operated tensile/compression test frames
- Primarily for tensile and compressive forces up to 1000 N
- Basic device for correct positioning of torsion inspections
- When combined with a force measuring unit, this test frame forms a complete inspection machine

Advantage:
- Easy to use
- C-frame for high stability
- Cost-effective and high-quality solution for small-scale inspections

Technical data:
- Max. force range: 1000 N
- Travel motion: Manual
- Overall stroke: 495 mm

42455...	Ident. No.	020 ○

Prod. Gr. 443

Example application: Manual test stand with tensile force and compressive force measuring unit. Delivered without tensile force and compressive force measuring units.

Test stand, model 103

for tensile and compressive force measuring instruments

Application:
For reliable acquisition of forces and paths, torques and angles required when inspecting materials and assemblies. Potential areas of application are, for example, incoming/outgoing goods inspection and occasional quality checks in production.

Execution:
- Electronically-operated tensile/compression test frames
- Primarily for tensile and compressive forces up to 1000 N
- When combined with a force measuring unit, this test frame forms a complete inspection machine
- Integrated incremental travel measurement
- Automatic switch-off when limit values are reached
- Centrally-arranged drive spindle

Advantage:
- Easy to use
- High stability
- Cost-effective and high-quality solution for small-scale inspections

Technical data:
- Max. force range: 1000 N
- Travel motion: Motorised
- Overall stroke: 550 mm

42455...	Ident. No.	030 ○+

Prod. Gr. 443

Example application: Motor-driven test stand with ATORN ZD2 tensile force and compressive force measuring unit. Delivered without tensile force and compressive force measuring units.

ATORN Force measuring cell

Analogue measurement display

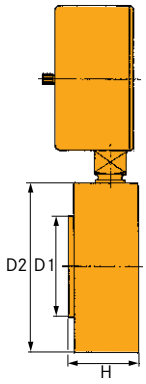
Application:
For static and quasi-static force measurement on machines and equipment, e.g. hydraulic presses, rolling machines, calenders, bending machines, strength testing machines, torque meters etc.

Execution:
- Analogue manometer, diameter 63 mm with trailing pointer
- Force measuring cell made from VA steel in slim design
- Integrated throttle damping
- Two M6 fixing threads on housing floor

Advantage:
- Very slim design for in constricted spaces
- Integrated throttle damping for light, abrupt loading and unloading

Delivery:
With calibration certificate, in plastic case

Technical data:
- Protruding piston height: 2 mm
- Fastening thread: 2 x M6
- Error limit, based on end value: +/- 2 %
- Manometer diameter: 63 mm



Min./max. force of measuring range	Scale value, force (kN)	Outer Ø (mm)	Overall height of force sensor (mm)	Piston Ø (mm)	Fastening thread clearance (mm)	Mean distance between manometer and force sensor (mm)	44420... Ident. No.	
0-0.16 kN	0.005	75	30	45	55	82	021	●
0-0.25 kN	0.005	75	30	45	55	82	031	●
0-0.6 kN	0.01	75	30	45	55	82	051	●
0-1 kN	0.02	75	30	45	55	82	061	●
0-1.6 kN	0.05	75	30	45	55	82	071	●
0-2.5 kN	0.05	75	30	45	55	82	081	●
0-6 kN	0.1	75	30	45	55	82	101	●
0-10 kN	0.2	75	30	45	55	82	111	●
0-16 kN	0.5	75	30	45	55	82	121	●
0-25 kN	0.5	75	30	45	55	82	131	●
0-60 kN	1	90	32	56	75	90	151	●
0-100 kN	2	90	32	56	75	90	161	●

Prod. Gr. 490

METRON SIMPLEX force measuring cells with digital manometer

Application:
For static and quasi-static force measurement on machines and equipment, e.g. hydraulic presses, rolling machines, calenders, bending machines, strength testing machines, torque meters etc.

Execution:
- Force measuring cell made from VA steel in slim design
- 2x fixing threads on housing floor
- Error limit 0.5% of final value
- Optional: Shim required for non-fixed placement of the manometer in horizontal applications
- **Ident. No. 061:** Digital manometer, diameter 76.5 mm, 4 1/2-digit LCD display, 12.7 mm digit size, rotatable through 350°, with peak value memory
- **Ident. No. 090–160:** Digital manometer, diameter 74 mm, 4-digit LCD display, 12.7 mm digit size, rotatable through 350°, with peak value memory

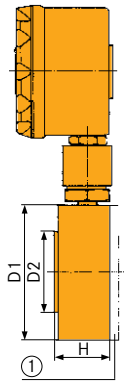
Advantage:
- Very slim design for in constricted spaces
- Manometer rotatable through 350° for convenient reading in any installation position

Delivery:
With calibration certificate, in plastic case

Technical data:
- Protruding piston height: 2 mm
- Fastening thread: 2 x M6

Ident. No. 090–160
Force measuring cells
> 1 kN

Force measuring cells
version, 0-1 kN



Min./max. force of measuring range	Digit increment, force (kN)	Outer Ø (mm)	Overall height of force sensor (mm)	Piston Ø (mm)	Fastening thread clearance (mm)	Mean distance between manometer and force sensor (mm)	Error limit, based on end value	Manometer Ø (mm)	44425... Ident. No.	
0-1 kN	0.001	76.5	30	45	55	111	+/- 1 %	76.5	061	○
0-4 kN	0.001	75	30	45	55	111	0.5%	74	090	○
0-6 kN	0.001	75	30	45	55	111	0.5%	74	100	○
0-10 kN	0.01	75	30	45	55	111	0.5%	74	110	○
0-25 kN	0.01	75	30	45	55	111	0.5%	74	130	○
0-40 kN	0.01	75	30	45	55	111	0.5%	74	140	●
0-60 kN	0.01	90	32	56	75	118	0.5%	74	150	●
0-100 kN	0.1	90	32	56	75	118	0.5%	74	160	○

Prod. Gr. 444

METRON® Force measuring cell

Flat shape

Application:
Particularly suitable for static and quasi-static force measurement of clamping forces on e.g. vices.

Execution:
- Analogue manometer, diameter 63 mm with trailing pointer
- Force measuring cell made from stainless steel
- Incl. factory inspection log

Advantage:
- Secure base due to flat shape
- High-quality stainless steel design

Delivery:
Force measuring cell incl. work calibration certificate, in plastic case

Technical data:
- Overall height of force sensor: 38 mm
- Protruding piston height: 2 mm
- Error limit, based on end value: +/- 2 %
- Manometer diameter: 63 mm

Ident. No. 700–720, 740–770
For measuring clamping forces on vices

Model	Min./max. force of measuring range	Scale value, force (kN)	Piston Ø (mm)	Mean distance between manometer and force sensor (mm)	44425... Ident. No.	
SIMPLEX I	0-10 kN	0.5	56	90	700	○
SIMPLEX I	0-16 kN	0.5	56	90	710	○
SIMPLEX I	0-25 kN	1	56	90	720	○
SIMPLEX I	0-40 kN	2	56	90	730	○
SIMPLEX I	0-60 kN	2	56	90	740	○
SIMPLEX II	0-100 kN	5	89	102.5	750	○
SIMPLEX II	0-160 kN	5	89	102.5	760	○
SIMPLEX II	0-250 kN	10	89	102.5	770	○

Prod. Gr. 4CE

METRON® Force measuring cell

Flat shape, with small structural dimensions

Application:
Particularly suitable for static and quasi-static force measurement of clamping forces. Due to the small size, it is ideally suited for smaller vices.

Execution:
- Analogue manometer, diameter 100mm with trailing pointer
- Force measuring cell made from stainless steel
- Incl. factory inspection log

Advantage:
- Secure base due to flat shape
- High-quality stainless steel design

Delivery:
Force measuring cell incl. work calibration certificate, in plastic case

Technical data:
- Error limit, based on end value: +/- 1 %
- Manometer diameter: 100 mm

Model	Min./max. force of measuring range	Scale value, force (kN)	Overall height of force sensor (mm)	Piston Ø (mm)	Protruding piston height (mm)	Mean distance between manometer and force sensor (mm)	44425... Ident. No.	
SKM 10	0-10 kN	0.5	55	28	4	103	800	○
SKM 16	0-16 kN	0.5	55	28.4	4	103	810	○
SKM 25	0-25 kN	1	55	28	4	103	820	○
SKM 40	0-40 kN	2	55	29	4	103	830	○
SKM 60	0-60 kN	2	55	35.5	4	106	840	○
SKM 100	0-100 kN	5	60	45.8	4	110	850	○
SKM 160	0-160 kN	5	65	58	5	118	860	○
SKM 250	0-250 kN	10	70	72.5	5	125	870	○

Prod. Gr. 4CE

DriveTest Electronic closing force measuring instrument

for train doors and sliding steps

Application:
Electronic closing force measuring instrument for standard-compliant inspection of train doors and sliding steps.

Execution:
- Evaluation in accordance with EN 14752:2015, EN 14752:2005 (optional)
- Strain gauges
- Spacer for all opening angles in accordance EN 14752:2015
- **Ident. No. 025:** Bluetooth(R) wireless version
- **Ident. No. 030:** Wired version

Advantage:
- Automatic limit value setting through distance detection
- **Ident. No. 025:** Single-button or remote-control operation via Microsoft(R) DLL interface or National Instruments(R) LabView library
- **Ident. No. 030:** Single button operation or remote control via Microsoft® DLL interface or National Instruments® LabView library

Technical data:
- Min./max. force of measuring range: 0-700 N

Ident. No. 030

Type description		BIA600BT-SY-10-700	BIA600-SY-10-700
44430...	Ident. No.	025 ○	030 ○

Prod. Gr. 4AD

Electronic closing force measuring instrument

for bus and train doors as well as sliding steps

Application:
Electronic closing force measuring instrument for standard-compliant inspection of bus and train doors as well as sliding steps.

Execution:
- Class 1
- Evaluation in accordance with EN 14752:2005, VDV 111, 2001/85/EC
- Strain gauges
- **Ident. No. 005:** Wireless version
- **Ident. No. 010:** Wired version

Advantage:
- PinchPilot PC evaluation software, multilingual
- Process reliability: integrated test instruction ensures guideline-compliant measurements
- User guidance and evaluation in accordance with EN 14752:2005, VDV 111, 2001/85/EC
- Precise measurements guaranteed by six ball bearings in guide
- Measuring point identification using QR and barcodes (integrated solution)

Delivery:
Ident. No. 005: Closing force measuring device, PinchPilot software (USB stick), USB cable, manual, transport case with foam insert, ISO calibration certificate

Notes:
Ident. No. 005: PinchPilot PC evaluation software: - Multilingual (DE, EN, IT, FR, ES), graphical representation of force characteristics, calculation of important characteristic values, evaluation in accordance with a variety of guidelines (standards), option to input own guideline definitions, log print-out, data export (Excel, CSV, PDF)

Technical data:
- Min./max. force of measuring range: 25-310 N

Type description		BIA1BT-SY-10-310	BIA1-SY-10-310
44430...	Ident. No.	005 ○	010 ○

Prod. Gr. 4AD

Ident. No. 005

Ident. No. 010

Closing force measuring instrument

for doors and gates

Application:
Electronic closing force measuring instrument for standard-compliant inspection of doors and gates.

Execution:
- Evaluation in accordance with EN 12453:2017, EN 60335-2, DIN V 18650, ASR A1.7, DHF TS 011:2016 etc.
- Strain gauges
- **Ident. No. 035:** Bluetooth(R) wireless version
- **Ident. No. 040:** Wired version

Advantage:
- Precise measurements due to frictionless guide and load cell platform
- Measuring point identification using QR and barcodes (integrated solution)
- Upgrade option for existing devices
- Process reliability: integrated test instruction ensures guideline-compliant measurements
- Immediate assessment according to selected guidelines and standards

Technical data:
- Min./max. force of measuring range: 0-2000 N

Type description		FM100BT-SY-500-2000	FM100-SY-500-2000
44430...	Ident. No.	035 ○	040 ○

Prod. Gr. 4AD

Ident. No. 035

Ident. No. 040

Closing force measuring instrument
for sunroofs, power windows and tailgates

Application:
Electronic closing force measuring instrument for standard-compliant inspection of powered automotive windows, sunroofs and tailgates.

Execution:
- Wired version
- Application in accordance with latest standards
- Strain gauges
- SEB2 display unit with datalogger and storage for 100 measurements

Advantage:
- Precise measurements due to frictionless guide and load cell platform
- Single button operation or remote control via Microsoft® DLL interface or National Instruments® LabView library
- Comprehensive user support: Calibration service, standards updating service ensures application in accordance with the latest standards
- Comprehensive, professional PC software: PinchPilot

Delivery:
Measuring instrument, FM200 sensor, SEB2 measuring and display unit, 9 V block battery, transport case, PC connection cable (USB), USB data stick with PinchPilot PC evaluation software and documentation, manual, ISO calibration certificate

Technical data:
- Gap width: 4 mm

Ident. No. 045, 055

Ident. No. 050

Type description		FM200-SU-SY-10-200	FM200-SU-SE-20-300	FM200-SU-SE-65-300
Min./max. force of measuring range		0-200 N	0-300 N	0-300 N
44430...	Ident. No.	055 ○	045 ○	050 ○

Prod. Gr. 4AD

Closing force measuring instrument
for power windows

Application:
Electronic closing force measuring instrument for standard-compliant inspection of powered automotive windows.

Execution:
- Wired version
- Applicable standards - 2000/4 EC, US Standard FMVSS 118
- Strain gauges
- SEB2 display unit with datalogger and storage for 100 measurements

Advantage:
- Precise measurements due to frictionless guide and load cell platform
- Single button operation or remote control via Microsoft® DLL interface or National Instruments® LabView library
- Comprehensive user support: Calibration service, standards updating service ensures application in accordance with the latest standards
- Comprehensive, professional PC software: PinchPilot

Type description		FM205-WI-SE-02-050	FM205-WI-SE-05-100	FM205-WI-SE-20-200	FM205-WI-SE-65-260	FM205-WI-SY-10-150
Min./max. force of measuring range		0-50 N	0-75 N	0-200 N	0-260 N	0-150 N
44430...	Ident. No.	060 ○	065 ○	070 ○	075 ○	080 ○

Prod. Gr. 4AD

Closing force measuring instrument
for lift doors and machine protection systems

Application:
Electronic closing force measuring instrument for standards-compliant inspection of lift doors and protective equipment on machines.

Execution:
- Supports relevant standards: EN 81-1, EN 81-2, EN 81-20:2014, EN 81-50:2015, EN 14120 (shown in software)
- Strain gauges
- **Ident. No. 085:** Bluetooth(R) wireless version
- **Ident. No. 090:** Wired version

Advantage:
- Precise measurements due to frictionless guide and load cell platform

Technical data:
- Min./max. force of measuring range: 0-750 N

Ident. No. 085

Type description		FM300BT-SY-25-750	FM300-SY-25-750
44430...	Ident. No.	085 ○	090 ○

Prod. Gr. 4AD

Suspended and crane scales up to 50 kg

Type CH

Application:
For rapid checking of weights with high mobility.

Execution:
- Large LED display
- Display units: kg/lb/N
- Functions: AUTO OFF
- Pull-out tape measure, length 1 m
- Data hold function (weight display can be frozen for 5 s)
- Tara button for zeroing under load

Delivery:
With battery

Technical data:
- Height: 270 mm
- Housing dimensions (LxWxH): 30 x 90 x 176 mm
- Weight: 0.25 kg

Type description		CH 15K20	CH 50K50	CH 50K100
Max. weight measuring range (kg)		15	50	50
Digit increment, weight (g)		20	50	100
44228...	Ident. No.	010 ●	030 ●	040 ●

Prod. Gr. 443

Suspended and crane scales up to 200 kg

Type HCB

Application:
For rapid checking of weights with high mobility.

Execution:
- Large LED display
- Display units: kg/lb/N
- Functions: AUTO OFF
- Carabiner with safety lock
- Data hold function (weight display can be frozen for 5 s)
- Tara button for zeroing under load

Delivery:
With battery

Technical data:
- IP protection class: IP 65
- Height: 290 mm
- Housing dimensions (LxWxH): 45 x 80 x 150 mm
- Weight: 0.4 kg

Type description		HCB 50K100	HCB 100K200	HCB 200K500
Max. weight measuring range (kg)		50	100	200
Digit increment, weight (g)		100	200	500
44229...	Ident. No.	020 ●	030 ●	040 ●

Prod. Gr. 443

Pocket scales

Type TGC

Application:
For fast weighing with highest mobility.

Execution:
- Especially flat design
- Cover made of impact-resistant plastic as pressure and dust protection. Can also be used as a weighing vessel
- Stainless steel weighing tray, hygienic and easy to clean

Delivery:
incl. 2x CR2032 batteries

Technical data:
- Housing dimensions (LxWxH): 130 x 100 x 16.5 mm

Ident. No. 154

Type description		TGC 150-2S05	TGC 1K-3S05	TGC 500-1S05
Max. weight measuring range (g)		150	1000	500
Digit increment, weight (g)		0.01	1	0.1
44605...	Ident. No.	153 ●	154 ●	155 ●

Prod. Gr. 447

KERN Laboratory scales

Type EMB

Application:
For simple weighing tasks.

Execution:
- Robust plastic housing
- Large LCD display with 15 mm digit size
- AUTO-OFF function
- Very slim design
- Underfloor weighing

Advantage:
- Simple 2-button operation

Technical data:
- With unit counting: No
- Data transmission type
- Housing dimensions (LxWxH): 170 x 240 x 39 mm

Ident. No. 010

Type description		EMB 200-2	EMB 600-2	EMB 2000-2	EMB 1200-1	EMB 2200-0
Max. weight measuring range (g)		200	600	2000	1200	2200
Digit increment, weight (g)		0.01	0.01	0.01	0.1	1
Plate Ø (mm)		105	105	150	150	150
Reproducibility (g)		0.01	0.01	0.01	0.1	1
Linearity (g)		0.02	0.03	0.05	0.3	2
44623...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 447

KERN Basic compact scales

Type FCB

Application:
Ideal for use in various locations.

Execution:
- Robust ABS housing with stainless steel weighing tray
- Backlit LCD display with 15 mm digit size
- AUTO-OFF function after 3 min. without load change
- Battery operation possible (1x type E-Block, 9 V, not included)
- Option: Battery operation
- PRE-TARE function for manual prior subtraction of known container weights
- Second display on the rear side
- Integrated KERN Universal Port (KUP): For connecting external KUP interface adapters, such as RS-232, USB, Bluetooth(R), Wi-Fi or Ethernet. (Adapter not included in scope of delivery.) This means that interfaces can easily be retrofitted without the need to open the scale housing and without complicated installation
- KERN Communication Protocol (KCP): The KCP allows for placing queries and remote control of the scales via external control units or computers

Advantage:
- Low weight for excellent mobility

Delivery:
Mains adapter

Technical data:
- Plate size: 225 x 252 mm
- With unit counting: Yes
- Interface: KUB | KERN Communication Protocol
- Housing dimensions (LxWxH): 270 x 325 x 105 mm

NEW

Ident. No. 100

Type description		FCB 6K-5	FCB 8K0.1	FCB 12K1 N	FCB 12K-4	FCB 30K1	FCB 30K-4	FCB 6K-3DM	FCB 15K-3DM	FCB 30K-3DM
Max. weight measuring range (kg)		6	8	12	12	30	30	6	15	30
Max. weight measuring range 2 (kg)		-	-	-	-	-	-	3	6	15
Digit increment, weight (g)		0.05	0.1	1	0.1	1	0.2	2	5	10
Digit increment 2, weight (g)		-	-	-	-	-	-	1	2	5
Min. item weight (g)		0.5	1	10	1	10	2	2	5	10
Reproducibility (g)		0.05	0.1	1	0.1	1	0.2	2	5	10
Linearity (g)		0.15	0.3	3	0.3	3	0.6	2	5	10
44605...	Ident. No.	240 ●	105 ○	100 ●	260 ○	102 ●	290 ○	250 ○	270 ○	280 ○

Prod. Gr. 447

KERN Platform scales

Type DE-D

Application:
For versatile use in various locations such as production, warehousing and shipping.

Execution:
- Dual range scales with automatic switch-over
- Display unit (IP65 degree of protection, protected against water splashes) with 1.5 m cable
- freely programmable weighing unit, e.g. displays in thread length g/m, paper weight g/m2
- Recipe function for weighing different components
- Quantities, percentage determination, totalling function
- Backlit LCD display with 25 mm digit size

Advantage:
- Dual measurement display for finer digit increment and higher accuracy in the initial weighing range
- **Versatile positioning of display unit, free-standing or bolted to scales**

Delivery:
Mains adapter

Technical data:
- With unit counting: Yes
- Data transmission type: RS232

Ident. No. 200

Type description		DE 6K1D	DE 15K0.2D	DE 35K5D	DE 60K1D	DE 60K10DL	DE 150K20DL	DE 300K50D	DE 300K50DL
Max. weight measuring range (kg)		3	6	15	30	30	60	150	150
Max. weight measuring range 2 (kg)		6	15	35	60	60	150	300	300
Digit increment, weight (g)		1	0.2	5	1	10	20	50	50
Digit increment 2, weight (g)		2	0.5	10	2	20	50	100	100
Plate size		315 x 305 mm	315 x 305 mm	315 x 305 mm	315 x 305 mm	522 x 403 mm	522 x 403 mm	522 x 403 mm	650 x 500 mm
Min. item weight (g)		2	0.4	10	2	20	40	100	200
Reproducibility (g)		1	0.2	5	1	10	20	50	50
Reproducibility 2 (g)		2	0.5	10	2	20	50	100	100
Linearity (g)		3	0.8	15	4	4	60	150	150
Linearity 2 (g)		6	2	30	8	40	100	300	300
44618...	Ident. No.	200 ○	210 ○	230 ●	240 ●	260 ●	280 ●	290 ○	300 ○+

Prod. Gr. 447

KERN Counting scales
Type CPB

Application:
For counting and weighing components

Execution:
- Counting total memory for adding up measured values
- Display: Total weight, reference weight in g, total quantity
- Large LCD display with 20 mm digit size and backlight function
- AUTO-OFF function can be selected after 1/5/30 min.
- Automatic reference optimisation
- Programmable acoustic signal on reaching quantity
- Options: Battery operation approx. 70 h without backlight possible

Delivery:
Mains adapter

Technical data:
- Plate size: 294 x 225 mm
- With unit counting: Yes
- Data transmission type: RS232
- Housing dimensions (LxWxH): 350 x 320 x 125 mm

Ident. No. 251

Type description		CPB 6K0.1N	CPB 15K0.2N	CPB 30K0.5N
Max. weight measuring range (kg)		6	15	30
Digit increment, weight (g)		0.1	0.2	0.5
Min. item weight (g)		1	2.5	5
44616...	Ident. No.	251 ●	261 ●	271 ●

Prod. Gr. 447

KERN Counting system
CCS

Application:
Counting system consisting of reference scales and quantity weighing platform. Small parts can be weighed using the reference scale. The quantity weighing platform enables very large quantities to be counted in a single step

Execution:
- The highly accurate KERN CCS counting system does the work of a wide range of individual scales cost-effectively and efficiently
- Reference scales KERN CFS: These professional counting scales, which can also be used individually, also meet the highest demands for accuracy by connecting a high-load weighing bridge
- Programmable via keypad: desired reference quantity, known reference weight
- Three displays for weight display, reference weight, total number of pieces
- Memory (PLU) for 100 items with additional text, reference weight and tare weight e.g. of a container
- Fill-to-target function: Programmable target quantity or target weight. Achievement of the target value is indicated by an acoustic and visual signal
- Accurate counting: automatic reference optimisation gradually improves the average part weight
- KFP KERN quantity scales: Quantity counting is performed with high precision on the weighing platform (= weighing bridge). Even the smallest counting parts can be counted in large quantities
- Stainless steel weighing tray, steel base painted
- Aluminium single-point weighing cell (1×3000 e), dust and splash water protection IP65

Delivery:
with power supply unit and work protection hood

Technical data:
- With unit counting: Yes
- Data transmission type: RS232

Ident. No. 094

Type description		CCS 30K0.1.	CCS 30K0.01.	CCS 60K0.1L.	CCS 60K0.01.	CCS 60K0.01L.	CCS 150K0.1.
Max. weight measuring range (kg)		30	30	60	60	60	150
Digit increment, weight (g)		0.1	0.01	0.1	0.01	0.01	0.1
Plate size		300 x 400 mm	300 x 400 mm	400 x 500 mm	300 x 400 mm	400 x 500 mm	400 x 500 mm
Min. item weight		1 g	500 mg	1 g	500 mg	500 mg	1 g
49000...	Ident. No.	094 ○	095 ○	096 ○	097 ○	098 ○	099 ○

Prod. Gr. 447

KERN Moisture analyser
Type DBS-60

Application:
The moisture content of the sample is reduce due to drying at higher temperatures. Reducing the liquid content in the sample results in a loss of weight. The device uses the weight loss to determine the original moisture content. Moisture analyser with high-quality single-cell weighing system for outstanding stability, reliability and response speed for samples with low moisture content, e.g. plastics

Execution:
- Halogen quartz glass heater 400 W
- Excellent temperature control thanks to halogen technology, suitable for temperature-sensitive samples
- Internal memory for the automatic execution of 10 drying programmes and 100 drying processes
- The last measured value remains on the display until it is overwritten by a new measurement
- Password protection to avoid tampering with stored settings, data etc.
- Sample description for up to 99 samples, 2 digits, freely programmable, printed in the measurement log
- Date and time display as standard feature
- Drying modes: Standard drying, phase drying, gentle drying, rapid drying
- Switch-off criteria: Automatic unrestricted switch-off (selectable loss in weight 0.01-0.1 % in 30 s), time-controlled switch-off (1 min to 12 h), manual switch-off at the press of a button
- USB data interface for transferring weighing data to PC or printer (only usable in conjunction with KERN DBS-A02 accessories)

Advantage:
- Application handbook: A practical application handbook containing many examples, field reports, settings and tips for each KERN moisture analyser is available online.

Delivery:
Protective cover, 10x sample plates

Notes:
Accessories such as data cables, sample trays etc. can be found in our online shop

Technical data:
- Min./max. humidity (rF) of measuring range: 0-100 %
- Min./max. dry content: 0-100 %
- Resolution humidity (rF): 0.01 %
- Reproduzierbarkeit bei Einwaage 10 g: 0.001 g
- Max. weight measuring range: 60 g
- Digit increment, weight: 0.001 g
- Linearity: 0.003 g
- Min./max. working temperature: 50 to 200 °C
- Temperatur-Intervall: 1 °C
- Data transmission type: RS232 | USB
- Digit height: 15 mm
- Plate diameter: 95 mm
- Housing dimensions (LxWxH): 252 x 162 x 57 mm

	Type description		
44624...	DBS 60-3	Ident. No.	010 ○

Prod. Gr. 447

KERN U-shaped pallet scales
Type UBI

Application:
for versatile use in various locations such as production, warehousing and shipping.

Execution:
- high mobility: battery operation and compact, lightweight design allow use in multiple locations
- load capacity: steel, powder-coated, 4 silicone-coated aluminium load cells
- IP67 dust and splash protection
- combining weight values and numerous parts
- scope of delivery includes protective hood
- 5-m evaluation unit cable length

Advantage:
- scales can easily be stowed and transported by means of rollers and handles

Delivery:
with mains adapter

Technical data:
- Weight: 55 kg

Type description		UIB 1.5T-4	UIB 3T-3	UIB 600K-1
Max. weight measuring range (kg)		1500	3000	600
Digit increment, weight (kg)		0.5	1	0.2
44605...	Ident. No.	129 ○+	131 ○+	133 ○+

Prod. Gr. 447

KERN Drive-through scales

Type NIB

Application:
Drive-through-scales for fast weighing of wire cage trolleys, laundry trolleys, shelf trolleys, container trolleys, push carts, transport carts, transport cases, pallet trucks, wheeled containers, waste bins etc. The low platform height and integrated loading ramps on both sides facilitate movement onto the scales. This means that no pit frame installation is necessary, saving money

Execution:
- Weighing bridge: Steel, powder-coated, four silicone-coated aluminium load cells, dust- and splash-proof to IP67. Bubble vial for exact levelling of the scales as standard equipment
- Scales can easily be transported and stowed to save space thanks to castors and handles
- Wall bracket for mounting the evaluation unit on the wall included as standard equipment (only for models without a stand)
- The display device is connected to the weighing bridge via a 5 m cable

Advantage:
- Maximum mobility

Delivery:
in a robust wooden box, incl. protective cover

Max. weight measuring range (kg)		300	600
Digit increment, weight (kg)		0.1	0.2
Plate size		800 x 800 mm	800 x 800 mm
Housing dimensions (LxWxH)		1000 x 1000 x 114 mm	1000 x 1000 x 114 mm
44607...	Ident. No.	220 ○	230 ○

Prod. Gr. 447

KERN Weighing table for laboratory and analysis scales

Type YPS-03

Application:
For more accurate weighing results - suitable for all KERN analytical scales with overall dimensions ≤W×D 400×450 mm

Execution:
- The KERN YPS-03 weighing table is designed to absorb shocks and vibrations that would otherwise falsify the weighing result
- The YPS-03 weighing table consists of: - a 24 kg polished granite stone plate, which is stored on absorbent rubber elements and serves as a stand for the analytical scales - a workbench whose worktop surrounds the stone plate and offers many storage possibilities. The stable aluminium profile frame has four height-adjustable feet, with the help of which the weighing table can be levelled precisely in case of any ground unevenness
- The weighing table has been ergonomically optimised and can be operated while standing or comfortably sitting. The recess at the front of the table provides enough space for seating and for the operator of the scales without touching the weighing table
- All surfaces are hygienic and easy to clean
- for absorbing shocks and vibrations

Length x width x height		800 x 600 x 785 mm
Weight (kg)		46
48101...	Ident. No.	010 ○

Prod. Gr. 447

KERN Test weights

Single block weights, incl. DAKKS calibration certificate

Application:
For testing, calibrating and adjusting scales

Execution:
- In accordance with OIML class M1
- Made of ground and painted cast iron. With integrated handle for lifting the weight manually or using lifting equipment. Also suitable for suspended and crane scales.
- Incl. DAkkS calibration certificate

Technical data:
- Type description: Block weight

Weight (kg)			5	10	20
	Accuracy class				
44700...	M1	Ident. No.	005 ○	010 ○	020 ○

Prod. Gr. 447

Ident. No. 005

Test weights, supporting bar and slot weights

Single weights incl. DAkkS calibration certificate

EXTENDED PROGRAM

Application:
For testing, calibrating and adjusting scales. Intermediate weights may also be realised by combining several weights, e.g. for saving target weights for articles included in the memory of the scales (if so equipped)

Execution:
- In accordance with OIML class M1
- Weights weighing 1 g and above are made of high-grade steel, finely turned, as slotted weights, for fixing onto the supporting bar.
- incl. DAkkS calibration certificate

Notes:
The supporting bar forms the basis for slotted weights and is part of the total weight.

Ident. No. 800

Ident. No. 900

Type description	Weight	Accuracy class M1 44755... Ident. No.	
Supporting bar	1 kg	800	○+
Slotted weight	5 g	810	○
Slotted weight	10 g	820	○
Slotted weight	20 g	830	○
Slotted weight	50 g	840	○
Slotted weight	100 g	850	○
Slotted weight	200 g	860	○
Slotted weight	500 g	870	○
Slotted weight	1 kg	880	○
Slotted weight	2 kg	890	○
Slotted weight	5 kg	900	○
Slotted weight	10 kg	910	○

Prod. Gr. 447

Hook-shaped test weights

Single weights incl. DAkkS calibration certificate

EXTENDED PROGRAM

Application:
For testing, calibrating and adjusting scales

Execution:
- In accordance with OIML class M1
- Weights weighing 1 g and above are made of high-grade steel, finely turned, hook-shaped.
- incl. DAkkS calibration certificate

Technical data:
- Type description: Hook weight

Ident. No. 290

Weight	Accuracy class M1 44755... Ident. No.	
1 g	200	○
2 g	210	○
5 g	220	○
10 g	230	○
20 g	240	○
50 g	250	○

Weight	Accuracy class M1 44755... Ident. No.	
100 g	260	○
200 g	270	○
500 g	280	○
1 kg	290	○
2 kg	300	○
5 kg	310	○

Prod. Gr. 447

Button-shaped test weights

Single weights incl. DAkkS calibration certificate

EXTENDED PROGRAM

Application:
For testing, calibrating and adjusting scales

Execution:
- incl. DAkkS calibration certificate
- **No. 44750:**
  - In accordance with OIML class F1
  - Weights weighing 1 g and above are made of high-grade steel, polished, button-shaped.
- **No. 44755:**
  - In accordance with OIML class M1
  - Weights weighing 1 g and above are made of high-grade steel, finely turned, button-shaped.

Technical data:
- Type description: Button-shaped individual weight

No. 44750 100

Weight	Accuracy class F1 44750... Ident. No.		Accuracy class M1 44755... Ident. No.	
1 g	000	○	000	○
2 g	010	○	010	○
5 g	020	○	020	○
10 g	030	○	030	○
20 g	040	○	040	○
50 g	050	○	050	○

Weight	Accuracy class F1 44750... Ident. No.		Accuracy class M1 44755... Ident. No.	
100 g	060	○	060	○
200 g	070	○	070	○
500 g	080	○	080	○
1 kg	090	○	090	○
2 kg	100	○	100	○
5 kg	110	○	110	○

Prod. Gr. 447

Test weights

Set configurations in aluminium case, incl. DAKKS calibration certificate

Application:
For testing, calibrating and adjusting scales. Intermediate weights may also be realised by combining several weights, e.g. for saving target weights for articles included in the memory of the scales (if so equipped)

Execution:
- incl. DAkkS calibration certificate
- **No. 44750:** In accordance with OIML class F1
- **No. 44750 600, 44750 700:** Weights weighing 1 g and above are button-shaped and made from polished stainless steel.
- **No. 44750 600, 44750 700–44755 600, 44755 700:** Milligram weights weighing under 1 g are disc-shaped and made from high-grade steel
- **No. 44750 650, 44755 650:** Milligram weights weighing under 1 g are made of high-grade steel, disc-shaped
- **No. 44755:** In accordance with OIML class M1
- **No. 44755 600, 44755 700:** Weights weighing 1 g and above are button-shaped and made from finely turned stainless steel.

Advantage:
- All weights ranging from the smallest to the sum of all the weights may be realised with the smallest one constituting the increment.

Delivery:
No. 44750 600, 44750 700–44755 600, 44755 700: In padded aluminium case, incl. gloves, tweezers and dusting brush

No. 44750 650, 44755 650: In plastic case incl. tweezers and dusting brush

EXTENDED PROGRAM

No. 44750 600

No. 44750 650

		Accuracy class	F1		M1	
Type description	Weight (g)	Composition of set	44750... Ident. No.		44755... Ident. No.	
Set 1 mg-500 mg	1.11	Individual weights included: 1 mg | 2x 2 mg | 5 mg | 10 mg | 2x 20 mg | 50 mg | 100 mg | 2x 200 mg | 500 mg	650	○	650	○
Set 1 mg-1 kg	2111.11	Individual weights included: 1 mg | 2x2 mg | 5 mg | 10 mg | 2x20 mg | 50 mg | 100 mg | 2x200 mg | 500 mg | 1 g | 2x2 g | 5 g | 10 g | 2x20 g | 50 g | 100 g | 2x200 g | 500 g | 1 kg	600	○	600	○
Set 1 g-1 kg	2110	Individual weights included: 1 g | 2x2 g | 5 g | 10 g | 2x20 g | 50 g | 100 g | 2x200 g | 500 g | 1 kg	700	○	700	○

Prod. Gr. 447

KERN test weights

We also supply test weights in standard and special shapes, individually and as combined sets. DKD calibration certificates can be provided for all test weights.

Individual weights in INOX steel

Individual weights in brass

Cast bar weights

Support bars for slotted weights

Brass slotted weights

Sets of test weights, standard and individual sets in a plastic or wooden case

	OIML R111:2004 error limits for test weights in classes E1 to M3 = permissible tolerances						
Nominal value	**E1**	**E2**	**F1**	**F1**	**M1**	**M2**	**M3**
1 mg	± 0.003 mg	± 0.006 mg	± 0.020 mg	± 0.06 mg	± 0.20 mg	-	-
2 mg	± 0.003 mg	± 0.006 mg	± 0.020 mg	± 0.06 mg	± 0.20 mg	-	-
5 mg	± 0.003 mg	± 0.006 mg	± 0.020 mg	± 0.06 mg	± 0.20 mg	-	-
10 mg	± 0.003 mg	± 0.008 mg	± 0.025 mg	± 0.08 mg	± 0.25 mg	-	-
20 mg	± 0.003 mg	± 0.010 mg	± 0.03 mg	± 0.10 mg	± 0.3 mg	-	-
50 mg	± 0.004 mg	± 0.012 mg	± 0.04 mg	± 0.12 mg	± 0.4 mg	-	-
100 mg	± 0.005 mg	± 0.016 mg	± 0.05 mg	± 0.16 mg	± 0.5 mg	± 1.6 mg	-
200 mg	± 0.006 mg	± 0.020 mg	± 0.06 mg	± 0.20 mg	± 0.6 mg	± 2.0 mg	-
500 mg	± 0.008 mg	± 0.025 mg	± 0.08 mg	± 0.25 mg	± 0.8 mg	± 2.5 mg	-
1 g	± 0.010 mg	± 0.03 mg	± 0.10 mg	± 0.3 mg	± 1.0 mg	± 3.0 mg	± 10 mg
2 g	± 0.012 mg	± 0.04 mg	± 0.12 mg	± 0.4 mg	± 1.2 mg	± 4.0 mg	± 12 mg
5 g	± 0.016 mg	± 0.05 mg	± 0.16 mg	± 0.5 mg	± 1.6 mg	± 5.0 mg	± 16 mg
10 g	± 0.020 mg	± 0.06 mg	± 0.20 mg	± 0.6 mg	± 2.0 mg	± 6.0 mg	± 20 mg
20 g	± 0.025 mg	± 0.08 mg	± 0.25 mg	± 0.8 mg	± 2.5 mg	± 8.0 mg	± 25 mg
50 g	± 0.03 mg	± 0.10 mg	± 0.3 mg	± 1.0 mg	± 3.0 mg	± 10 mg	± 30 mg
100 g	± 0.05 mg	± 0.16 mg	± 0.5 mg	± 1.6 mg	± 5.0 mg	± 16 mg	± 50 mg
200 g	± 0.10 mg	± 0.3 mg	± 1.0 mg	± 3.0 mg	± 10 mg	± 30 mg	± 100 mg
500 g	± 0.25 mg	± 0.8 mg	± 2.5 mg	± 8.0 mg	± 25 mg	± 80 mg	± 250 mg
1 kg	± 0.5 mg	± 1.6 mg	± 5.0 mg	± 16 mg	± 50 mg	± 160 mg	± 500 mg
2 kg	± 1.0 mg	± 3.0 mg	± 10 mg	± 30 mg	± 100 mg	± 300 mg	± 1,000 mg
5 kg	± 2.5 mg	± 8.0 mg	± 25 mg	± 80 mg	± 250 mg	± 800 mg	± 2,500 mg
10 kg	± 5.0 mg	± 16 mg	± 50 mg	± 160 mg	± 500 mg	± 1,600 mg	± 5,000 mg
20 kg	± 10 mg	± 30 mg	± 100 mg	± 300 mg	± 1,000 mg	± 3,000 mg	± 10 g
50 kg	± 25 mg	± 80 mg	± 250 mg	± 800 mg	± 2,500 mg	± 8,000 mg	± 25 g
100 kg	-	± 160 mg	± 500 mg	± 1,600 mg	± 5,000 mg	± 16 g	± 50 g
200 kg	-	± 300 mg	± 1,000 mg	± 3,000 mg	± 10 g	± 30 g	± 100 g
500 kg	-	± 800 mg	± 2,500 mg	± 8,000 mg	± 25 g	± 80 g	± 250 g
1,000 kg	-	± 1,600 mg	± 5,000 mg	± 16 g	± 50 g	± 160 g	± 500 g
2,000 kg	-	-	± 10 g	± 30 g	± 100 g	± 300 g	± 1,000 g
5,000 kg	-	-	± 25 g	± 80 g	± 250 g	± 800 g	± 2,500 g

Further information, advice and quotations available on request.

ORION® Temperature measuring instrument with universal sensor

With universal probe

Application:
For simple temperature measurements in industrial applications

Execution:
- Watertight
- HOLD function
- Auto-off
- Switch between °C/°F
- Error limit ± 1% ±1°C

Notes:
Can only be used with supplied sensor up to 550°

Min./max. temperature measuring range		-64 to 1370 °C
Digit increment (measuring instrument for temperature) (°C)		0.1
Length x width x height		78 x 43 x 20 mm
46105...	Ident. No.	200 ●

Prod. Gr. 456

ORION® Temperature measuring instruments

2-channel

Application:
For measuring temperature differences

Execution:
- Displays differential temperature
- 2 simultaneous measurements
- USB interface
- Input for thermocouple, type K
- Digit increment 0.1°C from -199.9°..+199.9°C, otherwise 1.0°C
- Error limit ± 0.1% ±0.7°C

Delivery:
Measuring instrument, battery, 2x type K thermocouple wire, length 90 cm, measuring range -50° to +200°, operating instructions

Min./max. temperature measuring range			-200 to 1370 °C
Length x width x height			184 x 64 x 30 mm
46105...	2-channel	Ident. No.	220 ●

Prod. Gr. 456

Temperature sensor

Application:
Ident. No. 310–320: For measurements in liquid, gaseous and powdery materials
Ident. No. 330–340: For measuring surface temperatures
Ident. No. 350: For measuring temperatures, e.g. in furnaces

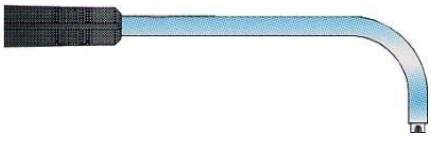
Execution:
- NiCr-Ni sensor
- **Ident. No. 310:** Stainless steel
- **Ident. No. 320:** Flexible
- **Ident. No. 330:** Straight
- **Ident. No. 340:** Curved
- **Ident. No. 350:** Glass-fibre-insulated

Technical data:
- Cable length: 1 m

Ident. No. 310

Ident. No. 320

Ident. No. 330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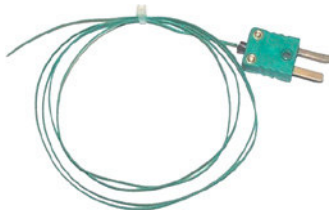

Ident. No. 350

Min./max. temperature measuring range		-40 to 400 °C	-100 to 1100 °C	-65 to 550 °C	-40 to 900 °C	-50 to 400 °C
Ø (mm)		3	3	10	8	1
Length (mm)		120	300	130	130	1000
46105...	Ident. No.	310 ○	320 ○	330 ●	340 ●	350 ●

Prod. Gr. 456

Temperature measuring instrument
Models 905-T1 and 905-T2

Application:
Ident. No. 580: Ideal for temperature measurements in liquids, soft or powdery substances as well as in the air.
Ident. No. 590: Ideally suited for surface temperature measurements even on uneven surfaces.

Execution:
- Measuring range briefly up to 500°C

Advantage:
- Easy read-off of readings due to rotatable display
- High temperature measurement, up to +500°C short term
- Very fast response time

Ident. No. 580 | Ident. No. 590

Model		testo 905-T1	testo 905-T2
Min./max. temperature measuring range		-50 to 350 °C	-50 to 350 °C
Accuracy temperature		+/- 1°C at -50 to +99,9°C | +/- 1 % of measured value (remaining measuring range)	+/- 1°C + 1 % of measured value
Digit increment (measuring instrument for temperature) (°C)		0.1	0.1
Response time sensor (s)		10	5
Probe Ø (mm)		3	12
Length sensor tube (mm)		200	150
Ø sensor tube tip (mm)		3	12
Length sensor tube tip (mm)		4	40
Length x width x height		270 x 40 x 70 mm	220 x 40 x 70 mm
46105...	Ident. No.	580 ●	590 ●

Prod. Gr. 4CF

Digital 1-channel temperature measuring instrument (EN standard 13485)
Model: testo 110

Application:
The temperature measuring instrument testo 110 is a particularly accurate temperature measuring device suitable for universal use. Ideal for use in harsh environments. Sensor connection for NTC and Pt100 sensors.

Advantage:
- Quick, easy and particularly accurate temperature measurement with NTC or Pt100 sensors
- Fast in-app configuration, graphic progression display, second screen and measurement data memory in the testo Smart App
- HACCP-compliant, certified to EN 13485 for use in the food industry
- Very precise measurements and high system accuracy with digital Pt100 sensors (calibration without measuring instrument)
- 2-line, illuminated display for easy reading

Delivery:
Temperature measuring instrument testo 110, 3x AA batteries, calibration log and transport bag.

Notes:
Required accessories: A sensor is required for commissioning. The measuring accuracy mirrors of the accuracy of the sensor and the accuracy of the device.

Min./max. temperature measuring range		-50 to +150 °C
Digit increment (measuring instrument for temperature) (°C)		0.1
Length x width x height		135 x 60 x 28 mm
Compatible with		Sensor type NTC
46105...	Ident. No.	515 ●

Prod. Gr. 4CF

Digital 2-channel temperature measuring instrument
Model: testo 922

Application:
The temperature measuring instrument testo 922 is especially suitable for fast (differential) temperature measurements. The measuring instrument records the temperature values from two connected thermocouple sensors and displays them and the differential temperature in the display simultaneously.

Execution:
- Incl. 2x thermocouple TE type K sensors (46108195)

Delivery:
Temperature measuring instrument, 2x TE type K sensors, 3x AA batteries, calibration log, transport bag

Min./max. temperature measuring range		-50 to 1000 °C
Digit increment (measuring instrument for temperature) (°C)		0.1
Length x width x height		135 x 60 x 28 mm
46105...	Ident. No.	565 ●

Prod. Gr. 4CF

Digital 1-channel temperature measuring instrument

Model: testo 925

Application:
For fast and precise temperature measurements in industry and trade.

Execution:
- Incl. 1x thermocouple TE type K sensors -50° to +400°C (46108195)
- Sensor accuracy: ±(0.5°C + 0.3 % of measured value) (-50 to +1000°C)
- Sensor resolution: 0.1°C (-50 to +499.9°C), 1°C (residual measuring range)

Advantage:
- Simple, fast and precise temperature measurement with type K thermocouple sensor
- Fast in-app configuration, graphic progression display, second screen and measurement data memory in the testo Smart App
- Wide variety of applications with extensive measuring range from -50°C to 1000°C
- Wide range of sensors optional and compatible with standard TE Type K sensors

Delivery:
Temperature measuring instrument, 3x AA batteries, TE type K sensor, calibration log, carrying case

Technical data:
- Model: testo 925
- Min./max. temperature measuring range: -50 to 1000 °C
- Accuracy temperature: +/- 0.5°C + 0.3 % of measured value at -50 to +1000°C
- Digit increment (measuring instrument for temperature): 0.1 °C
- Length x width x height: 135 x 60 x 28 mm
- Compatible with: Sensor type K (NiCr-Ni)

46105...	Ident. No.	660 ●

Prod. Gr. 4CF

DampMaster Compact Pro material moisture measuring device

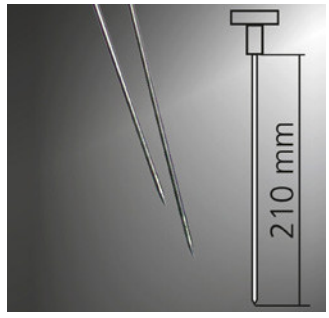
for insertion, with additional deep-insertion electrodes

Application:
Professional measuring instrument for measuring wood, plaster, construction material and material moisture. Can be specifically used in deeper material layers due to depth electrodes.

Execution:
- Resistance measuring method (measuring tips), insertion
- Digital Connection interface and free MeasureNote app for rapid data transfer to a mobile device
- Number of building materials/ percent by weight: 31
- Number of wood types: 108
- Dry/wet moisture indicator
- Protective cap with self-test function
- Depth electrodes for connecting “DampExtensions”
- Accuracy: wood ±0.3 % of final value ±5 digit
- Accuracy: building materials ±0.5 % of final value ±1 digit

Advantage:
- MeasureNote support with integrated material tables
- Wet/dry indicator: Results are evaluated and interpreted in relation to the material
- Reaches depths of up to 210 mm due to “DampExtensions” measurements

Delivery:
incl. battery (4x AAA), protective cap with self-test function, DampExtension set with 4 pairs of depth electrodes and connecting cable, in carry case



Model		DampMaster Compact Pro
Min./max. humidity (rF) of measuring range		0-171.2 %
Min./max. wood moisture		0-60 %
46500...	Ident. No.	020 ●

Prod. Gr. 3EE

Material moisture measuring device MoistureMaster Compact Plus

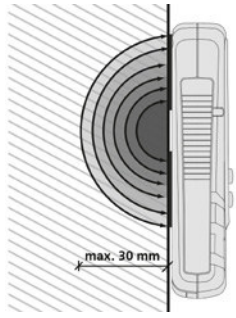
Non-destructive

Application:
Professional, quick and non-destructive material moisture measurement.

Execution:
- Capacitive measuring method (contact surfaces), non-destructive
- Digital Connection interface and free MeasureNote app for rapid data transfer to a mobile device
- Number of building materials/ percent by weight: 6
- Number of building materials/ percent CM: 2
- Number of wood types: 56
- Dry/wet moisture indicator
- Index zoom - Quickly locate moisture in denser building material
- Accuracy: wood +/-2 %; building materials +/-0.2 %

Advantage:
- Wet alarm: When wet material is detected, a warning tone sounds in addition to the red LED display
- 25 languages

Delivery:
incl. battery (1x 9 V block) and carry case



Model		MoistureMaster Compact Plus
Min./max. humidity (rF) of measuring range		0-66.5 %
Min./max. wood moisture		3-56.4 %
46500...	Ident. No.	000 ●

Prod. Gr. 3EE

Laserliner Material moisture measuring device MultiWet-Finder

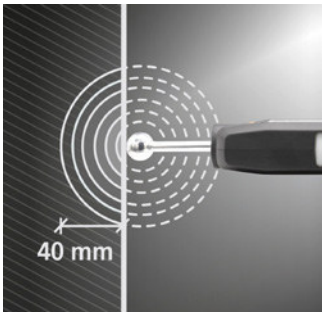
with additional ambient temperature and calculated dew point

Application:
Electronic material moisture measuring instrument for locating and evaluating moisture distribution and moisture damage in walls, floors and ceilings.

Execution:
- Capacitive measuring method (sphere), non-destructive
- Digital Connection interface and free MeasureNote app for rapid data transfer to a mobile device
- Number of building materials/ percent by weight: 3
- Number of building materials/ percent CM: 3
- Dry/wet moisture indicator
- Indoor climate: temperature, humidity, dew point
- Humidity (absolute): 20 % to 80 % (±3 %)
- Humidity (relative): <20 % and >80 % (±5 %)

Advantage:
- Audible alarm and 12-digit LED display with configurable limit value

Delivery:
incl. battery (3x AAA) and carry case



Model		MultiWet-Finder Plus
Min./max. temperature measuring range		-10 to 60 °C
Min./max. air humidity		20-90 %
Digit increment (measuring instrument for temperature) (°C)		0.1
Resolution humidity (rF) (%)		0.1
46500...	Ident. No.	010 ●

Prod. Gr. 3EE

PCE INSTRUMENTS Humidity detector for measuring water activity

PCE-WAM 10 and PCE-WAT 10 models

Application:
The humidity detector is a mobile measuring instrument for measuring water activity in samples. The water activity indicates the amount of water that is biologically available to bacteria, mould or similar microorganisms. The humidity detector can be used in the food industry, when testing water activity in laboratories, in seed storage and other areas.

Execution:
- Water activity measuring range: 0.01 to 1 aw
- Water activity resolution: 0.01 aw
- **Ident. No. 350:**
  - Water activity accuracy: ±0.03 aw
  - Temperature measuring range: 0 to +50 °C
  - Temperature resolution: 0.1 °C
  - Temperature accuracy: ±1 °C
- **Ident. No. 352:**
  - Water activity accuracy: ±0.02 aw
  - Temperature measuring range: -10 to +60 °C
  - Temperature resolution: 0.01 °C
  - Temperature accuracy: ±0.2 °C
  - Storage for 99 measurements
  - Real-time measurement software

Delivery:
Ident. No. 350: with 3x sample trays, 2x AAA batteries, operating instructions, in case
Ident. No. 352: includes 5x sample trays, 3x AAA batteries, USB cable, software, operating instructions, in case

Ident. No. 350

Ident. No. 352

41580...	PCE-WAM 10	Ident. No.	350 ○
41580...	PCE-WAT 10	Ident. No.	352 ○

Prod. Gr. 4AD

testo Thermohygrometer

Model testo 608 H1/608 H2

Application:
Ideal for continuously measuring the indoor climate in offices, warehouses, laboratories, plant nurseries or living areas. Determines temperature, humidity and dew point.

Execution:
- Display of maximum and minimum values
- **Ident. No. 050:** Visual alarm when limit is exceeded

Advantage:
- Durable humidity sensor
- Continuous measurement and display of temperature and relative humidity
- Calculation and display of dew point
- Large, easy-to-read display
- **Ident. No. 040:** Hanging and standing device for mounting on a wall or placing on a table
- **Ident. No. 050:** Suspended or stand-alone device for mounting on a wall or placing on a table

Ident. No. 040

Ident. No. 050

Model		testo 608-H1	testo 608-H2
Min./max. temperature measuring range		0 to 50 °C	-10 to 70 °C
Accuracy temperature		+/- 0,5°C at +25 °C	+/- 0,5°C at +25 °C
Digit increment (measuring instrument for temperature) (°C)		0.1	0.1
Min./max. humidity (rF) of measuring range		10-95 %	2-98 %
Accuracy humidity		+/- 3 %RH (10 up to 95 %RH)	+/- 2 %RH (+2 up to +98 %RH)
Resolution humidity (rF) (%)		0.1	0.1
46107...	Ident. No.	040 ●	050 ●

Prod. Gr. 4CF

Thermohygrometer
Model testo 610

Application:
Ideal for rapid and accurate measurement of temperature and humidity indoors. The compact device can also calculate the dew point and wet bulb temperature.

Advantage:
- Simple temperature and humidity measurement
- Dew point and wet bulb temperature calculation
- Capacitive moisture sensor with long-term stability for precise measurement results
- Illuminated, easy-to-read display

Delivery:
Thermohygrometer testo 610 including protective cap, calibration log, belt pouch and batteries.

Model		testo 610
Min./max. temperature measuring range		-10 to 50 °C
Accuracy temperature		+/- 0.5°C
Digit increment (measuring instrument for temperature) (°C)		0.1
Min./max. humidity (rF) of measuring range		0-100 %
Accuracy humidity		+/- 2,5 %RH (5 up to 95 %RH)
Resolution humidity (rF) (%)		0.1
46107...	Ident. No.	060 ○

Prod. Gr. 4CF

Digital thermohygrometer
Model: testo 625

Application:
The compact testo 625 thermohygrometer with plug-in humidity sensor is suitable for measuring air temperature and relative humidity and additionally calculates dew point and wet bulb temperature. Ideal for use where climate plays an important role, e.g. in archives, storage rooms, greenhouses, residential buildings and workplaces.

Advantage:
- Simple, rapid and precise measurement of air temperature and relative humidity
- Dew point and wet bulb temperature calculation
- Fast in-app configuration, graphic progression display, second screen and measurement data memory in the testo Smart App
- Audible alarm when limit is exceeded

Delivery:
Humidity/temperature measuring instrument, 3x AA batteries, calibration log, transport bag

Min./max. temperature measuring range		-20 to +60 °C
Accuracy temperature		+/- 0.5°C
Digit increment (measuring instrument for temperature) (°C)		0.1
Min./max. humidity (rF) of measuring range		0-100 %
Accuracy humidity		+/- 2,5 %RH (5 up to 95 %RH)
Length x width x height		208 x 60 x 28 mm
IP protection class		IP 40
46107...	Ident. No.	085 ●

Prod. Gr. 4CF

Infrared thermometer
Model testo 810

Application:
Infrared thermometer for simultaneous, non-contact measurement of surface and air temperature.

Execution:
- Temperature measuring range with NTC sensor: -10°C to +50°C
- Temperature accuracy with NTC sensor: +/- 0.5°C
- Temperature resolution with NTC sensor: 0.1°C

Advantage:
- simultaneous measurement of surface and air temperature
- automatic display of the temperature difference
- adjustable emission level
- Temperature measuring range with NTC sensor: -10°C to +50°C

Delivery:
Infrared thermometer testo 810 with integrated NTC temperature sensor including protective cap, calibration protocol, belt bag and batteries.

Model		testo 810
Measuring rate		2 measurement/s
Min./max. temperature measuring range		-30 to 300 °C
Digit increment (measuring instrument for temperature) (°C)		0.1
Accuracy temperature		+/- 2,0°C at -30 to +100°C | +/- 2 % of measured value (remaining measuring range)
Sensor type		Infrared sensor
Optical focus		50:1
Length x width x height		119 x 46 x 25 mm
IP protection class		IP 40
46135...	Ident. No.	230 ●

Prod. Gr. 4CF

ORION® Infrared temperature-measuring instruments

Application:
For measuring surface temperatures of rotating or live components

Execution:
- Error limit ±2% or ± 2°C
- **Ident. No. 021:**
  - HOLD/Max./Min./Difference limit alarm HI/LO unit: °C/°F switchable display with backlight (switchable)
  - Adjustable emission degree 0.10 to 1.00
  - Point laser (class II) as visual aid (switchable) Input for thermocouple probe NiCr-Ni (Type K)
- **Ident. No. 041:**
  - HOLD/Max./Min./Difference, along with AVG (mean value from series measurement) and lock (continuous measurement) limit alarm HI/LO unit: °C/°F switchable display with backlight (switchable)
  - Adjustable emission degree 0.10 to 1.01
  - Point laser (class II) as visual aid (switchable), with 2 laser beams for marking the measuring variable Input for thermocouple probe NiCr-Ni (Type K)

Delivery:
With battery in case.

Ident. No. 021

Ident. No. 041

Min./max. temperature measuring range		-60 to 500 °C	-50 to 1000 °C
Digit increment (measuring instrument for temperature) (°C)		0.1	0.1
Optical focus		11:1	50:1
46135...	Ident. No.	021 ●	041 ●

Prod. Gr. 456

Infrared thermometer with 1-point laser marking

testo 830-T1

Application:
Ideal for fast and contactless surface temperature measurement.

Execution:
- clear, illuminated digital display
- 1-point laser spot marker for targeting the measurement point
- 10:1 optics for accurate measurements at smaller to medium distances

Advantage:
- Hold function (for holding a reading)
- comfortable one-handed operation thanks to ergonomic pistol design
- accurate and fast surface temperature measurement (2 measurements per second)
- high resolution processor for high precision (resolution 0.1°C)

Delivery:
Infrared thermometer including batteries and calibration protocol

Notes:
For bare surfaces with low emission levels, it is recommended to use adhesive emission tape

Model		testo 830-T1
Number of laser markings		1-point
Measuring rate		2 measurement/s
Min./max. temperature measuring range		-30 to 400 °C
Digit increment (measuring instrument for temperature) (°C)		0.1
Accuracy temperature		+/- 1,5°C or +/- 1,5 % of measured value +0,1 up to +400°C | +/- 2°C or +/- 2 % of measured value at -30 up to 0°C
Min./max. emission ratio		0.1-1.0
Emissivity adjustable		In steps 0.01
Sensor type		Infrared sensor
Optical focus		10:1
Functions		Alarm signal acoustic | Alarm signal optical | Hold-function (AE lock)
Length x width x height		190 x 75 x 38 mm
46135...	Ident. No.	250 ●

Prod. Gr. 4CF

Infrared thermometer with 2-point laser marking

830-T2 and 830-T4

Application:
Ideal for fast and contactless surface temperature measurement.

Execution:
- clear, illuminated digital display
- 2-point laser spot marker for targeting the measurement point
- External sensor connection for thermocouple temperature sensor TE type K
- **Ident. No. 260:** 12:1 optics for accurate measurements even at medium distances
- **Ident. No. 280:** 30:1 optics for accurate measurements even at longer distances

Advantage:
- Hold function (for holding a reading)
- Emission level determination by external TE sensor
- **Ident. No. 260:**
  - comfortable one-handed operation thanks to ergonomic pistol design
  - high resolution processor for high precision (resolution 0.1°C)
- **Ident. No. 280:**
  - Comfortable one-handed operation thanks to ergonomic pistol design
  - High resolution processor for high precision (resolution 0.1°C)
  - Small spot diameter, thus also for measurements of small, moving or dangerous targets from a safe distance

Delivery:
Infrared thermometer including batteries and calibration protocol

Technical data:
- Number of laser markings: 2-point
- Measuring rate: 2 measurement/s
- Min./max. temperature measuring range: -30 to 400 °C
- Digit increment (measuring instrument for temperature): 0.1 °C
- Min./max. emission ratio: 0.1-1.0
- Emissivity adjustable: In steps 0.01
- Sensor type: Infrared sensor
- Length x width x height: 190 x 75 x 38 mm

Ident. No. 260

Ident. No. 280

Model		testo 830-T2	testo 830-T4
Accuracy temperature		+/- 1,5°C or +/- 1,5 % of measured value +0,1 up to +400°C | +/- 2°C or +/- 2 % of measured value at -30 up to 0°C	+/- 1,5°C at -20 to 0°C | +/- 2°C at -30 to -20,1°C | +/- 1°C or +/- 1 % of measured value (remaining measuring range)
Optical focus		12:1	30:1
Functions		Display light	Alarm signal acoustic | Alarm signal optical | Display light
46135...	Ident. No.	260 ●	280 ●

Prod. Gr. 4CF

Infrared thermometer with 4-point laser marking

Models testo 835-T1, 835-T2 and 835-H1

Application:

Ident. No. 300–310: Ideal for fast and contactless surface temperature measurement.

Ident. No. 320: Ideally suited for fast and contactless temperature/humidity and dew point measurement. Also ideal for small, moving or difficult to access objects.

Advantage:

- clear, illuminated digital display
- comfortable one-handed operation thanks to ergonomic pistol design
- Emission level determination via integrated emission level table or by external TE sensor type K
- up to 200 readings can be stored, evaluation with EasyClimate software (free download)
- 50:1 optics for precise measurements at long distance (5 m distance = 10 cm measuring spot)

Delivery:

Measuring device including measured data management, PC software, batteries and calibration log.

Technical data:

- Number of laser markings: 4-point
- Digit increment (measuring instrument for temperature): 0.1 °C
- Min./max. emission ratio: 0.1-1.0
- Emissivity adjustable: In steps 0.01
- Optical focus: 50:1
- Length x width x height: 193 x 166 x 63 mm

Ident. No. 300

Ident. No. 310

Ident. No. 320

Model		testo 835-T1	testo 835-T2	testo 835-H1
Min./max. temperature measuring range		-30 to 600 °C	-10 to 1500 °C	-30 to 60 °C
Accuracy temperature		+/- 2,5°C at -30 to -20,1°C | +/- 1,5°C at -20 to 0°C | +/- 1,0°C at 0 to +99,9°C | +/- 1 % of measured value (remaining measuring range)	+/- 2,0°C or +/- 1 % of measured value	+/- 2,5°C at -30 to -20,1°C | +/- 1,5°C at -20 to -0,1°C | +/- 1,0°C at 0 to +99,9°C | +/- 1 % of measured value (remaining measuring range)
Sensor type		Infrared sensor	Infrared sensor	-
Compatible with		Sensor type K (NiCr-Ni)	Sensor type K (NiCr-Ni)	-
Functions		Alarm signal acoustic | Alarm signal optical	Alarm signal acoustic | Alarm signal optical	Laser point on/off
46135...	Ident. No.	300 ●	310 ●	320 ○

Prod. Gr. 4CF

ORION® Video infrared temperature measuring instrument with integrated humidity sensor

Application:

For non-contact measuring of dew points and surface temperatures. Ideal for indoor climate specialists. Indoor climate measurements

Execution:

- Double target laser
- HOLD, MAX, MIN functions
- Switch display between °C/F
- USB port
- Error limit ±2% or ± 2°C

Advantage:

- Large 2.2 inch TFT colour display
- Input for thermocouple sensor NiCrNi (type K)
- Large measured value memory (micro-SD card slot)
- IR temperature measuring device with integrated humidity sensor
- Applications are displayed as JPG images with measured values and date stamps

Delivery:

in robust transport case, USB cable, mains plug with USB connection, incl. type K temperature probe, incl. 3.7 V Li-ion battery pack 1,400 mAh, small three-leg camera tripod

Min./max. temperature measuring range		-50 to 1000 °C
Optical focus		50:1
46135...	Ident. No.	100 ●

Prod. Gr. 456

Sensor for temperature and humidity measuring instruments (EN standard 60584-1)

Sensor type			TE type K
Probe type			Surface probe
Probe designation			Tube contact sensor with clamping bracket
Min./max. temperature measuring range			-60 to 130 °C
Max. short-term temperature conditions (°C)			+280
Accuracy temperature			Class 2 according to EN 60584-2
Response time sensor (s)			5
Cable length (m)			1.2
46108...	TE Type K - Pipe sensor with clamp	Ident. No.	115 ○

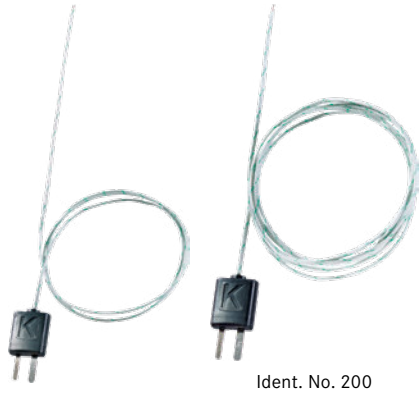
Prod. Gr. 4CF

TE Type K - Thermal pair with connector (EN standard 60584-1)

flexible

Sensor type			TE type K	TE type K
Probe type			Thermocouples	Thermocouples
Min./max. temperature measuring range			-50 to 400 °C	-50 to 400 °C
Accuracy temperature			Class 2 according to EN 60584-2	Class 2 according to EN 60584-2
Response time sensor (s)			5	5
Ø probe tube (mm)			1.5	1.5
Length sensor tube (mm)			800	1500
46108...	TE Type K - Thermal pair with connector L=800	Ident. No.	195 ●	-
46108...	TE Type K - Thermal pair with connector L=1500 mm	Ident. No.	-	200 ●

Prod. Gr. 4CF



Ident. No. 195 Ident. No. 200

TE Type K - Built-in temperature sensor with stainless steel sleeve (EN standard 60584-1)

Sensor type			TE type K
Probe type			Built-in sensor
Min./max. temperature measuring range			-50 to 205 °C
Accuracy temperature			Class 2 according to EN 60584-2
Response time sensor (s)			20
Ø probe tube (mm)			6
Length sensor tube (mm)			40
Cable length (m)			1.9
46108...	TE Type K - Built-in temperature sensor with stainless steel sleeve	Ident. No.	210 ●

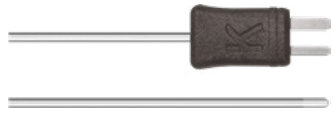
Prod. Gr. 4CF

TE Type K - Immersion measuring tip (EN standard 60584-1)

flexible

Sensor type			TE type K
Probe type			Immersion/insertion probe
Probe designation			Immersion measuring tip
Min./max. temperature measuring range			-40 to 1000 °C
Accuracy temperature			Class 1 according to EN 60584-2
Response time sensor (s)			4
Ø probe tube (mm)			3
Ø sensor tube tip (mm)			3
Length sensor tube (mm)			1000
46108...	TE Type K - Immersion blade tip	Ident. No.	165 ○

Prod. Gr. 4CF



TE Type K - Surface sensor (EN standard 60584-1)

responsive

Application:

Ident. No. 070: The extremely fast surface temperature sensor with spring-loaded thermocouple strip is suitable for versatile applications - even for non-flat surfaces.

Ident. No. 085: Thanks to the angled sensor tube, the responsive surface sensor enables a precise and reliable measurement of the surface temperature even in hard-to-reach areas. Also for non-flat surfaces.

Sensor type			TE type K	TE type K
Probe type			Surface probe	Surface probe
Min./max. temperature measuring range			-60 to 300 °C	-60 to 300 °C
Max. short-term temperature conditions (°C)			+500	+500
Accuracy temperature			Class 2 according to EN 60584-2	Class 2 according to EN 60584-2
Response time sensor (s)			3	3
Ø probe tube (mm)			5	5
Ø sensor tube tip (mm)			12	12
Length sensor tube (mm)			80	115
Length sensor tube tip (mm)			40	39
Cable length (m)			1.18	1.17
46108...	TE Type K - Surface sensor	Ident. No.	085 ●	070 ●

Prod. Gr. 4CF

Ident. No. 070 Ident. No. 085

TE Type K - immersion sensor and immersion and penetration sensor (EN standard 60584-1)

Waterproof design with flexible sensor wire

Sensor type			TE type K	TE type K
Probe type			Immersion/insertion probe	Immersion sensor
Min./max. temperature measuring range			-60 to 400 °C	-60 to 1000 °C
Accuracy temperature			Class 2 according to EN 60584-2	Class 1 according to EN 60584-2
Response time sensor (s)			7	2
Ø probe tube (mm)			5	1.5
Ø sensor tube tip (mm)			3.7	-
Length sensor tube (mm)			114	300
Length sensor tube tip (mm)			50	-
Cable length (m)			1.16	1.5
46108...	TE Type K - Immersion/penetration sensor	Ident. No.	175 ●	-
46108...	TE Type K - Immersion sensor	Ident. No.	-	150 ●

Prod. Gr. 4CF

Ident. No. 150

Ident. No. 175

TE Type K - Magnetic surface sensor (EN standard 60584-1)

Magnet adhesive force 10 N

Sensor type			TE type K	TE type K
Probe type			Surface probe	Surface probe
Probe designation			Magnetic probe	Magnetic probe
Min./max. temperature measuring range			-50 to 400 °C	-50 to 170 °C
Accuracy temperature			Class 2 according to EN 60584-2	Class 2 according to EN 60584-2
Response time sensor (s)			-	150
Ø sensor tube tip (mm)			21	20
Length sensor tube (mm)			75	35
Cable length (m)			1.47	1.55
46108...	TE Type K - Magnetic surface sensor 10 N	Ident. No.	100 ●	-
46108...	TE Type K - Magnetic surface sensor 20 N	Ident. No.	-	095 ●

Prod. Gr. 4CF

Ident. No. 095

Ident. No. 100

ORION® Temperature/humidity measuring instrument

Application:
For measuring indoor climates

Execution:
- Running display
- Max-hold display
- Min-hold display
- Energy-saving Auto-OFF function

Advantage:
- Handy device size and easy one-hand operation
- Automatic display illumination with brightness sensor
- Large digits for clear view of measured values

Delivery:
Battery (1x 9 V block battery, type 6 LR 61)

Technical data:
- Min./max. temperature measuring range: -20 to 60 °C
- Temperature error limit: 0.5 °C
- Min./max. humidity (rF) of measuring range: 0-99 %
- Humidity (rF) error limit/conditions: 5 % / from 20 to 70%
- Humidity (rF) error limit, residual area: 7 %
- Humidity (rF) error limit (+/-): 5 %

46210...	Ident. No.	010 ●

Prod. Gr. 456

ORION® Flow meter (anemometer)

Application:
For simple measurements of air-conditioning ventilation systems.

Execution:
- Running display
- Max-hold display
- AVG display (average value)
- Switch between units of display: m/s, km/h, ft/min., MPH, knots
- Energy-saving Auto-OFF function

Advantage:
- Handy device size and easy one-hand operation
- Automatic display illumination with brightness sensor
- Large digits for clear view of measured values

Delivery:
Battery (1x 9 V block battery, type 6 LR 61)

Technical data:
- Min./max. current of measuring range: 0.4-25 m/s
- Digit increment, current: 0.01 m/s
- Current error limit (+/-): 0.45 m/s

46210...	Ident. No.	020 ●

Prod. Gr. 456

ORION® Light intensity measuring instrument (luxmeter)

Application:
For monitoring lighting conditions in workplaces, warehouses, industrial buildings and residential buildings.

Execution:
- Automatic zero point calibration
- Max-hold display
- Switch between units of display: LUX Fc
- Energy-saving Auto-OFF function

Advantage:
- Handy device size and easy one-hand operation
- Automatic display illumination with brightness sensor
- Large digits for clear view of measured values

Delivery:
Battery (1x 9 V block battery, type 6 LR 61)

Min./max. illumination of measuring range		0-40000 lx
Digit increment illuminance (lx)		0.01
Illumination error limit (+/-) (lx)		5
Min./max. working temperature		0 to 40 °C
46210...	Ident. No.	030 ●

Prod. Gr. 456

testo Digital illuminance measuring instrument

Model: testo 540

Application:
For checking light conditions in workplaces, storage halls, industrial and residential buildings.

Advantage:
- Simple, rapid and precise measurement of illuminance (lux) for all common light sources based on v-Lambda curve
- Wide range of applications thanks to LED compatibility (excluding single-colour blue LED)
- Fast in-app configuration, graphic progression display, second screen and measurement data memory in the testo Smart App
- Audible alarm when limit is exceeded

Delivery:
Lux measuring instrument, 3x AA batteries, calibration log, transport bag

Min./max. illumination of measuring range			0-100000 lx
Digital illuminance measuring instrument	46210...	Ident. No.	160 ●

Prod. Gr. 4CF

ORION® Sound level measuring instrument

Application:
Ideally suited for control measurements in air-conditioning or heating applications, at combustion plants as well as for assessing
noise pollution on machines and at the workplace.

Execution:
- Running display
- Max-hold display
- Min-hold display
- Energy-saving Auto-OFF function

Advantage:
- Handy device size and easy one-hand operation
- Automatic display illumination with brightness sensor
- Large digits for clear view of measured values

Delivery:
Battery (1x 9 V block battery, type 6 LR 61)

Technical data:
- Min./max. sound-pressure-level measuring range: 40-130 dB
- Digit increment, sound-pressure level: 0.1 dB
- Sound-pressure-level error limit (+/-): 3.5 dB
- Min./max. working temperature: 0 to 40 °C

46210...	Ident. No.	040 ●

Prod. Gr. 456

testo Sound level measuring instrument
Model testo 815

Application:
Ideally suited for control measurements in air-conditioning or heating applications, on combustion plants as well as for assessing noise pollution on machines and at the workplace.

Execution:
- Maximum and minimum value memory
- Switchable time evaluation, fast/slow

Advantage:
- Frequency evaluation according to characteristic curve A and C
- Easy to adjust

Min./max. sound-pressure-level measuring range		32-130 dB
Digit increment, sound-pressure level (dB)		1.0
Sound-pressure-level error limit (+/-) (dB)		1.0
Min./max. working temperature		0 to 40 °C
46210...	Ident. No.	100 ●

Prod. Gr. 4CF

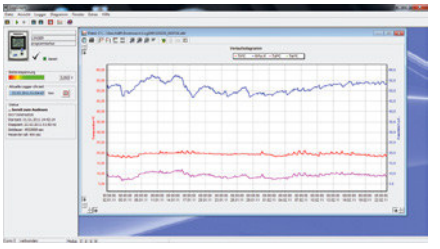
ORION® Data logger for temperature and humidity

Application:
For environmental monitoring, e.g. during transportation and storage

Execution:
- Large display for current value indication and
- External temperature sensor connection
- Battery status indication
- User-friendly Windows software
- Hi-Lo visual and acoustic alarm
- Memory for up to 60,000 measured values with 3 variables
- Measuring interval adjustable from 1 second up to 24 hours
- High accuracy: ±0.5°C/± 3%
- **Ident. No. 020:** Additional measurement of relative air humidity and dew point

Delivery:
USB data cable, Windows software on CD and battery (1x 3 V lithium type CR2032)

Data logger with temperature probes



Data logger for temperature and humidity	46200...		Ident. No.	010 ●	020 ●
02 Accessories for data loggers	46200...	40 x 3 mm, length 3 m	Ident. No.	103 ●	103 ●
	46200...	40 x 3 mm, length 8 m	Ident. No.	108 ●	108 ●

Prod. Gr. 456

2-channel temperature and humidity data logger

Model testo 175 H1

Application:
For monitoring temperature and relative humidity in working and storage rooms.

Advantage:
- Measured data memory for up to 1,000,000 readings
- fast response time thanks to NTC-capacitive stub humidity sensor
- Wall bracket with lock, protects the data logger against unauthorised access
- programmed limits, min and max values, dew point can be read directly on the display

Delivery:
including wall bracket, lock, battery (3 x micro type AAA) and calibration log.

Model				testo 175 H1
Min./max. temperature measuring range				-20 to 55 °C
Digit increment (measuring instrument for temperature) (°C)				0.1
Accuracy temperature				+/- 0,4°C at -20 to +55°C ±1 Digit
Min./max. humidity (rF) of measuring range				0-100 %
IP protection class				IP 54
Number of ducts (PCS)				2
Data transmission type				SD
Interface				Mini-USB | SD card
Measured value memory				1.000.000 measuring results
2-channel temperature and humidity data logger	**46200...**		Ident. No.	**620** ●
02 Accessories for data loggers	**46108...**	USB connection cable USB-A - USB Micro-B for testo 175 and testo 176 with PC	Ident. No.	**685** ○

Prod. Gr. 4CF

Data loggers with integrated sensors

for temperature, humidity, air pressure, light and acceleration via vibration sensors

Application:
For storing relevant measured variables such as temperature, relative humidity, atmospheric pressure, light and acceleration over three axes using a vibration sensor. This data logger is therefore excellently suited to monitoring vibrations on machines while simultaneously measuring and recording relevant environmental conditions surrounding the system.

Execution:
- Three-axis acceleration up to 800 Hz
- Measuring range: ±16 g
- Precision: ±0.24 g
- Measuring/storage rate: 1 Hz to 1,600 Hz
- 2.5 million measured values per measurement
- 3.2 billion measured values when using the included 32 GB microSD memory card

Advantage:
- compact design: 87 x 44 x 23 mm

Delivery:
PCE-VDL 16I data logger, USB to Micro USB data cable, 32 GB SD memory card, sliding element for SD card, USB flashdrive with PC software and operating instructions

Type description		PCE-VDL 16I
Min./max. temperature measuring range		-20 to 65 °C
Min./max. humidity (rF) of measuring range		0-100 %
Min./max. illumination of measuring range		0.045-188000 lx
48601...	Ident. No.	**070** ○

Prod. Gr. 4AD

Data logger with integrated sensor

for 3-axis acceleration up to 1,600 Hz

Application:
The PCE-VDL 24I data logger even comes with an acceleration sensor with a sampling rate of 1,600 Hz. The shock and vibration logger is therefore ideal for the fields of fault diagnosis, stress testing, machine inspection, shock measurements and preventive maintenance.

Execution:
- Three-axis acceleration up to 1,600 Hz
- Measuring range: ±16 g
- Precision: ±0.24 g
- Measuring/storage rate: 1 Hz to 1,600 Hz
- 2.5 million measured values per measurement
- 3.2 billion measured values when using the included 32 GB microSD memory card

Advantage:
- compact design: 87 x 44 x 23 mm

Type description		PCE-VDL 24I
48601...	Ident. No.	**072** ○

Prod. Gr. 4AD

Particle counter

Application:
Particle counters equipped with various sensors for measuring HCHO (formaldehyde), TVOC (volatile organic substances) and for monitoring ambient temperatures and ambient humidity.

Execution:
- Particle concentration: 0 to 2,000 µg/m³
- HCHO measuring range: 0.00 to 5.00 mg/m³
- HCHO resolution/accuracy: 0.01 mg/m³/±5 % of measured value
- TVOC measuring range: 0.00 to 9.99 mg/m³
- TVOC resolution/accuracy: 0.01 mg/m³/±5 % of measured value
- Measuring range, temperature: 0 to 50 °C
- Temperature resolution/accuracy: 0.1 °C/±2 °C
- Measuring range humidity: 0 to 100 % RH
- Humidity resolution/accuracy: 0.1 % RH/±5 % at (0 to 20 %), ±3.5 % at (20 to 80 % RH), ±5 % at (80 to 100 %)
- Storage for 5,000 measured values

Delivery:
PCE-EM 880 particle counter, Micro USB cable, operating instructions

Type description		PCE-EM 880
48603...	Ident. No.	010 ○

Prod. Gr. 4AD

Particle counter with data logger

Application:
This particle counter with data logger is ideal for monitoring air quality in workplaces and for continuously logging air temperature, humidity, CO2, PM2.5 and atmospheric pressure. All of these parameters provide occupational health and safety specialists with information on the air quality. The CO2 data logger stores the measured values on an SD memory card.

Execution:
- PM2.5 fine dust measuring range: 0 to 250 µg/m³
- Humidity measurement range: 5 to 95 % RH
- Humidity resolution/accuracy: 0.1 % RH/> 70 % RH ±3 % of measured value + 1 % RH, < 70 % RH ±3 % of measured value
- Measuring range, temperature: 0 to 50 °C
- Temperature resolution/accuracy: 0.1 °C/±0.8 °C
- CO2 measuring range: 0 to 10,000 ppm
- CO2 resolution/accuracy: 1 ppm/< 1,000 ppm: ± 40 ppm, < 3,000 ppm: ±(50 ppm + 3 % of measured value), >3,000 ppm: ±(50 ppm + 5 % of measured value)
- Atmospheric pressure measuring range: 10 to 1,100 hPa
- Atmospheric pressure resolution/accuracy: 0.1 hPa/±1.5 hPa

Delivery:
PCE-AQD 20 particle counter, 9 V/1 A plug-in power supply, operating instructions

Type description		PCE-AQD 20
48603...	Ident. No.	005 ○

Prod. Gr. 4AD

Hygiene measuring instrument - luminometer
for surfaces and water

Application:
For quick and easy checking of cleanliness using test tubes. The luminometer displays a measurement result on the large LCD display after just 10 seconds. Up to 10,000 measurement data sets with time and date can be stored on the internal memory of the luminometer.

Execution:
- Detection method: analogue integration by photodiodes
- Data output: RLU (relative light unit)
- Measuring range: 0 to 999,999 RLU
- Error limit: ±5 RLU
- Self-diagnosis: Automatic cleanliness check before each use
- **Ident. No. 020:** including 100 test tubes for surfaces
- **Ident. No. 025:** including 100 test tubes for water
- **Ident. No. 030:** including 200 test tubes, 100 for surfaces and 100 for water

Advantage:
- automatic cleanliness check before each use
- HACCP concept implementation
- Data transfer to analysis software via USB or Bluetooth(R)
- automatic self-calibration

Delivery:
PCE-ATP 1 luminometer, 3.7 V/2,300 mAh Li-ion rechargeable battery, USB cable, USB charger, lanyard, PC software (in the manufacturer's download area), test tubes

Ident. No. 020

Ident. No. 025

Ident. No. 030

Type description		PCE-ATP 1-KIT	PCE-ATP 1-KIT2	PCE-ATP 1-KIT3
48603...	Ident. No.	020 ○	025 ○	030 ○

Prod. Gr. 4AD

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05
04
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Multi-parameter photometer series CP

For comprehensive analysis of liquids

Application:
The multi-parameter photometer is a mobile measuring instrument for analysing fluids for various parameters such as pH value, chlorine etc.

Execution:
- selectable units including mg/l, ppm
- Bluetooth(R) data
- 503 nm/570 nm/620 nm LED

Delivery:
with extensive accessories, batteries, operating instructions, in case

Notes:
Some models can evaluate other parameters.

Ident. No. 200

Type description		PCE-CP 04	PCE-CP 10	PCE-CP 11	PCE-CP 20	PCE-CP 21	PCE-CP 22	PCE-CP 30
48603...	Ident. No.	200 ○	205 ○	210 ○	215 ○	220 ○	225 ○	230 ○

Prod. Gr. 4AD

pH value analysis measuring device PCE-PH 228

with standard probe

Application:
pH analyser with GLP data management for measuring pH or redox value and temperature using external sensors.

Execution:
- fast, precise pH and temperature measurement
- Redox measurement (with optional electrode)
- GLP data management
- simple 2-, 3-, 4- and 5-point calibration
- Graphic display of the measurement history
- Data logger for 100 recordings with 100,000 data points each

Advantage:
- 32 GB internal memory
- High accuracy ±0.002 pH + 2 digits
- Users with password protection
- Permanent measurement verification (PMV) with coloured bars, measured value is displayed in relation to the calibration range

Delivery:
with PE-03 pH electrode, temperature sensor, USB-C cable, quick start guide, in service bag

Notes:
Electrode for redox measurement not included in scope of delivery.

Type description		PCE-PH 228
41580...	Ident. No.	200 ○

Prod. Gr. 4AD

PCE-PH 228M pH value analysis measuring device

with stainless steel probe and ISO calibration certificate

Application:
pH analyser with GLP data management for measuring pH or redox value and temperature using external sensors.

Execution:
- fast, precise pH and temperature measurement
- Redox measurement (with optional electrode)
- GLP data management
- simple 2-, 3-, 4- and 5-point calibration
- Graphic display of the measurement history
- Data logger for 100 recordings with 100,000 data points each
- Stainless steel probe for measuring food such as sausages, meat, cheese
- with ISO calibration certificate

Advantage:
- 32 GB internal memory
- High accuracy ±0.002 pH + 2 digits
- Users with password protection
- Permanent measurement verification (PMV) with coloured bars, measured value is displayed in relation to the calibration range

Delivery:
with PCE-PH-FOOD pH electrode for food hygiene, temperature sensor, USB-C cable, quick start guide, ISO calibration certificate, in service bag

Notes:
Electrode for redox measurement not included in scope of delivery.

Type description		PCE-PH 228M
41580...	Ident. No.	202 ○

Prod. Gr. 4AD

Vibration measuring instrument

battery-powered, with measured value storage and data logger

Application:
For the rapid testing of oscillation/vibrations e.g. on machines and systems. This vibration measuring instrument directly displays the vibration acceleration, the vibration velocity and the vibration displacement.

Execution:
- robust plastic housing
- high-contrast, backlit, 2.8 inch colour LCD display
- Measuring functions: RMS, peak, peak-peak, crest factor
- PCE-VT 3xxx SENSOR with spiral cable
- internal memory for 99 folders, each containing 50 measured values
- Data logger with 50 memory locations, each with space for 43,200 measured values
- **Ident. No. 612, 618:** PCE-VT VMH magnetic adapter
- **Ident. No. 615, 621:** PCE-VT NP needle sensor
- **Ident. No. 618–621:** Headphones

Advantage:
- automatic ISO 10816-3 assessment
- easy-to-understand, reliable user guidance

Ident. No. 612

Ident. No. 615

Ident. No. 618

Ident. No. 621

Type description		PCE-VT 3800	PCE-VT 3800S	PCE-VT 3850	PCE-VT 3850S
Min./max. overall vibration RMS measuring range		0-399.9 mm/s	0-399.9 mm/s	0-399.9 mm/s	0-399.9 mm/s
Frequency range overall vibration		10-10000 Hz	10-10000 Hz	10-10000 Hz	10-10000 Hz
Measuring range min./max.		0-3.9 mm	0-3.9 mm	0-3.9 mm	0-3.9 mm
48601...	Ident. No.	612 ○	615 ○	618 ○	621 ○

Prod. Gr. 4AD

Vibration measuring instrument

battery-powered, with measured value storage and data logger, with FFT analysis and route measurement

Application:
For the rapid testing of oscillation/vibrations e.g. on machines and systems. This vibration measuring instrument directly displays the vibration acceleration, the vibration velocity and the vibration displacement.

Execution:
- robust plastic housing
- high-contrast, backlit, 2.8 inch colour LCD display
- Measuring functions: RMS, peak, peak-peak, crest factor
- PCE-VT 3xxx SENSOR with spiral cable
- internal memory for 99 folders, each containing 50 measured values
- Data logger with 50 memory locations, each with space for 43,200 measured values
- includes FFT analysis and route measurement
- **Ident. No. 624, 630:** PCE-VT VMH magnetic adapter
- **Ident. No. 627, 633:** PCE-VT NP needle sensor
- **Ident. No. 630–633:** Headphones

Advantage:
- automatic ISO 10816-3 assessment
- easy-to-understand, reliable user guidance

Notes:
In FFT mode, the frequency spectrum for the measured vibration velocity or vibration acceleration is calculated and displayed. The calculated FFT lines are displayed in a graphic representation in an overall view for the entire frequency band and in a zoom view to display the individual lines. The route measurement has been specifically designed with recurring measurements at identical measuring points in mind. This enables the organised measurement of different measuring points. For this reason and due to its comprehensive measuring functions, the vibration measuring instrument is used for machine maintenance and repair tasks.

Ident. No. 624

Ident. No. 627

Ident. No. 630

Ident. No. 633

Type description		PCE-VT 3900	PCE-VT 3900S	PCE-VT 3950	PCE-VT 3950S
Min./max. overall vibration RMS measuring range		0-399.9 mm/s	0-399.9 mm/s	0-399.9 mm/s	0-399.9 mm/s
Frequency range overall vibration		10-10000 Hz	10-10000 Hz	10-10000 Hz	10-10000 Hz
Measuring range min./max.		0-3.9 mm	0-3.9 mm	0-3.9 mm	0-3.9 mm
48601...	Ident. No.	624 ○	627 ○	630 ○	633 ○

Prod. Gr. 4AD

Belt tension measuring instrument

Application:
For fast, accurate measurements of belt tension and belt vibration frequency on e.g. machines and plants.

Execution:
- Belt tension displayed in N
- 6 menu languages: German, English, Spanish, French, Italian, Dutch
- Memory for 750 measured values
- Sensor on goose neck
- Input belt length and weight
- Measuring range: 10 to 900 Hz
- Precision: ± (1 % of measured value + 4 digit)
- Repeat accuracy: ± 1 Hz
- Resolution: <100 Hz: 0.1 Hz, >100 Hz: 1 Hz
- **Ident. No. 050:** Sensor length: 16 cm
- **Ident. No. 055:** Sensor length: 25 cm

Advantage:
- Calculates tensioning force/pre-tension
- internal memory for 750 measured values in 15 folders of 50 measured points each

Delivery:
Belt tension measuring device, standard sensor head, 3x 1.5 V AA batteries, operating instructions, carry bag, software for download

Ident. No. 055

Ident. No. 050

Type description		PCE-BTM 2000A	PCE-BTM 2000L
Min./max. belt frequency		10-900 Hz	10-900 Hz
48601...	Ident. No.	050 ○	055 ○

Prod. Gr. 4AD

Multi-function vibration measuring device MC 1100

for measuring vibration, speed, temperature and belt tension

Application:
MC 1100 is suitable for measuring vibrations on machines and plants, for assessing the roller bearing state, control of the machine speed, detection of critical operating ranges and for early damage detection. With optional accessories, also for measuring temperature and belt tension.

Execution:
- Robust plastic housing
- High-contrast, backlit LCD display (122x32 pixels)
- 1x BNC measuring input for vibration sensors
- 1x mounting socket, 5-pin for frequency/temperature sensors
- incl. acceleration sensor HMA 1140 (100mV/g) with 1.5m cable length
- Device dimensions (w x h x d): 80x160x40mm

Advantage:
- Ideal for assessing the vibration condition of rotating machines according to ISO 10816 - 1 to 6.
- Easy-to-understand, reliable user guidance
- Collection of key measured variables in one measuring instrument
- Portable and quick to use
- Meter already calibrated at delivery

Delivery:
Measuring instrument, acceleration sensor HMA 1140, sensor tip, magnetic base, charger and transport case

Min./max. overall vibration RMS measuring range				0-999.9 mm/s
Min./max. rolling bearing condition after SP measuring range				0-999.9 g
Min./max. rotation speed				30-200000 1/min
Min./max. rotation-speed measuring range				30-200000 1/min
Frequency range overall vibration				1-1000 Hz | 10-1000 Hz | 10-10000 Hz
Min./max. belt frequency				10-1000 Hz
Min./max. frequency range rolling bearing condition				5-50 kHz
Width x height x depth				80 x 160 x 40 mm
Multi-function vibration measuring device MC 1100	48601...		Ident. No.	010 ●
03 Accessories for vibration and balancing machines	48601...	belt frequency probe for MC 1100	Ident. No.	020 ●
	48601...	temperature sensor for MC 1100	Ident. No.	030 ○

Prod. Gr. 4AS

Vibration and balancing machine EasyBalancer EB 3500

without and with roller bearing condition gSP MI/EB function

Application:

EasyBalancer EB 3500 is specially designed for balancing sanding discs and grinding spindles. The positions of the sliding weights for correcting the unbalance are determined automatically. Ideal for field balancing sanding discs or spindles, assessing balancing quality, measuring the overall vibration, measuring unbalancing vibrations, evaluating the machine and plant status, measuring the vibration of bearing and machine housings, measuring speed and measuring the rolling bearing condition.

Execution:

- high-resolution 3.5 inch touchscreen display
- USB interface for data transfer
- two sensor connections: 1x measuring input and 1x speed input
- **Ident. No. 105:** Roller bearing condition gSP MI/EB function is **optional and/or retrofit**
- **Ident. No. 107:** incl. roller bearing condition gSP MI/EB function, software-controlled

Advantage:

- Simple user guidance with high-resolution touchscreen
- Measurement data is transferred via USB interface to the PC
- Create tailored measurement protocols using the PC program
- For mobile use with measurement data memory function

- **Ident. No. 105:** Balance and measure optional vibration in one device
- **Ident. No. 107:** Balance and optionally measure vibration in a single device

Delivery:

Ident. No. 105: EasyBalancer EB 3500, power supply and charging adapter, vibration sensor HMA 1140, cable length 5 m, retaining magnet for vibration sensors, reflective tape 0.5 m, speed sensor A1S30P with magnetic stand and connecting cable 3 m, USB cable, USB stick with PC program and operating instructions, transport case

Ident. No. 107: EasyBalancer EB 3500, power supply and charging adapter, HMA 1140 vibration sensor, cable length 5 m, retaining magnet for vibration sensors, reflective tape 0.5 m, A1S30P speed sensor with magnetic stand and connecting cable 3 m, USB cable, USB flashdrive with PC program and operating instructions, transport case

Notes:

Ident. No. 107: Roller bearing condition gSP MI/EB function: This software extension can be used to assess whether the roller bearings are damaged. The measurement is performed using the vibration sensors that come with the device set. The overall vibration is the basis for assessing the condition of machines and plants in accordance with **DIN ISO 10816_3.**

Ident. No. 105

Min./max. rotation speed			180-200000 1/min	180-200000 1/min
Data transmission type			USB	USB
Min./max. rotation-speed measuring range			30-200000 1/min	30-200000 1/min
Frequency range overall vibration			10-1000 Hz	10-1000 Hz
Min./max. rolling bearing condition after gSP measuring range			5-50 kHz	5-50 kHz
Min./max. display range of effective value			0-1 mm/s	0-1 mm/s
Min./max. display range of peak value			0-1000 µm	0-1000 µm
Min./max. frequency range rolling bearing condition			-	5-50 kHz
48601...	Without rolling bearing condition gSP MI/EB function	Ident. No.	105 ●	-
48601...	With roller bearing condition gSP MI/EB function	Ident. No.	-	107 ○

Prod. Gr. 4AS

Scale rings with dual scale

for vibration and balancing machine EasyBalancer EB 3500/MI 2500

Application:

The EasyBalancer displays the position in degrees, at which the balance weights are to be positioned. The scale rings with a degree scale 0-360° serve as a positioning aid.

Execution:

- Scale rings made of aluminium, blue anodized
- Engraving as a double scale 0-360°

Outer Ø (mm)		150	200	250	300	350
Internal Ø (mm)		100	150	200	250	300
Thickness (mm)		2	2	2	2	2
48601...	Ident. No.	110 ○	120 ●	130 ○	140 ○	150 ○

Prod. Gr. 4AS

hanhart Addition stopwatch

Application:
For timing with interruption options. Can be used universally as a single-stop or double-stop device. Press the right-hand button to start, press the crown to stop as often as required, press the left-hand button to reset

Execution:
- ABS plastic housing
- Shock resistant
- Pin-lever movement
- 1 jewel
- Wind at the rear
- Unbreakable mainspring
- With lanyard

Advantage:
- Universal use as a single-stop and addition stop watch

	Scale value, time (s)	Display time (min)	Ø (mm)		
39026...	0.1	15	55	Ident. No.	010 ●

Prod. Gr. 391

ORION Electronic stopwatches

Application:
For universal timing using different functions.

Execution:
- Black plastic housing
- LCD display
- Digit increment 1/100
- **No. 39070:**
  - Functions: Time per lap, number of laps, split time, fastest/slowest time/average lap time
- 10 memory slots

Technical data:
- Acoustic signal: Yes
- With timing: Yes
- With forward/reverse counting: Yes
- With time indicator: Yes
- With date and weekday indicator: Yes
- Width: 64 mm
- Height: 86 mm

No. 39070

No. 39082

Digit height (mm)	39070... Ident. No.		39082... Ident. No.	
6	010	●	-	-
11	-	-	010	●

Prod. Gr. 301

hanhart Large stopwatches

Application:
For timing when a large display is required.

Execution:
- **No. 39090:**
  - Quartz-controlled analogue stop watch
  - Dial diameter 110 mm
  - Functions: Start/stop, addition function, reset
  - Luminescent pointer
  - Can be used as a table-top or wall-mounted model
- **No. 39092:**
  - Electronic digital stop watch
  - Large 2-row LCD display with 8/22 mm digit size
- Stopwatch function with 4 timers
- Loud alarm signal
- Standard time display
- Programmable sequence
- Switchable time resolution in 1/10 s or 1/100 min.

Delivery:
No. 39090: Battery (1x 1.5 V, type AA)
No. 39092: With battery (1x 1.5 V, type AA)

Technical data:
- Width: 130 mm
- Height: 175 mm
- Depth: 40/95 mm

No. 39090

No. 39092

Display area of dial gauge	39090... Ident. No.		39092... Ident. No.	
Outer scale: 0-60 s | 0-60 min | Inner scale: 1-100 min	050	●	-	-
999 min. | 99/100 min. | 9 hr. | 59 min. | 59 sec. | 1/10 sec.	-	-	050	●

Prod. Gr. 391

Handheld stroboscope

Model with white light

Application:
Determining and monitoring rotation speed or oscillation frequency of rotating or vibrating systems without interrupting the production process. In places that are difficult to access, on particularly delicate systems, and for detecting undesirable oscillation resonances. Suitable for inspecting motors, turbines, pumps, ventilators, centrifuges, systems for paper and film manufacturing, vibrating tables, vibrating and oscillating screens. **Measurement principle:** The stroboscope works with an infinitely variable light frequency. For the purposes of the test, the stroboscope is pointed towards the object and the flash frequency is adjusted by actuating the corresponding keys. If the flash frequency of the stroboscope matches the flash frequency of the test object, this object will be displayed as a stationary image. The frequency indicated on the display corresponds to the rotation speed of the object.

Execution:
- Flash frequency adjustable in FPM and Hz
- Digital pulse width modulation
- Phase shift -360° to +360°
- Frequency +60 FPM to 9,999.99 FPM, resolution 0.01 FPM
- Frequency +10,000 FPM to 300,000 FPM, resolution 0.1 FPM
- Frequency +1 Hz to +5,000 Hz, resolution 0.01 Hz
- **Ident. No. 040:**
  - White-light LEDs
  - Brightness: 3 high-power LEDs, light colour 6,500 K
  - 6,160 lux at 30 cm/1,000 Hz
- **Ident. No. 042:**
  - 3 high-power UVA LEDs, flash colour 365 to 370 nm
  - Intensity: 202 µW/cm² at 30 cm
- **Ident. No. 042–044:** UV-light LEDs
- **Ident. No. 044:**
  - 3 high-power UVA LEDs, flash colour 380 to 390 nm
  - Intensity: 317 µW/cm² at 30 cm

Advantage:
- quick adjustment with x2 and ÷2 buttons
- Intuitive control buttons and user-friendly display
- Rechargeable lithium battery

Delivery:
with USB-C cable, quick start guide, in service bag

Technical data:
- Error limit (%): 0.001 %
- Width: 90 mm
- Height: 35 mm
- Depth: 165 mm
- IP protection class: IP 52

Ident. No. 040

Ident. No. 042

39350...		Ident. No.	040 ○
39350...	365 to 370 nm	Ident. No.	042 ○
39350...	380 to 390 nm	Ident. No.	044 ○

Prod. Gr. 4AD

Handheld stroboscope

RT Strobe Pocket LED

Application:
determining and monitoring rotation speed or oscillation frequency of rotating or vibrating systems without interrupting the production process. in places that are difficult to access, on particularly delicate systems, and for detecting undesirable oscillation resonances. suitable for inspecting motors, turbines, pumps, ventilators, centrifuges, systems for paper and film manufacturing, vibrating tables, vibrating and oscillating screens. **measurement principle:** the stroboscope works with infinitely adjustable light frequency. for the purposes of the test, the stroboscope is pointed towards the object and the flash frequency is adjusted by actuating the corresponding keys. if the flash frequency of the stroboscope does not concur with the flash frequency of the test object, this object is indicated visually as a stationary image. the frequency indicated on the display corresponds to the rotation speed of the object.

Execution:
- Latest LED technology
- Continuously adjustable light frequency
- High illuminance across the entire frequency range
- High adjustment accuracy and stability
- Adjustable flash duration
- Frequency range 30...300,000 FPM

Delivery:
Stroboscope, batteries 3 x 1.5 V type AA, case

Technical data:
- Number of LEDs: 6 PCS
- Error limit (%): 0.02 %
- Width: 95 mm
- Height: 195 mm
- Depth: 50 mm
- IP protection class: IP 65

39355...	Ident. No.	025 ●

Prod. Gr. 392

RT Strobe pocketLED Laser handheld stroboscope

with and without trigger function

Technical data:
- Number of LEDs: 6 PCS
- Min./max. frequency range stroboscope: 30-999999 FPM
- Error limit (%): 0.02 %
- Width: 82 mm
- Height: 191 mm
- Depth: 60 mm
- IP protection class: IP 65

NEW

Ident. No. 030

39355...	Ident. No.	030 ○ 035 ○

Prod. Gr. 392

RT strobe qbLED handheld stroboscope

with 40 LEDs or 118 LEDs

Technical data:
- Min./max. frequency range stroboscope: 30-300000 FPM
- Error limit (%): 0.02 %
- Width: 150 mm
- Height: 112 mm
- Depth: 130 mm
- IP protection class: IP 30

NEW

Ident. No. 040

Ident. No. 045

Number of LEDs (PCS)		40	118
39355...	Ident. No.	040 ○	045 ○

Prod. Gr. 392

Electronic hand-held tachometer

Application:
For non-contact and contact (mechanical) rotational speed measurements, as well as contact (mechanical) speed and length measurements

Execution:
- Non-contact measurement using red, modulated light beam and reflective markers
- Mechanical measurement using adapter and attachable contact tips (male taper) or hollow measuring tip (female taper)
- For the speed measurement (peripheral speed or belt speed) as well as length measurement, a measuring wheel is placed on the adapter
- 5 digit LCD display
- Error limit: 0.02% of display value (± 1 digit increment)
- Update time: 1 s
- Measuring distance: optical max. 600 mm (non-contact measurement)
- Memory function: last value measured, maximum value, minimum value, mean
- Shutdown: automatically 30 s after last key press, measured value saved
- Housing: Plastic with holster

Delivery:
Case with basic device, adapter, measuring tip, hollow measuring tip, measuring wheels 0.1 m and 6 inch (cylindrical running surface), extension shaft, 10 reflective markers, 2 x 1.5 V AA batteries, calibration certificate, operating instructions

Technical data:
- Max. rotation speed of measuring range (contact): 19999 rpm
- Max. speed measurement of measuring range: 1999 m/min
- Max. measurement distance: 600 mm
- Error limit (%): 0.02 %

Electronic hand-held tachometer	39330...		Ident. No.	050 ●
02 Accessories for rev counters	39320...	Reflective tape	Ident. No.	502 ●
	39330...	Reflective markers	Ident. No.	055 ●

Prod. Gr. 392
Spare parts and more accessories available upon request.

ORION® Electronic hand-held tachometer

Application:
For non-contact rotational speed measurement

Execution:
- Non-contact measurement using a red, modulated light beam and a reflection marker
- 5 digit LCD display
- Error limit: 0.02% of display value (± 1 digit increment)
- Update time: 1 s
- Measuring distance: optical max. 600 mm
- Memory function: last value measured, maximum value, minimum value, mean
- Shutdown: automatically 30 s after last key press, measured value saved
- Housing: Plastic with holster

Delivery:
Case with basic device, reflection markers, 2 x 1.5 V AA batteries, calibration certificate, operating instructions

Technical data:
- Max. measurement distance: 600 mm
- Error limit (%): 0.02 %

39350...	Ident. No.	025
		●

Prod. Gr. 301

PCE INSTRUMENTS Ultrasonic flow gauge

with a pair of sensors, with and without heat quantity measurement

Application:
For measuring flow velocity, volume flow and volume. After entering the pipe and medium specifications, the flow velocity, volume flow and volume are displayed.

Execution:
- Data storage for 10 million measured values
- Measuring range: ±32 m/s
- Resolution: 0.001 m/s
- Precision: DN ≥50 mm: ±1.5 % of MV for speeds of > 0.3 m/s
- Precision: DN <50 mm: ±3.5 % of MV for speeds of > 0.3 m/s
- Reproducibility: ±0.5 % of measured value
- **Ident. No. 002, 006, 018:** without heat quantity measurement
- **Ident. No. 002–004:** incl. 2x L sensors for pipe diameters DN 300/up to 6,000 mm
- **Ident. No. 004, 008, 020:** with heat quantity measurement via two temperature sensors TF-RA330
- **Ident. No. 006–008:** incl. 2x M sensors for pipe diameters DN 15 to 100/20 mm to 108 mm
- **Ident. No. 018–020:** incl. 2x S sensors for pipe diameters DN 15 to 100/20 mm to 108 mm

Advantage:
- for various media and pipe materials

Ident. No. 004

Ident. No. 008

Ident. No. 020

Type		PCE-TDS 200 S	PCE-TDS 200+ S	PCE-TDS 200 M	PCE-TDS 200+ M	PCE-TDS 200 L	PCE-TDS 200+ L
48602...	Ident. No.	018	020	006	008	002	004
		○	○	○	○	○	○

Prod. Gr. 4AD

PCE INSTRUMENTS Ultrasonic flow gauge

with two or three pairs of sensors, with and without heat quantity measurement

Application:
For measuring flow velocity, volume flow and volume. After entering the pipe and medium specifications, the flow velocity, volume flow and volume are displayed.

Execution:
- Data storage for 10 million measured values
- Measuring range: ±32 m/s
- Resolution: 0.001 m/s
- Precision: DN ≥50 mm: ±1.5 % of MV for speeds of > 0.3 m/s
- Precision: DN <50 mm: ±3.5 % of MV for speeds of > 0.3 m/s
- Reproducibility: ±0.5 % of measured value
- **Ident. No. 010, 022, 026, 034:** without heat quantity measurement
- **Ident. No. 010–012, 026–036:** incl. 2x M sensors for pipe diameters DN 15 to 100/20 mm to 108 mm
- **Ident. No. 010–024, 034–036:** incl. 2x L sensors for pipe diameters DN 300/up to 6,000 mm
- **Ident. No. 012, 024, 028, 036:** with heat quantity measurement via two temperature sensors TF-RA330
- **Ident. No. 022–036:** incl. 2x S sensors for pipe diameters DN 15 to 100/20 mm to 108 mm

Advantage:
- for various media and pipe materials

Ident. No. 012

Ident. No. 024

Ident. No. 028

Ident. No. 036

Type		PCE-TDS 200 SM	PCE-TDS 200+ SM	PCE-TDS 200 SL	PCE-TDS 200+ SL	PCE-TDS 200 ML	PCE-TDS 200+ ML	PCE-TDS 200 SML	PCE-TDS 200+ SML
48602...	Ident. No.	026 ○	028 ○	022 ○	024 ○	010 ○	012 ○	034 ○	036 ○

Prod. Gr. 4AD

Ultrasonic flow gauge

with pair of sensors, with and without heat quantity measurement

Application:
For measuring flow velocity, volume flow and volume. After entering the pipe and medium specifications, the flow velocity, volume flow and volume are displayed.

Execution:
- Data storage for 10 million measured values
- Measuring range: ±32 m/s
- Resolution: 0.001 m/s
- Precision: DN ≥50 mm: ±1.5 % of MV for speeds of > 0.3 m/s
- Precision: DN <50 mm: ±3.5 % of MV for speeds of > 0.3 m/s
- Reproducibility: ±0.5 % of measured value
- **Ident. No. 014, 030:** without heat quantity measurement
- **Ident. No. 014–016:** incl. 2x MR sensors for pipe diameters DN 50 to 700/57 mm to 720 mm
- **Ident. No. 016, 032:** with heat quantity measurement via two temperature sensors TF-RA330
- **Ident. No. 030–032:** incl. 2x SR sensors for pipe diameters DN 15 to 100/20 mm to 108 mm

Advantage:
- for various media and pipe materials

Ident. No. 016

Ident. No. 032

Type		PCE-TDS 200 SR	PCE-TDS 200+ SR	PCE-TDS 200 MR	PCE-TDS 200+ MR
48602...	Ident. No.	030 ○	032 ○	014 ○	016 ○

Prod. Gr. 4AD

Phase tester, single-pole and non-contact voltage tester

with LCD display and glow lamp

Application:
Phase tester with LCD display, single-pole, for 12-230 V AC and 12-48 V DC, as well as non-contact voltage tester for direct voltage (e.g. automotive) and alternating voltage (electrical installations).

Execution:
- Direct or non-contact voltage testing
- Slotted screwdriver for cable terminals and contactor switches

Advantage:
- Direct or non-contact voltage testing
- Suitable for direct voltage (automotive) and alternating voltage (electrical installations)
- No battery required

Technical data:
- Display: LCD | Glow lamp
- Phase sequence test: Yes
- Length x width x height: 130 x 21 x 19 mm
- Overvoltage protection category: CAT II/300 V

75018...	Ident. No.	295 ●

Prod. Gr. 4CG

Two-pole voltage testers (EN standard 61243-3)

Model testo 750-1/750-2/750-3

Application:
Ideally suited for testing electrical systems and devices for voltage or absence of voltage. Thanks to the LED all-round display and unique fibre-optic light guide technology, the voltage indication is clearly and distinctly visible from any position.

Execution:
- Clear, patented LED all-round display
- Large fibre-optic light guide for optimal voltage indication
- Robust housing with ergonomic handle and anti-slip ring
- **Ident. No. 205–210:**
  - Additionally suitable for single-pole voltage testing for rapid determination of live conductors
  - Additionally suitable as a continuity tester and for rotary field measurements
  - Includes RCCB tripping function for testing fault current circuit breakers
  - Includes vibrating load keys to avert the accidental execution of trigger tests
  - Built-in pocket torch for illuminating measuring points in darkness
- **Ident. No. 210:** LCD display for current measurement display

Delivery:
Voltage tester incl. 2x batteries AAA, test tip protection, measuring tip attachments, calibration log and operating instructions

Ident. No. 200

Model			testo 750-1	testo 750-2	testo 750-3
Display			-	-	LCD
Min./max. voltage range AC			12-690 V/AC	12-690 V/AC	12-690 V/AC
Min./max. voltage range DC			12-690 V/DC	12-690 V/DC	12-690 V/DC
Min./max. frequency			50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Rotating field test			Yes	Yes	Yes
Phase sequence test			No	Yes	Yes
Length x width x height			270 x 65 x 35 mm	270 x 70 x 35 mm	270 x 70 x 35 mm
IP protection class			IP 64	IP 64	IP 64
Weight (g)			230	295	295
Overvoltage protection category			CAT III/1000 V | CAT IV/600 V	CAT III/1000 V | CAT IV/600 V	CAT III/1000 V | CAT IV/600 V
Min./max. working temperature			-10 to 50 °C	-10 to 50 °C	-10 to 50 °C
Two-pole voltage testers	75017...	Ident. No.	200 ●	205 ●	210 ●
05 Voltage tester accessories	75017...	Ident. No.	250 ○	250 ○	250 ○

Prod. Gr. 4CF

Current voltage tester (EN standard 61243-3)

Model testo 755-1/755-2

Application:
Voltage tester with current measurement, suitable for testing electrical circuits, voltage or absence of voltage in systems, as well as for current flow or current consumption and continuity testing. The voltage tester automatically detects and selects all electrical parameters.

Execution:
- **Ident. No. 455:**
  - Incl. rotary field test 100 to 690V/ AC at 50/60 Hz
  - Including single-pole phase testing 100 to 690V/ AC at 50/60 Hz

Advantage:
- Suitable for almost all electrical measuring tasks such as DC voltage, AC voltage, **AC current** and ohm resistance
- Simple and safe operation thanks to automatic measured variable detection
- Particularly user-friendly thanks to replaceable test tips
- Built-in pocket torch for illuminating measuring points in darkness
- DIN-EN 61243-3:2014 and DIN EN 61010-1:2011 certified

Delivery:
Current-voltage tester incl. 2x batteries AAA, measuring tips, measuring tip attachments, calibration log and operating instructions.

Ident. No. 450 Ident. No. 455

Model				testo 755-1	testo 755-2
Min./max. alternating current of measuring range				0.1 A-200 A	0.1 A-200 A
Min./max. electrical-resistance measuring range				1 Ohm-100 kOhm	1 Ohm-100 kOhm
Min./max. frequency				50 / 60 Hz	50 / 60 Hz
Overvoltage protection category				CAT III/1000 V | CAT IV/600 V	CAT III/1000 V | CAT IV/600 V
Length x width x height				199 x 62 x 40 mm	199 x 62 x 40 mm
Current voltage tester	75024...		Ident. No.	450 ●	455 ●
05 Voltage tester accessories	75024...	Carrying case	Ident. No.	457 ○	457 ○
	75024...	Replacement measuring tip set	Ident. No.	459 ●	459 ●

Prod. Gr. 4CF

BENNING Two-pole voltage testers (EN standard 61243-3)

With the VDE mark

Application:

Ident. No. 027–037: for use in all installation fields and renewable energy sectors. CAT IV 690 V, CAT III 1000 V. Tested and approved in line with DIN EN 61243-3(VDE 0682-401):2015.

Ident. No. 056: For checking that cables are de-energised, also suitable for very robust applications up to 600 V AC/DC.

Execution:

- **Ident. No. 027:** Continuity test (acoustic/optical) Cable breakage detector Diode test Voltage indication from 50 V even with empty batteries TRUE RMS high voltage display
- **Ident. No. 032:** Continuity test (acoustic/optical) Cable breakage detector Voltage indication from 50 V even with empty batteries High voltage display
- **Ident. No. 037:**
  - no batteries required
  - displays high voltages
- **Ident. No. 056:**
  - Complies with DIN EN 61243-3:2015 and IEC 61243-3:2014
- Can be used on electric circuits in overvoltage categories up to CAT III 600 V and CAT II 690 V
- tester handle locking mechanism for single-handed operation on sockets and for safe storage
- cable break detector (from an alternating voltage of approx. 200 V)
- external conductor tester (single-pole external conductor test possible in earthed systems)
- fully functional voltage display if batteries are flat or removed

Ident. No. 027

Ident. No. 032

Ident. No. 037

Ident. No. 056

Model				PROFIPOL+	DUSPOL, analogue	DUSPOL expert	DUSPOL digital
Display				LED | Audible	LED/moving coil	LED | Audible	LED/LCD | Audible
Min./max. voltage range AC				12-690 V/AC	12-1000 V/AC	12-1000 V/AC	1-1000 V/AC
Min./max. voltage range DC				12-690 V/AC	12-1000 V/DC	12-1000 V/DC	1-1200 V/DC
Min./max. frequency				-	-	-	1 / 1000 Hz
Min./max. continuity test				0-100 kOhm	-	0-100 kOhm	0-100 kOhm
Min./max. electrical-resistance measuring range				-	-	-	0.1 kOhm-300 kOhm
Rotating field test				No	Yes	Yes	Yes
Phase sequence test				Yes	Yes	Yes	Yes
Polarity testing				Yes	Yes	Yes	Yes
Vibration control system				No	Yes	Yes	Yes
Measurement point lighting				No	No	Yes	Yes
Length x width x height				-	330 x 85 x 55 mm	330 x 85 x 55 mm	330 x 85 x 55 mm
IP protection class				IP 54	IP 65	IP 65	IP 65
Weight (kg)				0.190	0.350	0.370	0.380
Overvoltage protection category				CAT III/600 V | CAT II/690 V	CAT IV/600 V | CAT III/1000 V	CAT IV/600 V | CAT III/1000 V	CAT IV/600 V | CAT III/1000 V
Two-pole voltage testers	75017...		Ident. No.	056 ●	037 ●	032 ●	027 ●
05 Voltage tester accessories	75017...	DUSPOL quick-access case	Ident. No.	111 ●	111 ●	111 ●	111 ●
	75017...		Ident. No.	120 ●	120 ●	120 ●	120 ●

Prod. Gr. 7AH

BENNING Phase, rotational field and magnetic field testers

TRITEST® easy, VT1 and VT2

Application:

For quick and easy phase testing on sockets, branches, switches and lamps

Execution:

- LED blink frequency and signal tone frequency proportional to voltage level
- Capacitive measurement process requires no current flow
- **Ident. No. 110:** Rotational field testing via green/red LED probe tip (right-hand/left-hand)
- **Ident. No. 120–130:**
- Contactless testing, no contact with electrical cables is required
- VT2: Magnetic field test using green LED probe tip (magnet activated)

Advantage:

- **Ident. No. 110:** Simple testing of rotational field direction (L1-L2-L3) in alternating current networks using illuminating green LED probe tip = right-hand field
- illuminating red LED probe tip = left-hand field

Delivery:

Includes Batteries, pen clip

Ident. No. 110

Ident. No. 130

Model			TRITEST easy	VT 1	VT 2
Display			LED | Audible	LED | Audible	LED | Audible
Min./max. voltage range AC			200-1000 V/AC	200-1000 V/AC	12-1000 V/AC
Overvoltage protection category			CAT IV/600 V | CAT III/1000 V	CAT IV/600 V | CAT III/1000 V	CAT IV/600 V | CAT III/1000 V
75018...	TRITEST easy	Ident. No.	110 ●	-	-
75018...	VT 1	Ident. No.	-	120 ●	-
75018...	VT 2	Ident. No.	-	-	130 ●

Prod. Gr. 7AH

Contactless voltage tester (EN standard 61326-1 | 61010-1 (VDE 0411-1))

Model testo 745

Application:
With the testo 745 non-contact voltage tester, you can quickly and easily determine the voltage or absence of voltage.

Advantage:
- Filters for high-frequency interference signals, thus more reliable voltage indication
- Visual and audible warning signal when AC voltage is detected
- Adjustable sensitivity in two levels: Stage 1 for phase determination, stage 2 for voltage indication
- Built-in pocket torch for illuminating measuring points in darkness
- Waterproof and dustproof according to degree of protection IP 67

Delivery:
Non-contact voltage tester testo 745 including 2x AAA batteries, calibration log and operating instructions.

Model		testo 745
Min./max. voltage range AC		12-1000 V/AC
Overvoltage protection category		CAT III/1000 V | CAT IV/600 V
75018...	Ident. No.	200 ●

Prod. Gr. 4CF

Laserliner Contactless voltage tester

ActiveFinder Pro model

Application:
Professional contactless voltage tester to locate electrical wiring and equipment

Execution:
- For cables, sockets, lamp sockets, fuses, switch cabinet and system parts
- To find live wires
- Finds line breaks in wires and cables
- Displays electrical voltages with two-colour LED signalling and acoustic warning
- Colour differentiates between voltages <100 V (green) and voltages >100 V (red)
- Built-in, bright torch

Delivery:
including batteries (2x AAA), in transport bag

Model		ActiveFinder Pro
Display		Audible | LED
Min./max. voltage range AC		100-1000 V
Overvoltage protection category		CAT IV/1000 V
75019...	Ident. No.	000 ●

Prod. Gr. 3EE

PANCONTROL.at PAN 400FI voltage tester

With LED indicator

Technical data:
- Length x width x height: 241 x 65 x 27 mm
- Overvoltage protection category: CAT III/400 V

75017...	Ident. No.	305 ●

Prod. Gr. 4CG

MV-1000AD voltage/continuity tester

With LED and illuminated digital LCD display

Technical data:
- Display: LED
- Min./max. electrical-resistance measuring range: 1 Ohm-1999 Ohm
- Rotating field test: Yes
- Phase sequence test: Yes
- Length x width x height: 260 x 74 x 34 mm
- IP protection class: IP 64
- Overvoltage protection category: CAT III/1000 V | CAT IV/600 V

75017...	Ident. No.	315 ●

Prod. Gr. 4CG

Electrostatic meter

PCE-SFS 10

Application:
For detecting and measuring electrostatic charges and voltage fields. Non-contact measurement prevents accidental discharges.

Execution:
- Broad measuring range up to ±60 kV DC
- HOLD button for keeping the measured value on the display
- Simultaneous measurement of air temperature and relative humidity
- Two laser points for correcting the measurement distance
- ECO mode for switching off the display illumination
- Battery life of up to 20 hours

Delivery:
with earthing cable, 9 V block battery, operating instructions, in service bag

Technical data:
- Type description: PCE-SFS 10

48406...	Ident. No.	020 ○

Prod. Gr. 4AD

DUTEST pro continuity tester (EN standard 61010)

For high and low resistance measurement

Application:
For detecting wiring faults and cable disruptions.

Execution:
- Acoustic test buzzer
- 3-stage LED display
- Cable break detector

Advantage:
- Buzzer volume (adjustable)
- Powerful high-performance LED pocket torch (adjustable)

Display		LED | Audible
Protected for external voltage up to (V/AC)		400
Min./max. continuity test		0-100 Ohm
Phase sequence test		Yes
Polarity testing		Yes
Overvoltage protection category		CAT III/300 V
75021...	Ident. No.	011 ●

Prod. Gr. 7AH

BENNING TRITEST pro rotation field direction indicator (EN standard 61557-7)

With high-performance LED pocket torch and magnetic hanger

Application:
For testing the rotation field direction in three-phase networks.

Execution:
- Displays “clockwise” or “anticlockwise rotation field” via green/red LED
- Displays phase voltages L1, L2 and L3 via red LED
- Powerful high-performance LED pocket torch
- Integrated magnet holder and belt clip on back of housing

Delivery:
Incl. three attachable 4 mm test tips and an alligator clip

Model		TRITEST Pro
Display		LED
Min./max. voltage range AC		400-500 V/AC
Overvoltage protection category		CAT III/300 V
75021...	Ident. No.	101 ●

Prod. Gr. 7AH

Laserliner CableTracer Pro line detector

with transmitter and receiver

Application:
For locating electrical cables, fuses, circuit breakers, metal pipes, interrupted cables and short circuits in existing installations

Execution:
- Non-contact tracing of the transmission signal by the receiver
- Can be used with or without mains voltage
- High frequency of 125 kHz
- DC and AC voltage display
- Signal coding allows the use of up to seven transmitters and one receiver
- Integrated AC voltage detector
- Permanent AC voltage warning
- integrated illumination of measuring points
- Clearly arranged, illuminated LC displays

Advantage:
- CableTracer RECV receiver with measuring range up to two metres

Delivery:
CableTracer TX transmitter, RECV receiver, connecting lines, measuring tips, measuring clamps, batteries (2x 9 V block), in case

Model		CableTracer Pro
Display		Digital
Overvoltage protection category		CAT II/300 V | CAT III/300 V
75019...	Ident. No.	011 ●

Prod. Gr. 3EE

PCE INSTRUMENTS Electrostatic measuring device

PCE-SFS 10

Application:
For detecting and measuring electrostatic charges and voltage fields. Non-contact measurement prevents accidental discharges.

Execution:
- Broad measuring range up to ±60 kV DC
- HOLD button for keeping the measured value on the display
- Simultaneous measurement of air temperature and relative humidity
- Two laser points for correcting the measurement distance
- ECO mode for switching off the display illumination
- Battery life of up to 20 hours

Delivery:
with earthing cable, 9 V block battery, operating instructions, in service bag

Technical data:
- Type description: PCE-SFS 10

48406...	Ident. No.	020 ○

Prod. Gr. 4AD

Magnetic field measuring device/magnetometer

Application:
For detecting and measuring static and fluctuating magnetic fields. For example, for testing solenoid valves, relays or transformers. Magnetic fields in already assembled systems can be measured through the housing.

Execution:
- Adjustable alarm function
- Data storage with PC connection
- Temperature measurement
- Switch between AC and DC measurement
- Sensor can be aligned using vial

Advantage:
- Very flat blade tip allows measurements to be carried out through small openings.
- Analysis of the measured data, live view and device operation are possible using the PC software.

Delivery:
with sensor, mini USB cable, software CD, 6x 1.5 V AAA batteries, power supply, operating instructions, in device case

Technical data:
- Type description: PCE-MFM 3500

48406...	Ident. No.	004 ○

Prod. Gr. 4AD

MMP3 pocket multimeter (EN standard 61010)

Small digital multimeter in leather case for universal use

Application:
For use in installation fields and simple, industrial fields.

Execution:
- Continuity/diode testing
- resistance/frequency measurement
- measured value storage (HOLD)

Delivery:
Includes leather case, batteries, permanently connected measuring leads

Model		MM P3
Display range		5000 digits
Measuring accuracy		+/- 0.6 %
Min./max. test voltage (DC)		100 µV/DC-600 V/DC
Min./max. test voltage (AC)		100 µV/AC-600 V/AC
Continuity testing		Yes
Diode testing		Yes
Min./max. electrical-resistance measuring range		0.1 Ohm-40 MOhm
Min./max. frequency		0.000000001 / 5 MHz
Volt sensor		No
Memory function		HOLD
Measuring procedure		RMS
Overvoltage protection category		CAT III/300 V
Length x width x height		132 x 86 x 19 mm
75021...	Ident. No.	200 ●

Prod. Gr. 7AH

Digital multimeter (EN standard 61010)

with voltage sensor function

Application:
Ideal for many measuring tasks in electrical trade, industry, service and HVAC engineering.

Execution:
- **Ident. No. 112:** Backlit digital display with 6,000 count resolution
- **Ident. No. 122–132:** TRUE RMS

Advantage:
- TRUE RMS measurement method for measuring non-linear signals
- Robust protective rubber frame for increased grip and impact resistance

Notes:
Ident. No. 122: extra features compared to BENNING MM 2-1: TRUE RMS current measurement (10 A AC/DC) protected via 1 kV HBC fuse and capacity measurement (10 mF)
Ident. No. 132: extra features compared to BENNING MM 2-2: Temperature measurement (-40 °C to +400 °C) incl. temperature sensor

Ident. No. 112

Ident. No. 122

Ident. No. 132

Model		MM 2-1	MM 2-2	MM 2-3
Display range		6000 digits	6000 digits	6000 digits
Min./max. test voltage (DC)		10 µV/DC-1000 V/DC	10 µV/DC-1000 V/DC	10 µV/DC-1000 V/DC
Min./max. test voltage (AC)		10 µV/AC-1000 V/AC	10 µV/AC-1000 V/AC	10 µV/AC-1000 V/AC
Min./max. alternating current of measuring range		-	1 mA-10 A	1 mA-10 A
Min./max. direct current of measuring range		-	1 mA-10 A	1 mA-10 A
Continuity testing		Yes	Yes	Yes
Diode testing		Yes	Yes	Yes
Min./max. continuity test		30-480 Ohm	30-480 Ohm	30-480 Ohm
Min./max. electrical-resistance measuring range		0.1 Ohm-60 MOhm	0.1 Ohm-60 MOhm	0.1 Ohm-60 MOhm
Min./max. frequency		0.01 / 50 kHz	0.01 / 50 kHz	0.01 / 50 kHz
Min./max. temperature measuring range		-	-	-40 to 400 °C
Volt sensor		Yes	Yes	Yes
Memory function		HOLD | MAX/MIN/AVG | REL	HOLD | MAX/MIN/AVG | REL	HOLD | MAX/MIN/AVG | REL
Measuring procedure		TRUE RMS	TRUE RMS	TRUE RMS
Overvoltage protection category		CAT III/600 V | CAT II/1000 V	CAT III/600 V | CAT II/1000 V	CAT III/600 V | CAT II/1000 V
Length x width x height		161 x 80 x 50 mm	161 x 80 x 50 mm	161 x 80 x 50 mm
75024...	Ident. No.	**112** ●	**122** ●	**132** ●

Prod. Gr. 7AH

PANCONTROL.at PAN 184 digital multimeter

with contactless voltage tester

Measuring accuracy		0,5 % – 5 %	0,5 % – 5 %
Min./max. test voltage (DC)		0.1 mV/DC-1000 V/DC	0.1 mV/DC-1000 V/DC
Min./max. test voltage (AC)		1 mV/AC-750 V/AC	0.1 mV/AC-750 V/AC
Min./max. alternating current of measuring range		10 µA/AC-10 A/AC	0.1 µA/AC-10 A/AC
Min./max. direct current of measuring range		0.01 µA/DC-10 A/DC	0.1 µA/DC-10 A/DC
Min./max. electrical-resistance measuring range		0.1 Ohm-60 MOhm	0.1 Ohm-60 MOhm
Min./max. frequency		0.000000001 / 10 MHz	0.000000001 / 10 MHz
Overvoltage protection category		CAT III/1000 V | CAT IV/600 V	CAT III/1000 V | CAT IV/600 V
Length x width x height		190 x 89 x 50 mm	194 x 90 x 56 mm
75024...	Ident. No.	**021** ●	**025** ●

Prod. Gr. 4CG

Ident. No. 021

Ident. No. 025

PANCONTROL.at PAN 188 digital multimeter

with Bluetooth® and USB interface

Measuring accuracy		0,7 % – 3 %
Min./max. test voltage (DC)		0.01 mV/DC-1000 V/DC
Min./max. test voltage (AC)		0.01 mV/AC-750 V/AC
Min./max. alternating current of measuring range		0.1 µA/AC-10 A/AC
Min./max. direct current of measuring range		0.1 µA/DC-10 A/DC
Min./max. electrical-resistance measuring range		0.1 Ohm-60 MOhm
Min./max. frequency		0.00000001 / 10 MHz
Overvoltage protection category		CAT III/1000 V | CAT IV/600 V
Length x width x height		195 x 93 x 54 mm
75024...	Ident. No.	**031** ●

Prod. Gr. 4CG

BENNING Digital multimeter (EN standard 61010)

with voltage sensor function

Application:
Ideal for many measuring tasks in electrical trade, industry, service and HVAC engineering.

Execution:
- TRUE RMS

Advantage:
- TRUE RMS, AC and AC+DC measurement method for measuring non-linear signals
- AutoV function for automatic AC/DC switching and measuring range selection
- LoZ function with low input impedance (more than 2 kΩ) for suppressing "reactive voltages"
- Quick continuity testing with visual and acoustic display (less than 100 µs)
- Socket control with warning (optical/acoustic) to protect against incorrect operation

Delivery:
Digital multimeter with integrated protective rubber frame, protective pouch, high-quality silicone test leads with gold-plated 2 mm and screw-on 4 mm measuring tip, temperature probe and battery set

Model		MM 7-2
Display range		6000 digits
Min./max. test voltage (DC)		10 µV/DC-1000 V/DC
Min./max. test voltage (AC)		10 µV/AC-1000 V/AC
Min./max. alternating current of measuring range		0.01 µA-10 A
Min./max. direct current of measuring range		0.01 µA-10 A
Continuity testing		Yes
Diode testing		Yes
Min./max. electrical-resistance measuring range		0.01 Ohm-60 MOhm
Min./max. frequency		0.000001 / 50 kHz
Min./max. temperature measuring range		-200 to 1090 °C
Volt sensor		Yes
Memory function		HOLD | PEAK-HOLD | MAX/MIN/AVG | REL
Measuring procedure		TRUE RMS AC | AC+DC
Overvoltage protection category		CAT III/600 V | CAT II/1000 V
Length x width x height		193 x 89 x 51 mm
75024...	Ident. No.	141 ●

Prod. Gr. 7AH

BENNING EV 3-2 test adapter/measuring adapter for e-charging stations

for BENNING MM 7-2 digital multimeter

Application:
Measuring adapter with Type 2 plug for simulating charging states and testing the effectiveness of protective measures on 1- and 3-phase e-charging stations. This measuring adapter has been specially designed for testing e-charging stations in combination
with a suitable installation tester such as the BENNING MM 7-2 (75024141).

Execution:
- Test socket and 4 mm sockets for easy connection to an installation tester
- Separate phase indication by three LEDs for easy voltage testing
- Proximity Pilot (PP) checks the charging cable coding for charging current limit
- Control Pilot (CP) simulates vehicle status A, B, C, D and E (short circuit between CP-PE)
- BNC connection for the CP signal output for testing with an oscilloscope
- Check the EVSE locking system from status B (charging cable enabling is blocked)
- Input voltage 1-phase: up to 250 V, 50 Hz-60 Hz/3-phase: up to 430 V, 50 Hz-60 Hz
- Maximum test current: 40 A (10 ms) periodic operation

Delivery:
Measuring adapter, protective pouch, operating instructions

75024...	Ident. No.	143 ○

Prod. Gr. 7AH

Accessories for		75024 143
75024... BNC adapter with 4 mm measuring sockets for BENNING MM 7-2 digital multimeter	Ident. No.	145 ○

BENNING TRUE RMS multimeter MM 10-PV

Digital multimeter for photovoltaic systems and applications with high system voltages

Application:
Digital multimeter for photovoltaic systems and applications with high system voltages

Execution:
- Data logger, memory function and Bluetooth(R) 4.0 low-energy interface
- Benning MM-CM app link for downloading, saving and sharing measurements using a smartphone/tablet
- Low-pass filter (HFR high frequency suppression) for measurements of clocked motor drives
- Voltage sensor for non-contact phase and cable break testing (red LED)
- Measured value (HOLD) and minimum/maximum value memory (MIN/MAX)
- Measurement category CAT IV 600 V, CAT III 1000 V

Advantage:
- Precise due to TRUE RMS measurement method

Delivery:
Includes protective rubber frame, measuring adapter BENNING TA PV, measuring leads, crocodile clips, pouch, wire temperature sensor and batteries

Notes:
Operating instructions can be downloaded from the HAHN+KOLB online shop

Model			MM 10-PV
Display range			6000 digits
Min./max. test voltage (DC)			0.1 mV-1000 V
Min./max. test voltage (AC)			0.1 mV-1000 V
Min./max. alternating current of measuring range			1 mA-10 A
Min./max. direct current of measuring range			1 mA-10 A
Continuity testing			Yes
Diode testing			Yes
Min./max. electrical-resistance measuring range			0.1 Ohm-40 MOhm
Min./max. frequency			0.00001 / 100 kHz
Min./max. temperature measuring range			-40 to 400 °C
Memory function			ZERO
Measuring procedure			TRUE RMS
Overvoltage protection category			CAT II/1000 V | CAT IV/600 V
Length x width x height			163 x 82 x 50 mm
TRUE RMS multimeter MM 10-PV	**75024...**	Ident. No.	**255** ●
05 Voltage tester accessories	**75025...**	Ident. No.	**520** ●

Prod. Gr. 7AH

BENNING Digital multimeter (EN standard 61010)

With the TRUE RMS effective value measurement method

Application:
Ident. No. 215: for use in industry, service and trade
Ident. No. 231: For use in installation fields/industry.
Ident. No. 245: For demanding measuring tasks in industry and craftsmanship

Execution:
- **Ident. No. 215:**
  - functions: HOLD, MIN/MAX, PEAK, REL
  - microampere measuring ranges (400.0 µA DC/4000 µA DC) for ionisation current measurement on heating systems
  - volt sensor
- **Ident. No. 215, 245:**
  - LCD backlighting
  - continuity/diode testing
- **Ident. No. 231:** Automatic voltage detection (AutoV)
- **Ident. No. 231–245:**
  - bar graph display
  - LoZ voltage measurement with low input impedance
- **Ident. No. 245:**
  - Datalogger function LOG (40,000 measuring points)
  - automatic voltage detection (AutoV)
  - Low-pass filter (HFR) for measurements of clocked motor drives
  - PC software: transfer measured values in real time (USB), sampling rate is adjustable, measured value storage (MS EXCEL)
  - download the free app! Monitor up to five multimeters. Transfer measured values in real time (Bluetooth(R) 4.0). Measured value storage (CSV).
  - interfaces: Bluetooth® Low Energy 4.0, USB

Delivery:
Ident. No. 215: Protective rubber frame, batteries, measuring leads, wire temperature sensor, bag
Ident. No. 231: protective rubber frame, measuring leads, wire temperature sensor with adapter, bag
Ident. No. 245: incl. PC software, serial data cable with USB connection, protective rubber frame, magnetic hanger, case, batteries, test leads, wire temperature sensor and calibration certificate

Ident. No. 215

Model			MM 5-2	MM 7-1	MM 12
Display range			6000 digits	6000 digits	4000 digits | 40000 digits
Measuring accuracy			+/- 0.5 %	+/- 0.08 %	+/- 0.5 %
Min./max. test voltage (DC)			100 µV/DC-600 V/DC	10 µV/DC-1000 V/DC	10 µV/DC-1000 V/DC
Min./max. test voltage (AC)			100 µV/AC-600 V/AC	10 µV/AC-1000 V/AC	10 µV/AC-1000 V/AC
Min./max. alternating current of measuring range			1 mA-10 A	10 µA-10 A	10 µA-10 A
Min./max. direct current of measuring range			0.1 µA-10 A	10 µA-10 A	10 µA-10 A
Continuity testing			Yes	Yes	Yes
Diode testing			Yes	Yes	Yes
Min./max. electrical-resistance measuring range			100 mOhm-40 MOhm	0.1 Ohm-40 MOhm	0.1 Ohm-40 MOhm
Min./max. frequency			0.00001 / 50 kHz	0.00001 / 100 kHz	0.0001 / 100 kHz
Min./max. temperature measuring range			-40 to 400 °C	-40 to 400 °C	-200 to 1200 °C
Volt sensor			Yes	Yes	Yes
Memory function			HOLD, PEAK	HOLD, MAX/MIN	HOLD, PEAK-HOLD, MAX/MIN/AVG, REL
Measuring procedure			TRUE RMS	TRUE RMS	TRUE RMS AC | AC+DC
Overvoltage protection category			CAT IV/300 V | CAT III/600 V	CAT IV/600 V | CAT III/1000 V	CAT IV/600 V | CAT III/1000 V
Length x width x height			150 x 77 x 44 mm	190 x 94 x 48 mm	206 x 94 x 54 mm
Digital multimeter	75024...	Ident. No.	215 ●	231 ●	245 ●
05 Voltage tester accessories	75025...	Ident. No.	530 ●	530 ●	530 ●

Prod. Gr. 7AH

Digital multimeter (EN standard 61326-1)

Model testo 760-1/760-2/760-3

Application:

For simple and safe measurement of important electrical parameters. Measured variables are automatically detected on the basis of the socket assignment. This eliminates dangerous misconfiguration.

Execution:

- Large, illuminated LCD display
- **Ident. No. 525–530:**
  - Includes TrueRMS effective value measurement and current measurement in the µA range
  - Includes low-pass filter
  - Incl. connection option for TE type K thermocouple probes
- **Ident. No. 530:** Extended measuring ranges for voltage, frequency and capacitance

Advantage:

- Simple and safe operation thanks to automatic measured variable detection
- Convenient one-handed operation by means of function keys
- **Ident. No. 525–530:**
  - Precise measurement results for frequency converter-controlled motors thanks to integrated low-pass filter
  - Connection option for a thermocouple sensor TE type K for additional temperature measurements
- **Ident. No. 530:** Extended voltage range up to 1000V and higher frequency and capacitance measuring ranges for industrial applications such as troubleshooting in large electrical installations

Delivery:

Multimeter including 2x AAA batteries, 1 set of measuring leads (75024478) and operating instructions.

Notes:

Ident. No. 525–530: A thermocouple adapter TE TYPE K (75024540) and a suitable temperature sensor are required for temperature measurement.

Ident. No. 520

Ident. No. 525

Ident. No. 530

Model		testo 760-1	testo 760-2	testo 760-3
Min./max. alternating current of measuring range		1 mA-10 A	0.1 µA-10 A	0.1 µA-10 A
Min./max. direct current of measuring range		1 mA-10 A	0.1 µA-10 A	0.1 µA-10 A
Continuity testing		Yes	Yes	Yes
Min./max. electrical-resistance measuring range		0.1 MOhm-40 MOhm	0.1 MOhm-60 MOhm	0.1 MOhm-60 MOhm
Min./max. frequency		0.000001 / 512 kHz	0.000000001 / 30 MHz	0.000000001 / 60 MHz
Min./max. temperature measuring range		-	-20 to 500 °C	-20 to 500 °C
Measuring procedure		-	TRUE RMS	TRUE RMS
Overvoltage protection category		CAT III/600 V | CAT IV/300 V	CAT III/1000 V | CAT IV/600 V	CAT III/1000 V | CAT IV/600 V
Length x width x height		167 x 84 x 45 mm	167 x 84 x 45 mm	167 x 84 x 45 mm
75024...	Ident. No.	520 ●	525 ●	530 ●

Prod. Gr. 4CF

BENNING Digital current clamp multimeters (EN standard 61010)

For alternating and direct current

Application:
For measurement in electrical installations.

Delivery:
Includes measuring leads

BENNING CM 1-2

Model			CM 1-2
Display range			2000 digits
Measuring accuracy			+/- 1 %
Min./max. test voltage (DC)			0.1 V/AC-600 V/AC
Min./max. test voltage (AC)			0.1 V/AC-600 V/AC
Min./max. alternating current of measuring range			0.1 A-400 A
Continuity testing			Yes
Diode testing			No
Min./max. electrical-resistance measuring range			0.1 Ohm-20 MOhm
Max. collet opening (mm)			30
Memory function			HOLD
Measuring procedure			RMS
Overvoltage protection category			CAT III/600 V
Length x width x height			190 x 70 x 38 mm
Digital current clamp multimeters	**75024...**	Ident. No.	**310** ●
05 Voltage tester accessories	**75025...**	Ident. No.	**530** ●

Prod. Gr. 7AH

BENNING CM 2-1 TRUE RMS digital current clamp meter

Precise current measurement up to 400 A AC/DC

Application:
For measurement in electrical installations/ industry/PV.

Execution:
- Precise current measurement up to 400 A AC/DC
- Measure high currents safely and without contact
- Measurement of small currents (vehicle, photovoltaic, industrial)
- Frequency and capacitance measurement
- Audible and visual continuity test
- Low-pass filter (HFR high frequency suppression, 800 Hz) for measurements of clocked motor drives
- Low input impedance (LoZ) AutoV function for suppressing “reactive voltages”
- Voltage sensor for non-contact phase and cable break testing (LCD/buzzer)

Advantage:
- Several measurement functions in one device
- Robust and ergonomic ABS housing
- Memory functions

Delivery:
Protective case, measuring leads and batteries included in scope of delivery

Model			CM 2-1
Display range			4000 digits
Min./max. test voltage (DC)			100 µV-600 V
Min./max. test voltage (AC)			100 µV-600 V
Min./max. alternating current of measuring range			10 mA-400 A
Min./max. direct current of measuring range			10 mA-400 A
Continuity testing			Yes
Diode testing			Yes
Min./max. electrical-resistance measuring range			0.1 Ohm-40 MOhm
Min./max. frequency			0.00001 / 50 kHz
Max. collet opening (mm)			27
Memory function			SAVE
Measuring procedure			TRUE RMS
Overvoltage protection category			CAT III/300 V | CAT III/600 V
Length x width x height			188 x 56 x 28 mm
CM 2-1 TRUE RMS digital current clamp meter	**75024...**	Ident. No.	**350** ●
05 Voltage tester accessories	**75025...**	Ident. No.	**530** ●

Prod. Gr. 7AH

BENNING

Digital current clamp multimeters

With TRUE RMS current measurement

Application:

Ident. No. 341: For all demanding measuring tasks in industry and trade

Ident. No. 401: Micro-amp measuring range for testing

flame sensors and sacrificial anodes

on heating systems/reservoirs

Ident. No. 411: Measurements in industrial, electro-technical and photovoltaic sectors

Execution:

- **Ident. No. 341:**
  - with logging function and Bluetooth(R) interface
  - Low-pass filter (HFR) for measurements of clocked motor drives
  - Harmonics measurement (THD) to assess network quality
  - Continuity (30 Ω - 100 Ω), diode (0.8 V) and two-pole rotary field test
  - Auto sense function for automatic measurement range and function selection
  - Integrated voltage sensor signals non-contact phase voltages and cable breaks in cables (red LED)
  - Precise due to TRUE RMS AC, AC+DC measurement method
  - Recording of load profiles on single and three-phase consumers in AC/DC networks
  - Datalogger function LOG (10,000 measuring points, scanning frequency: 1 s-10 min)
- **Ident. No. 401:**
  - Data logger, memory function, Bluetooth(R)
  - App for downloading, saving and sharing measured values via smartphone/tablet
  - INRUSH for measuring switch-on currents (motors etc.)
  - Low-pass filter for measurements of clocked motor drives
  - Frequency/capacitance measurement
  - functions: AutoV, LoZ, Voltsensor, ZERO
- **Ident. No. 411:**
  - Automatic function and measuring range selection
  - Measurement errors due to selecting the incorrect measuring range are ruled out
  - functions: LoZ, ZERO

Delivery:

Ident. No. 341: Includes bag, batteries and measuring leads

Ident. No. 401–411: Includes Accessories: bag, batteries, measuring leads

Notes:

Ident. No. 341: Monitor, store and share your measurements for further evaluation via the free “BENNING MM-CM Link” app within your organisation.

Ident. No. 401

Ident. No. 411

Ident. No. 341

Model			CM 5-1	CM 10-1	CM 12
Display range			9999 digits	6000 digits	9999 digits
Measuring accuracy			+/- 2 %	+/- 2 %	+/- 0.7 %
Min./max. test voltage (DC)			0.7 V/DC-1000 V/DC	0.1 mV/DC-1000 V/DC	10 mV/DC-1000 V/DC
Min./max. test voltage (AC)			1.3 V/AC-750 V/AC	0.1 V/AC-1000 V/AC	10 mV/AC-1000 V/AC
Min./max. alternating current of measuring range			0.9 A-600 A	10 mA-1500 A	10 mA-600 A
Min./max. direct current of measuring range			0.9 A-600 A	10 mA-1500 A	10 mA-600 A
Continuity testing			Yes	Yes	Yes
Diode testing			Yes	Yes	No
Min./max. electrical-resistance measuring range			1 Ohm-10 kOhm	0.1 Ohm-600 kOhm	100 mOhm-100 kOhm
Min./max. frequency			-	0.00001 / 10 kHz	0.00001 / 10 kHz
Volt sensor			No	Yes	Yes
Min./max. effective power			-	-	0.001-600 kW
Max. collet opening (mm)			35	42	33
Memory function			HOLD | ZERO	HOLD, MAX/MIN | INRUSH | ZERO	HOLD, PEAK | MAX/MIN/AVG
Measuring procedure			TRUE RMS	TRUE RMS	TRUE RMS
Overvoltage protection category			CAT III/1000 V | CAT IV/600 V	CAT III/1000 V | CAT IV/600 V	CAT III/1000 V | CAT IV/600 V
Length x width x height			215 x 85 x 51 mm	245 x 85 x 48 mm	243 x 103 x 55 mm
Digital current clamp multimeters	**75024...**	Ident. No.	**411** ●	**401** ●	**341** ●
05 Voltage tester accessories	**75025...**	Ident. No.	**530** ●	**530** ●	**530** ●

Prod. Gr. 7AH

BENNING CM 11 TRUE RMS AC/DC milliampere current clamp multimeter

Precise measurement of low AC/DC currents with a maximum resolution of 100 µA

Application:
Ideal for troubleshooting problems in electrical installations, control systems, devices and motor vehicle electrical systems.

Execution:
- Measures stray, differential, leakage and load currents
- Measures 4 mA - 20 mA process signals without interrupting the current loop
- Standby current measurement for batteries to monitor battery discharge via leakage
- ZERO function

Delivery:
includes accessories: bag, batteries, measuring leads

Model			CM 11
Display range			6000 digits
Measuring accuracy			+/- 1 %
Min./max. test voltage (DC)			10 mV/DC-600 V/DC
Min./max. test voltage (AC)			10 mV/AC-600 V/AC
Min./max. alternating current of measuring range			100 µA-20 A/AC
Min./max. direct current of measuring range			100 µA-10 A/DC
Continuity testing			Yes
Diode testing			No
Min./max. electrical-resistance measuring range			0.1 Ohm-600 kOhm
Max. collet opening (mm)			23
Memory function			HOLD, MAX/MIN
Measuring procedure			TRUE RMS
Overvoltage protection category			CAT IV/300 V | CAT III/600 V
Length x width x height			206 x 76 x 33 mm
CM 11 TRUE RMS AC/DC milliampere current clamp multimeter	**75024...**	Ident. No.	**391** ●
05 Voltage tester accessories	**75025...**	Ident. No.	**530** ●

Prod. Gr. 7AH

BENNING CM 1-4 open TRUE RMS current clamp meter

Voltage measurement up to 1,000 V AC/DC

Application:
For measurements in electrical installations, maintenance and service, but also in photovoltaic/wind turbines and hybrid vehicle technology.

Execution:
- LED step display: 12, 50, 120, 230, 400, 690, 1000 V
- Rotary field direction test via green LEDs (right/left)
- Single pole external conductor test (phase) via red LED
- Continuity test via buzzer and red LED
- TRUE RMS

Advantage:
- One-hand operation for voltage measurement at sockets (19 mm)

Delivery:
Includes belt holster, test lead set, tip protector, contact tip enlargement, batteries

Model			CM 1-4
Display range			9999 digits
Measuring accuracy			+/- 0.7 %
Min./max. test voltage (DC)			6 V/DC-1000 V/DC
Min./max. test voltage (AC)			6 V/AC-1000 V/AC
Min./max. alternating current of measuring range			100 mA-200 A
Continuity testing			Yes
Diode testing			Yes
Min./max. electrical-resistance measuring range			1 Ohm-50 kOhm
Volt sensor			No
Max. collet opening (mm)			16
Memory function			HOLD
Measuring procedure			TRUE RMS
Overvoltage protection category			CAT IV/600 V | CAT III/1000 V
Length x width x height			243 x 103 x 55 mm
CM 1-4 open TRUE RMS current clamp meter	**75024...**	Ident. No.	**321** ●
05 Voltage tester accessories	**75025...**	Ident. No.	**530** ●

Prod. Gr. 7AH

Current clamp (EN standard 61326-1)

Model testo 770-1/770-2/770-3

Application:
Ideally suited as a measuring instrument for electrical installations and service operations. With its innovative gripping mechanism, the testo 770 is the perfect current clamp for contactless measurements on tight-fitting cables with small diameter. AC/DC and other electrical parameters such as resistance, continuity, diode and capacitance are automatically detected. This makes operation particularly easy.

Execution:
- Large, illuminated two-line LCD display
- **Ident. No. 465–470:**
  - Incl. temperature adapter for thermocouple probe TE type K
  - Including current measurement in the µA range
- **Ident. No. 470:**
  - including Bluetooth(R) and testo Smart App (free)
  - Improved effective value measurement TruRMS

Advantage:
- Fully retractable clamp arm for gripping tightly packed cables
- Auto AC/DC for current, voltage and other parameters
- **Ident. No. 460:** Measuring function for starting current on electric motors
- **Ident. No. 465:** Measuring function for starting current on electric motors and ionisation current testing in the µA range
- **Ident. No. 465–470:** Temperature adapter for type K thermocouple

- **Ident. No. 470:**
  - Measuring function for starting current on electric motors, power measurement and ionisation current testing in the µA range
  - Bluetooth(R) connection to your smartphone (with testo Smart App)

Delivery:
Ident. No. 460, 470: Including battery, 1 set of test leads (75024478), operating instructions.
Ident. No. 465: Incl. batteries, 1 set of test leads (75024478), 1 x adapter for thermocouple type K, operating instructions.

Notes:
Ident. No. 465–470: TE type K temperature sensor available as an option

Ident. No. 460

Ident. No. 465

Ident. No. 470

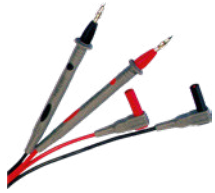
Model		testo 770-1	testo 770-2	testo 770-3
Min./max. alternating current of measuring range		0.1 A/AC-400 A/AC	0.1 A/AC-400 A/AC	0.1 A/AC-600 A/AC
Min./max. direct current of measuring range		0.1 A/DC-400 A/DC	0.1 A/DC-400 A/DC	0.1 A/DC-600 A/DC
Continuity testing		Yes	Yes	Yes
Min./max. electrical-resistance measuring range		0.1 Ohm-40 MOhm	0.1 Ohm-40 MOhm	0.1 Ohm-60 MOhm
Min./max. frequency		0.000001 / 10 kHz	0.000001 / 10 kHz	0.000001 / 10 kHz
Min./max. temperature measuring range		-	-20 to 500 °C	-20 to 500 °C
Measuring procedure		TRUE RMS	TRUE RMS	TRUE RMS
Overvoltage protection category		CAT III/1000 V | CAT IV/600 V	CAT III/1000 V | CAT IV/600 V	CAT III/1000 V | CAT IV/600 V
Length x width x height		243 x 96 x 43 mm	243 x 96 x 43 mm	243 x 96 x 43 mm
75024...	Ident. No.	460 ●	465 ●	470 ●

Prod. Gr. 4CF

PANCONTROL.at Accessories for PAN measuring instruments

Ident. No. 002

Ident. No. 004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Ident. No. 008

Ident. No. 009

Ident. No. 014

Ident. No. 017

Ident. No. 018

75025...	Ident. No.	020 ●

Prod. Gr. 4CG

PANCONTROL.at PAN 185 digital multifunctional measuring instrumen

With Lux meter, sound level, humidity, and temperature measurement

Measuring accuracy		0,7 % – 5 %
Min./max. test voltage (DC)		0.1 mV/DC-1000 V/DC
Min./max. test voltage (AC)		0.1 mV/AC-750 V/AC
Min./max. alternating current of measuring range		0.1 µA/AC-10 A/AC
Min./max. direct current of measuring range		0.1 µA/DC-10 A/DC
Min./max. electrical-resistance measuring range		0.1 Ohm-40 MOhm
Min./max. frequency		0.00001 / 100 kHz
Overvoltage protection category		CAT III/1000 V | CAT IV/600 V
Length x width x height		205 x 93 x 56 mm
75024...	Ident. No.	035 ●

Prod. Gr. 4CG

PANCONTROL.at PAN LAN1 digital multifunctional measuring instrumen

LAN tester and digital multimeter

Measuring accuracy		0,5 % – 5 %
Min./max. test voltage (DC)		0.1 mV/DC-600 V/DC
Min./max. test voltage (AC)		1 mV/AC-600 V/AC
Min./max. alternating current of measuring range		0.1 µA/AC-200 mA/AC
Min./max. direct current of measuring range		0.1 µA/DC-200 mA/DC
Min./max. electrical-resistance measuring range		0.1 Ohm-20 MOhm
Overvoltage protection category		CAT II/600 V | CAT III/300 V
Length x width x height		164 x 75 x 45 mm
75024...	Ident. No.	040 ●

Prod. Gr. 4CG

PAN Cable Finder

Measuring accuracy		0,5 – 2 %
Min./max. test voltage (DC)		0.1 mV/DC-600 V/DC
Min./max. test voltage (AC)		10 mV/AC-600 V/AC
Min./max. alternating current of measuring range		0.1 µA/AC-200 mA/AC
Min./max. direct current of measuring range		0.1 µA/DC-200 mA/DC
Min./max. electrical-resistance measuring range		0.1 Ohm-20 MOhm
Overvoltage protection category		CAT II/600 V | CAT III/300 V
Length x width x height		164 x 74 x 43 mm
75024...	Ident. No.	**045** ●

Prod. Gr. 4CG

Cable Length Measuring Device PAN KLM30R

For single- and multi-pole conductors

Measuring accuracy		1 % – 2 %
Min./max. electrical-resistance measuring range		0.1 mOhm-1999.9 Ohm
Length x width x height		213 x 101 x 66 mm
75019...	Ident. No.	**200** ●

Prod. Gr. 4CG

Digital Cable Length Measuring Device (Echo Meter/ Reflectometer)

For multi-pole, network, and coaxial cables

Display range		3000 digits
Measuring accuracy		0,1 % – 2 %
Length x width x height		152 x 62 x 37 mm
75019...	Ident. No.	**205** ●

Prod. Gr. 4CG

BENNING IT101 insulation and resistance measuring instrument

TRUE RMS voltage measurement with low-pass filter

Application:
For insulation resistance and low impedance measurement in electrical installations.

Execution:
- R ISO test voltages 50 V to 1000 V
- R PE test current 200 mA
- Polarisation index (PI), dielectric absorption ratio (DAR)
- Switchable probe for triggering measuring procedures

Advantage:
- Selectable limit values for ISO measurement, clear display (green LED for passed, red LED for test voltage/external voltage)
- Internal memory

Delivery:
Includes bag, switchable probe, measuring leads, crocodile clips, protective rubber frame, batteries

BENNING IT 101

Display range		4000 digits
Min./max. low impedance resistance		0.01 Ohm-40 kOhm
Min./max. insulation resistance		50 kOhm-20 GOhm
Min./max. electrical-resistance measuring range		0.01 Ohm-40 kOhm
Min./max. test voltage (DC)		0.1 V/DC-600 V/DC
Min./max. test voltage (AC)		0.1 V/AC-600 V/AC
Measured value memory		500 measuring results
Measuring procedure		TRUE RMS
Overvoltage protection category		CAT IV/600 V
Length x width x height		207 x 95 x 52 mm
75024...	Ident. No.	610 ●

Prod. Gr. 7AH

Laserliner Locating and drilling aligning device CenterScanner Compact

Determination of the entry and exit points of drill holes

Application:
Professional drill aligning device to securely determine entry and exit points on wall and ceiling boreholes

Execution:
- System consists of transmitter and receiver, making it easy to align the drill channel
- Wall thicknesses up to 120 cm
- Precise location of the entry and exit positions using clearly visible LED indicators and acoustic signals
- Easily accessible markers in transmitter and receiver for central orientation
- Determines the required borehole depth with the built-in LCD display up to 150 cm
- Optical and acoustic warning where foreign objects are detected

Delivery:
including batteries (6x AAA), glue kit, 4x slide pads, in case

Model		CenterScanner Compact
75019...	Ident. No.	030 ●

Prod. Gr. 3EE

Laserliner Electronic locating device MultiScanner Plus

Detection of wiring, metal and beams

Application:
Electronic position finder for the detection of wiring, metal objects as well as wall and crossbeams in walls and ceilings

Execution:
- For walls, ceilings and cladding made from stone, concrete, screed, wood, ceramic and mineral materials
- Detection and differentiation of magnetic and non-magnetic metal
- Precise depth display in metal mode for checking the borehole depth
- Precise location of live and non-live electric wiring
- Determining the position of wall and crossbeams in dry walling including the display of the beam centre and edges
- Automatic and manual calibration function for the optimum adaptation to the base material

Advantage:
- Suitable for all non-metallic formwork
- Easy and secure use with operator guidance
- Measurement depths: magnetic metal 120 mm, non-magnetic metal 100 mm, wiring 50 mm, beams 20 mm

Delivery:
including Li-Ion battery pack, USB-C cable, in case

Model		MultiScanner Plus
Max. detection depth of ferrous metals (mm)		120
Max. detection depth of non-ferrous metals (mm)		100
Max. detection depth of live cables (mm)		50
Max. detection depth of wood (mm)		20
75019...	Ident. No.	020 ●

Prod. Gr. 3EE

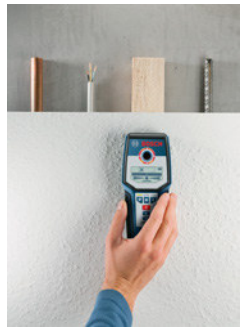
BOSCH Locating devices/wall scanners

Voltage 230 V, 50 Hz, shockproof, suppressed

Ident. No. 010

Ident. No. 021

Ident. No. 015



Model		GMS 120	D-tect 120	D-tect 200 C Professional
Max. detection depth of ferrous metals (mm)		120	120	200
Max. detection depth of non-ferrous metals (mm)		80	120	60
Max. detection depth of live cables (mm)		50	60	-
Max. detection depth of wood (mm)		38	38	38
Automatic switch-off		5min	5min	-
75016...	Ident. No.	010 ●	015 ●	021 ●

Prod. Gr. 731

Elmasonic Easy ultrasonic cleaning device

without heating system

Application:

The entry-level ultrasonic cleaning devices of the Easy model line without heating system are designed as single-frequency devices for gentle cleaning of parts. Ideally suited for removing dust, lint, fingerprints and other dirt that does not require additional heating power.

Execution:

- Stainless steel, deep-drawn cleaning tub
- 2 ultrasonic modes (eco and dynamic), for demand-oriented sound field distribution in the ultrasonic bath
- front side features mounted control elements with simple LED display
- Rotary switch on/off, pre-select cleaning time: Short clean (1 to 30 minutes)

Advantage:

- 2-year warranty from initial commissioning, but no more than 3 years from the date of production
- dynamic mode, automatically set, for more intensive cleaning with higher cleaning performance
- eco mode, switchable, for gentle cleaning in quieter operation

Delivery:

Ultrasonic cleaning device incl. standard plastic lid

Ident. No. 200

Model			Elmasonic Easy 10	Elmasonic Easy 20	Elmasonic Easy 30
Max. tray contents (l)			0.9	1.6	2.7
Tray interior dimensions (W x D x H)			185 x 80 x 55 mm	140 x 125 x 95 mm	220 x 120 x 95 mm
Effectibe tank volume (l)			0.7	1.2	1.6
Effective ultrasonic capacity (W)			30	35	80
Max. ultrasound peak capacity (W)			240	280	320
Heating capacity (W)			0	0	0
Power input (W)			30	35	80
Single frequency (kHz)			37	37	37
Min./max. nominal voltage			220 / 240 V	220 / 240 V	220 / 240 V
With drain			No	No	No
Elmasonic Easy ultrasonic cleaning device	43691...	Ident. No.	200 ○	210 ○	220 ○
02 Basket inserts	43693...	Ident. No.	600 ○	605 ○	610 ●

Prod. Gr. 433

Elmasonic Easy ultrasonic cleaning device

with heating system

Application:
The entry-level ultrasonic cleaning devices of the Easy model series with heating system are designed as single-frequency devices for gentle cleaning of parts. Ideal for removing greases, oils, resin deposits, adhesive residue, swarf, flux, paint residue, soot, scale, dust etc.

Execution:
- Stainless steel, deep-drawn cleaning tub
- 2 ultrasonic modes (eco and dynamic), for demand-oriented sound field distribution in the ultrasonic bath
- Temperature control in increments of 5 °C adjustable from 30-80 °C for devices with heating system (temperature tolerance -5/+8 °C)
- Electronic selector switches on a wipeable membrane keypad and LED display showing all operating states
- Cleaning time preselection: Cleaning time can be set between 1 minute and 30 minutes or continuous operation (ultrasonic continuous operation max. 6 hours)
- from model 60H with drain on the back of the device
- Automatic safety cut-off with wake-up function

Advantage:
- 2-year warranty from initial commissioning, but no more than 3 years from the date of production
- dynamic mode, automatically set, for more intensive cleaning with higher cleaning performance
- eco mode, switchable, for gentle cleaning and low-noise operation

Delivery:
Ultrasonic cleaning device incl. standard plastic lid

Ident. No. 290

Model			Elmasonic Easy 10H	Elmasonic Easy 20H	Elmasonic Easy 30H	Elmasonic Easy 40H	Elmasonic Easy 60H	Elmasonic Easy 100H	Elmasonic Easy 120H	Elmasonic Easy 180H	Elmasonic Easy 300H
Max. tray contents (l)			0.9	1.6	2.7	3.9	5.9	9.5	12.9	17.8	27.5
Tray interior dimensions (W x D x H)			185 x 80 x 55 mm	140 x 125 x 95 mm	220 x 120 x 95 mm	215 x 115 x 145 mm	280 x 130 x 145 mm	280 x 220 x 145 mm	275 x 215 x 195 mm	300 x 270 x 195 mm	475 x 270 x 195 mm
Effectibe tank volume (l)			0.7	1.2	1.6	2.9	4.3	6.8	10	14.2	22
Effective ultrasonic capacity (W)			30	35	80	120	150	150	200	200	300
Max. ultrasound peak capacity (W)			240	280	320	480	600	600	800	800	1200
Heating capacity (W)			60	120	200	200	400	400	800	800	1200
Temperature tolerance ultrasonic bath			-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C
Power input (W)			90	155	280	320	550	550	1000	1000	1500
Single frequency (kHz)			37	37	37	37	37	37	37	37	37
Min./max. nominal voltage			220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V
Internal Ø drain hose (mm)			-	-	-	-	12	12	12	12	12
Outlet connection (mm)			-	-	-	-	12	12	12	12	12
Min./max. working temperature			25 to 80 °C	25 to 80 °C	25 to 80 °C	25 to 80 °C	25 to 80 °C	25 to 80 °C	25 to 80 °C	25 to 80 °C	25 to 80 °C
With drain			No	No	No	No	Yes	Yes	Yes	Yes	Yes
Elmasonic Easy ultrasonic cleaning device	43691...	Ident. No.	230 ○	240 ●	250 ●	260 ●	270 ●	280 ●	290 ●	300 ●	310 ●
02 Basket inserts	43693...	Ident. No.	600 ○	605 ○	610 ●	615 ●	620 ●	660 ○	660 ○	645 ●	650 ●

Prod. Gr. 433

Elmasonic Select ultrasonic cleaning devices

incl. plastic pushdown lid

Application:
The ultrasonic cleaning devices in the Elmasonic Select model series with heating system are designed as single-frequency devices. They are used primarily in the metalworking industry for gentle but intensive cleaning of parts made from a wide variety of materials, such as steel, light metal, non-ferrous base metal, plastic and glass. The temperature-controlled heating system helps dissolve dirt thereby improving cleaning times and cleaning results. Ideal for removing grease, oils, chips, flux, paint and adhesive residues, oxide layers such as rust or verdigris, soot, scale, carbonisation and soldering residues, dust etc.

Execution:
- Includes plastic pushdown lid
- Splashproof housing with front-mounted digital control unit
- Cleaning tub, deep-drawn made from special, highly cavitation-proof stainless steel
- Auto-start function for starting cleaning when a preselected temperature is reached
- Electronic temperature control adjustable from 25 to 80°C in increments of 5°C
- Setup menu for customising the device functions
- Cleaning time preselection: Adjustable cleaning time between 1 minute and 6 hours
- Dry-running safety device
- Side drain and stopcock on the back of the device (Elmasonic Select 60-300)

Advantage:
- Memory for four customisable cleaning programs
- Convenient functions such as adjustable temperature limit, auto-degas and auto-start mode
- Five ultrasonic cleaning modes: degas, eco, sweep, pulse and dynamic for perfect cleaning results
- Very easy to use thanks to the clear, easy-to-read display and easily understandable function keys
- Audible and visual feedback on the operating status

Ident. No. 030

Model			Elmasonic Select 30	Elmasonic Select 40	Elmasonic Select 60	Elmasonic Select 80	Elmasonic Select 100	Elmasonic Select 120	Elmasonic Select 150	Elmasonic Select 180	Elmasonic Select 300
Max. tray contents (l)			2.7	3.9	5.9	9.3	9.5	12.9	14.6	17.8	27.5
Tray interior dimensions (W x D x H)			220 x 120 x 95 mm	215 x 115 x 145 mm	275 x 125 x 145 mm	475 x 110 x 145 mm	280 x 220 x 145 mm	300 x 215 x 195 mm	485 x 280 x 95 mm	300 x 270 x 195 mm	475 x 270 x 195 mm
Effectibe tank volume (l)			1.6	2.9	4.3	6.8	6.8	10	8.7	14.2	22
Design of lid			Lid made of plastic	Lid made of plastic	Lid made of plastic	Lid made of plastic	Lid made of plastic	Lid made of plastic	Lid made of plastic	Lid made of plastic	Lid made of plastic
Effective ultrasonic capacity (W)			120	120	150	150	150	200	300	200	300
Max. ultrasound peak capacity (W)			480	480	600	600	600	800	1200	800	1200
Heating capacity (W)			200	200	400	600	400	800	800	800	1200
Temperature tolerance ultrasonic bath			-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C
Power input (W)			320	320	550	750	550	1000	1100	1000	1500
Single frequency (kHz)			37	37	37	37	37	37	37	37	37
Min./max. nominal voltage			220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V
Internal Ø drain hose (mm)			-	-	12	12	12	12	12	12	12
Outlet connection (mm)			-	-	12	12	12	12	12	12	12
Min./max. working temperature			25 to 80 °C	25 to 80 °C	25 to 80 °C	25 to 80 °C	25 to 80 °C	25 to 80 °C	25 to 80 °C	25 to 80 °C	25 to 80 °C
With drain			No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Elmasonic Select ultrasonic cleaning devices	43693...	Ident. No.	010 ●	020 ●	030 ●	040 ○	050 ●	060 ●	070 ○	080 ●	090 ●
02 Basket inserts	43693...	Ident. No.	610 ●	615 ●	620 ●	625 ○	630 ●	635 ●	640 ○	645 ●	650 ●

Prod. Gr. 486

Elmasonic Select ultrasonic cleaning devices

incl. pushdown lid and sound-absorbing cover made of stainless steel

Application:

The ultrasonic cleaning devices in the Elmasonic Select model series with heating system are designed as single-frequency devices. They are used primarily in the metalworking industry for gentle but intensive cleaning of parts made from a wide variety of materials, such as steel, light metal, non-ferrous base metal, plastic and glass. The temperature-controlled heating system helps dissolve dirt thereby improving cleaning times and cleaning results. Ideal for removing grease, oils, chips, flux, paint and adhesive residues, oxide layers such as rust or verdigris, soot, scale, carbonisation and soldering residues, dust etc.

Execution:

- Splashproof housing with front-mounted digital control unit
- Cleaning tub, deep-drawn made from special, highly cavitation-proof stainless steel
- Auto-start function for starting cleaning when a preselected temperature is reached
- Electronic temperature control adjustable from 25 to 80°C in increments of 5°C
- Setup menu for customising the device functions
- Cleaning time preselection: Adjustable cleaning time between 1 minute and 6 hours
- Side drain with stopcock
- **Ident. No. 100, 120:** Incl. stainless steel push-down lid
- **Ident. No. 110, 130:** Incl. hinged lid made of stainless steel for noise protection

Advantage:

- Memory for four customisable cleaning programs
- Convenient functions such as adjustable temperature limit, auto-degas and auto-start mode
- Five ultrasonic cleaning modes: degas, eco, sweep, pulse and dynamic for perfect cleaning results
- Very easy to use thanks to the clear, easy-to-read display and easily understandable function keys
- Audible and visual feedback on the operating status

Ident. No. 100

Ident. No. 110
Incl. acoustic installation flip cover

Model			Elmasonic Select 500	Elmasonic Select 900	Elmasonic Select 500	Elmasonic Select 900
Max. tray contents (l)			49.7	89	49.7	89
Tray interior dimensions (W x D x H)			500 x 330 x 290 mm	600 x 500 x 285 mm	500 x 330 x 290 mm	600 x 500 x 285 mm
Effectibe tank volume (l)			40.3	63.7	40.3	63.7
Design of lid			Lid made of stainless steel	Lid made of stainless steel	Noise protection hinged lid made of stainless steel	Noise protection hinged lid made of stainless steel
Effective ultrasonic capacity (W)			480	960	480	960
Max. ultrasound peak capacity (W)			1920	3840	1920	3840
Heating capacity (W)			1600	2000	1600	2000
Temperature tolerance ultrasonic bath			-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C
Power input (W)			2140	2960	2140	2960
Single frequency (kHz)			37	37	37	37
Min./max. nominal voltage			220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V
Internal Ø drain hose (mm)			19	19	19	19
Outlet connection (mm)			19	19	19	19
Min./max. working temperature			25 to 80 °C	25 to 80 °C	25 to 80 °C	25 to 80 °C
With drain			Yes	Yes	Yes	Yes
Elmasonic Select ultrasonic cleaning devices	43693...	Ident. No.	100 ●+	120 ○+	110 ○+	130 ○+
02 Basket inserts	43693...	Ident. No.	665 ○	665 ○	670 ○	670 ○

Prod. Gr. 486

Elmasonic Xtra ultrasonic cleaning device

Single-frequency tabletop devices with heating system for professional cleaning

Application:
The ultrasonic cleaning devices in the Xtra model series are used primarily in the metalworking industry for gentle yet intensive cleaning of parts made from steel, light metal, non-ferrous base metal, plastic and glass. The temperature-controlled heating system helps dissolve stubborn dirt, thereby improving cleaning times and cleaning results. Ideal for removing greases, oils, swarf, flux, paint residue, soot, scale, dust etc.

Execution:
- Single-frequency devices of 37 kHz with a control range of -2.5/+5.5 kHz
- Tabletop device with controls on the front
- Welded ultrasonic bath made from special, highly cavitation-proof stainless steel
- Cleaning time and temperature pre-selection can be set via separate rotary dials
- Temperature regulation from 30 °C to 80 °C in 5 °C increments
- Automatic switch-off when the bath temperature exceeds 90 °C
- Dry-run detection
- Drain ball valve for draining contaminated cleaning fluids
- Base-mounted transducers

Advantage:
- Sweep function ensures homogeneous sound distribution in the cleaning bath and improves cleaning performance
- additional eco function for quiet, energy-saving operation. Increases the service life of the tub.
- additional dynamic function enhances the ultrasonic cleaning performance
- Audible and visual signal when cleaning is complete
- Two-year warranty from initial commissioning, but no more than three years from the date of production

Delivery:
Ultrasonic cleaning device, stainless steel lid, 2 m power cable and operating instructions

NEW

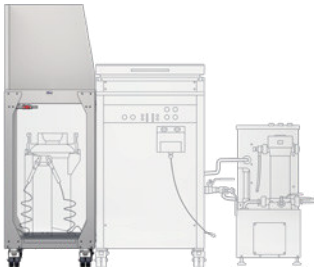
Ident. No. 156

Model			Elmasonic Xtra 40	Elmasonic Xtra 60	Elmasonic Xtra 120	Elmasonic Xtra 180	Elmasonic Xtra 300
Max. tray contents (l)			5	6.3	14.2	19.7	30
Tray interior dimensions (W x D x H)			235 x 135 x 150 mm	300 x 135 x 150 mm	300 x 235 x 190 mm	330 x 295 x 190 mm	500 x 295 x 190 mm
Effectibe tank volume (l)			4	5.1	12.1	16.7	25.4
Design of lid			Lid made of stainless steel	Lid made of stainless steel	Lid made of stainless steel	Lid made of stainless steel	Lid made of stainless steel
Effective ultrasonic capacity (W)			140	160	220	260	330
Max. ultrasound peak capacity (W)			560	640	880	1040	1320
Heating capacity (W)			400	400	800	1000	1200
Temperature tolerance ultrasonic bath			-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C	-5/ +8°C
Power input (W)			540	560	1020	1260	1530
Single frequency (kHz)			37	37	37	37	37
Min./max. nominal voltage			220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V	220 / 240 V
Internal Ø drain hose (mm)			12	12	12	12	12
Outlet connection (in)			1/2	1/2	1/2	1/2	1/2
Min./max. working temperature			30 to 80 °C	30 to 80 °C	30 to 80 °C	30 to 80 °C	30 to 80 °C
With drain			Yes	Yes	Yes	Yes	Yes
Elmasonic Xtra ultrasonic cleaning device	**43693...**	Ident. No.	**150** ○	**152** ●	**154** ●	**156** ○	**158** ○
02 Basket inserts	**43693...**	Ident. No.	**615** ●	**620** ●	**635** ●	**645** ●	**650** ●

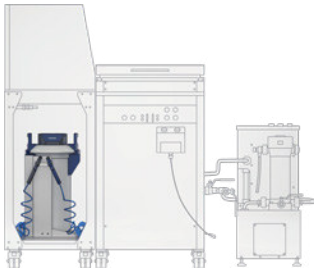
Prod. Gr. 433

Peripheral unit for ATORN ultrasonic cleaning devices

These peripheral accessories for ATORN Professional CLEAN MF ultrasonic cleaning devices take the entire cleaning process to a new level. The unit not only enhances productivity in the cleaning process, but is easy to set up, protects the environment and greatly reduces operating costs with consistent use.

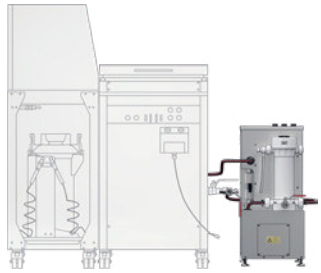


ELMA Table:
After pre-cleaning, the cleaned object can be moved directly from the Elma Table into the ultrasonic bath located at the same working height. Immediately after cleaning in the ATORN ultrasonic cleaning device, the cleaned object can be ergonomically lifted onto the Elma Table for cooling, rinsing or drying.



ELMA Rinse:
The Elma Rinse can be easily integrated into the Elma Table. Alternatively, it can be attached to the wall or table. The two handheld shower heads are each operated with mains water or demineralised water (DM).

ELMA Move:
The cleaning basket moves vertically through the ultrasonic bath at a rate of nine strokes per minute. Areas of irregular ultrasonic exposure alternately occur within the ultrasonic bath for physical reasons. If the object to be cleaned is moved cyclically through these localised areas with Elma Move, a maximum homogeneous cleaning effect is achieved.



ELMA Filter:
The contaminated cleaning bath (including fine particulates) is drawn in and cleaned via the filter. This continuous filtration increases the service life of the cleaning bath. Less frequent replacement of the claning bath is required, allowing considerable savings to be made in regards to water consumption and the purchase of cleaning chemicals.

ATORN ProfessionalCLEAN MF ultrasonic cleaning devices

Multi-frequency stand-alone units with heating system for professional cleaning work

Application:

For cleaning stubborn dirt such as grease, oil, lapping and polishing compounds, swarf, flux, paint residue, soot, scale dust, etc. and for parts with delicate surfaces. The ultrasonic cleaning devices in the Pro MF model series are designed as multi-frequency devices. They are used primarily in the metalworking industry for gentle but intensive cleaning of parts made from steel, light metal, non-ferrous base metal, plastic and glass. These devices are also suitable for cleaning spindle-side tool fixtures and for preliminary cleaning of parts for subsequent surface treatment. **The switchable dynamic, pulse and sweep function improves cleaning performance for removing particularly stubborn dirt. The result is maximum cleanliness even in hard-to-reach spots. 25 kHz ultrasonic frequency for coarse and preliminary cleaning, 45 kHz for fine cleaning.**

Execution:

- multi-frequency devices with 25 and 45 kHz operation for coarse, preliminary and fine cleaning
- heating system with temperature regulation from 30°C to 80°C, short heat-up times
- automatic safety shutdown after 12 hours of operation or at a bath temperature of 90°C
- free-standing device on rollers with controls on front
- ultrasonic bath made from special, highly cavitation-proof stainless steel
- inclined bath floor for improved drainage
- suspension device for cleaning and draining positions
- dynamic mode: automatic alternation between sweep and pulse function
- Base-mounted transducers

Advantage:

- sweep function for homogeneous sound distribution in the cleaning bath
- switchable dynamic and pulse function to improve ultrasonic cleaning performance
- all devices are equipped with multi-frequency operation (25/45 kHz), base-mounted transducers and heating
- temperature-controlled ultrasound activation at pre-heated temperature
- 3-year warranty if used correctly in single-shift operation

Delivery:

Ultrasonic cleaning device without insert basket, without lid

Notes:

Perform cleaning in process steps with optional peripheral units for ATORN ultrasonic cleaning devices, such as washbasins, rinsing units, oscillators and filter units.

Ident. No. 722

Ident. No. 726

Ident. No. 732

Peripheral equipment for the ATORN ultrasonic cleaning devices

Model				Pro MF 300H	Pro MF 500H	Pro MF 600H	Pro MF 800H	Pro MF 1400H	Pro MF 1600H	Pro MF 2500H
Multi frequency				25 kHz/45 kHz	25 kHz/45 kHz	25 kHz/45 kHz	25 kHz/45 kHz	25 kHz/45 kHz	25 kHz/45 kHz	25 kHz/45 kHz
Max. tray contents (l)				28.8	48.7	56.3	81	120.3	156.3	245.1
Effectibe tank volume (l)				22	42	45	70	97	133	215
Tray interior dimensions (W x D x H)				290 x 265 x 280 mm	290 x 265 x 480 mm	460 x 330 x 330 mm	460 x 295 x 480 mm	550 x 565 x 315 mm	480 x 525 x 300 mm	700 x 610 x 485 mm
Effective ultrasonic capacity (W)				480	480	900	1000	1400	1800	1800
Effective ultrasonic capacity (Dynamic Mode) (W)				600	600	1000	1000	1800	2000	2000
Heating capacity (W)				1400	1400	2800	4200	5000	7500	7500
Weight (kg)				50	54	61	66	87	95	109
Nominal voltage (V/AC)				220	220	400	400	400	400	400
ProfessionalCLEAN MF ultrasonic cleaning devices	43695...		Ident. No.	722 ○+	724 ○+	726 ○+	728 ○+	730 ○+	732 ○+	736 ○+
Cover for ultrasonic cleaning device	43695...	Standard lay-on cover	Ident. No.	762 ○	762 ○	764 ○	764 ○	766 ○	766 ○	770 ○
	43695...	Noise protection cover (flip cover)	Ident. No.	772 ○	772 ○	774 ○	774 ○	776 ○	776 ○	778 ○
Basket for ultrasonic cleaning device	43695...	Stainless steel insert basket	Ident. No.	782 ○	784 ○	786 ○	788 ○	790 ●	792 ○	796 ○

Prod. Gr. 4BB

ATORN ProfessionalCLEAN S 1900 ultrasonic cleaning device

Multi-frequency stand-alone unit with heating system and side-mounted transducers

Application:
Side-mounted transducers – ideal for cleaning filters, long components and components with complex surfaces. Removes stubborn dirt such as grease, oil, lapping and polishing compounds, swarf, flux, paint residue, soot, scale, dust etc. **The switchable dynamic, pulse and sweep function improves cleaning performance for removing particularly stubborn dirt. The result is maximum cleanliness even in hard-to-reach spots. 25 kHz ultrasonic frequency for coarse and preliminary cleaning, 45 kHz for fine cleaning.**

Execution:
- Multi-frequency device with 25 and 45 kHz operation for coarse, preliminary and fine cleaning
- **side-mounted transducers on two opposite sides**
- heating system with temperature regulation from 30°C to 80°C, short heat-up times
- automatic safety shutdown after 12 hours of operation or at a bath temperature of 90°C
- free-standing device on rollers with controls on front
- ultrasonic bath made from special, highly cavitation-proof stainless steel
- Inclined bath floor for improved drainage

Advantage:
- switchable dynamic and pulse function to improve ultrasonic cleaning performance
- sweep function for homogeneous sound distribution in the cleaning bath
- temperature-controlled ultrasound activation at pre-heated temperature
- 3-year warranty if used correctly in single-shift operation

Delivery:
Ultrasonic cleaning device without insert basket, without lid

Notes:
No noise protection cover is provided for this model!

Model				Pro MF 1900S
Multi frequency				25 kHz/45 kHz
Max. tray contents (l)				186.7
Effectibe tank volume (l)				134
Tray interior dimensions (W x D x H)				410 x 610 x 680 mm
Effective ultrasonic capacity (W)				1000
Heating capacity (W)				2300
Weight (kg)				75
Nominal voltage (V/AC)				220
Professional-CLEAN S 1900 ultrasonic cleaning device	43695...		Ident. No.	734 ○+
Cover for ultrasonic cleaning device	43695...	Standard lay-on cover	Ident. No.	768 ○
Basket for ultrasonic cleaning device	43695...	Stainless steel insert basket	Ident. No.	794 ○

Prod. Gr. 4BB

Elma Sink rinsing unit

as peripherals for ultrasonic cleaning

Application:
For immersion rinsing or rinsing off objects, before or after ultrasonic cleaning.

Execution:
- Stainless steel tub

Advantage:
- Tub sizes are standardised to Elmasonic Easy, Select and P

Delivery:
Elma Sink rinsing unit, installation and operating instructions, L and XL versions additionally with hose nozzle and hose clamp

Notes:
Optional accessories: Modular high-grade steel basket inserts, see 43693605-650 and plastic lid 43693400-425

Ident. No. 910

Model		ELMA Sink S	ELMA Sink M	ELMA Sink L	ELMA Sink XL
Tray interior dimensions (W x D x H)		215 x 115 x 145 mm	280 x 130 x 145 mm	300 x 270 x 195 mm	475 x 270 x 195 mm
Outlet connection (in)		-	-	3/8	3/8
Hose connection Ø (mm)		-	-	12	12
Device dimensions		305 x 155 x 220 mm	365 x 170 x 270 mm	395 x 315 x 325 mm	565 x 315 x 325 mm
43693...	Ident. No.	900 ○	905 ○	910 ○	915 ○

Prod. Gr. 433

Elma Dry hot and cold air dryer

for drying after ultrasonic cleaning

Application:
For fast, gentle drying of parts after cleaning or rinsing.

Execution:
- Stainless steel housing, protected against dripping water
- Drying temperature max 70 °C
- automatic safety shut-off if temperature is too high

Advantage:
- generates effective flow turbulence inside the dryer, which dissipates the moist air to the outside
- easy to use with three toggle switch positions: off, warm air and cold air
- removable dust filter on the bottom prevents dust and indoor air from contaminating the items to be dried

Ident. No. 440

Model		Elma Dry 30	Elma Dry 120	Elma Dry 300
Tray interior dimensions (W x D x H)		220 x 120 x 95 mm	275 x 215 x 195 mm	475 x 270 x 195 mm
Device dimensions		300 x 186 x 219 mm	362 x 285 x 322 mm	568 x 347 x 322 mm
Wire Ø (mm)		0.63	0.63	0.63
Max. cage load (kg)		1	7	12
Suitable for cage size		30 | 40	30 | 40 | 100 | 120	60 | 100 | 120 | 150 | 300
43690...	Ident. No.	**430** ○	**435** ○	**440** ○

43690 430 = Prod. Gr. 433
43690 435 = Prod. Gr. 433
43690 440 = Prod. Gr. 486

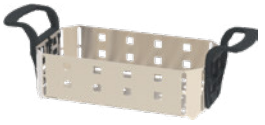
Basket insert for ultrasonic cleaning devices

Standard version for Elmasonic Easy, Select, Xtra as well as Sink and Elmadry

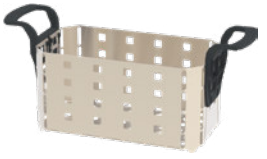
Execution:
- Stainless steel basket insert

Ident. No. 600

Ident. No. 605



Ident. No. 610



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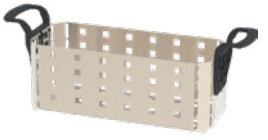
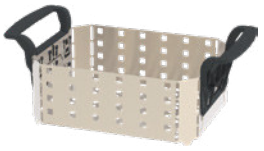


Ident. No. 620

Ident. No. 625



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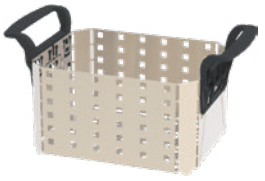

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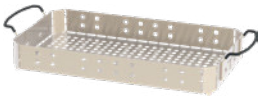

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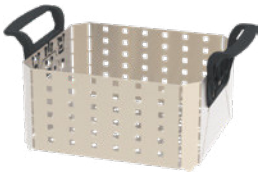
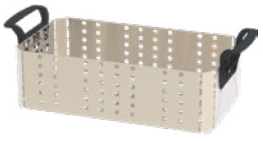


Ident. No. 645



Ident. No. 650

Ident. No. 665

Ident. No. 670

Cage size		10	20	30	40	60	80	100	120	150	180	300	500	900
Basket width (inner) (mm)		155	110	195	195	255	455	250	250	450	280	450	460	545
Basket depth (inner) (mm)		70	105	105	105	105	105	195	195	255	255	255	300	460
Basket height (inner) (mm)		35	50	50	95	95	55	90	135	55	135	135	195	190
Max. cage load (kg)		1	1	1	3	5	5	6	7	7	8	10	20	30
43693...	Ident. No.	**600** ○	**605** ○	**610** ●	**615** ●	**620** ●	**625** ○	**630** ●	**635** ●	**640** ○	**645** ●	**650** ●	**665** ○	**670** ○

Prod. Gr. 433

Intermediate shelves set for modular basket system

suitable for modular Elmasonic Easy and Select basket inserts

Application:
For horizontal partitioning of modular baskets.

Execution:
- Silicone brackets
- **Ident. No. 700–705:** Stainless steel level plate
- **Ident. No. 710–715:** Stainless steel shelf

Advantage:
- additional insert shelf for modular basket system; provides additional cleaning surface distributed over two levels
- autoclavable, for post-processes after cleaning
- Bayonet openings for mounting brackets such as Elma pins, silicone holder bottom comb etc.

Delivery:
Ident. No. 700–705: 1x level plate, 5x silicone holders
Ident. No. 710–715: 1x shelf, 10x silicone holders

Notes:
Maximum of one horizontal partition allowed per modular basket

Technical data:
- Punched-hole width x punched-hole length: 11 x 15 mm

Ident. No. 700

Ident. No. 705

Width x depth x height				250 x 195 x 1 mm	285 x 250 x 1 mm	195 x 105 x 1 mm	255 x 105 x 1 mm
Intermediate shelves set for modular basket system	43693...		Ident. No.	710 ○	715 ○	700 ○	705 ○
03 Accessories for basket inserts in ultrasonic cleaning devices	43693...		Ident. No.	790 ○	790 ○	790 ○	790 ○
	43693...	Pin set 0509	Ident. No.	791 ○	791 ○	791 ○	791 ○
	43693...	Pin set 0158	Ident. No.	792 ○	792 ○	792 ○	792 ○
	43693...	Pin set 0767	Ident. No.	793 ○	793 ○	793 ○	793 ○
	43693...	Pin set 0612+0614	Ident. No.	794 ○	794 ○	794 ○	794 ○
	43693...	Pin set 0741	Ident. No.	795 ○	795 ○	795 ○	795 ○
	43693...	Pin set 0772	Ident. No.	796 ○	796 ○	796 ○	796 ○
	43693...	Pin set 0021R	Ident. No.	797 ○	797 ○	797 ○	797 ○
	43693...	Pin set 0001R	Ident. No.	798 ○	798 ○	798 ○	798 ○

Prod. Gr. 433

Divider set for modular basket system

suitable for modular basket system - ultrasonic cleaning

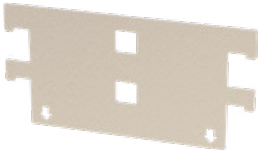
Application:
For vertical partitioning of modular baskets.

Execution:
- Stainless steel divider

Advantage:
- autoclavable, for post-processes after cleaning
- square openings in the sidewalls for mounting silicone holders

Delivery:
2x dividers, 10x silicone holders

Technical data:
- Punched-hole width x punched-hole length: 10 x 10 mm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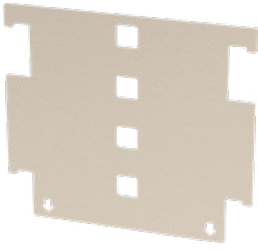
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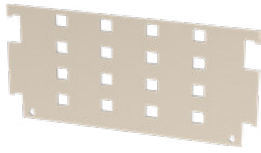
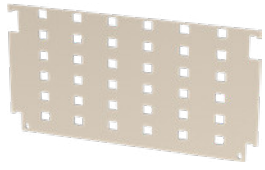
Ident. No. 740


Ident. No. 745


Ident. No. 750

Width x depth x height		105 x 50 x 1 mm	105 x 90 x 1 mm	200 x 60 x 1 mm	200 x 90 x 1 mm	255 x 130 x 1 mm
43693...	Ident. No.	730 ○	735 ○	740 ○	745 ○	750 ○

Prod. Gr. 433

Accessories for		43693 730	43693 735	43693 740	43693 745	43693 750
43693... Silicone holders suitable for modular basket system - ultrasonic cleaning	Ident. No.	775 ○	775 ○	775 ○	775 ○	775 ○

Starter set - 22 pieces

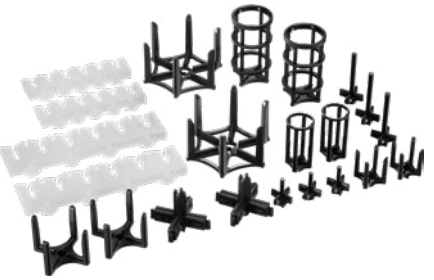
suitable for modular basket system - ultrasonic cleaning

Application:
For holding different parts in the modular basket system.

Execution:
- 3x ELMA pins (0741) 43693795
- 3x ELMA pins (0772) 43693796
- 2x ELMA pins (0509) 43693791
- 2x ELMA pins (0158) 43693792
- 2x ELMA pins (0767) 43693793
- 2x ELMA pins (0613 and 0614) 43693794
- 2x ELMA pins (0021R) 43693797
- 2x ELMA pins (0001R) 43693798
- 2x ELMA silicone holder lateral combs 43693850
- 2x ELMA silicone holder bottom combs

Advantage:
- simple equipping of parts in one insert basket
- reproducible cleaning results due to equipment system

Delivery:
Set, 22 pieces



43693...	Ident. No.	790 ○

Prod. Gr. 433

Stainless steel insert basket

ProfessionalCLEAN MF ultrasonic cleaning devices

Application:
ATORN stainless steel basket insert for ATORN ProfessionalCLEAN MF ultrasonic cleaning device.

Accommodates parts for the cleaning process.

Ident. No. 782

Ident. No. 784

Ident. No. 786

Ident. No. 788

Ident. No. 790

Ident. No. 792

Ident. No. 794

Ident. No. 796

						Stainless steel insert basket	
Basket width (inner) (mm)	Basket depth (inner) (mm)	Basket height (inner) (mm)	Wire Ø (mm)	Cage mesh size (mm)	Max. cage load (kg)	43695... Ident. No.	
255	230	170	1.6	10	12	782	○
255	230	370	1.6	10	12	784	○
400	255	220	1.6	10	25	786	○
400	255	370	1.6	10	40	788	○
490	525	210	1.6	10	50	790	●
480	525	300	1.6	10	50	792	○
360	560	240	1.5	12	40	794	○
630	575	370	1.6	10	50	796	○

Prod. Gr. 4BB

Silicone mat for Elmadry hot and cold air dryer

perforated

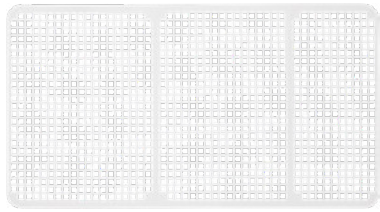
Application:
Enables drying material to be placed directly on the tub base and is therefore particularly suitable for larger parts.

Execution:
- Perforated

Width x depth x height			193 x 100 x 1 mm	450 x 245 x 1 mm	560 x 460 x 1 mm
43690...	ELMA silicone mat suitable for device size 30/40	Ident. No.	421 ○	-	-
43690...	ELMA silicone mat suitable for device size 60/120/150/300	Ident. No.	-	422 ○	-
43690...	ELMA silicone mat suitable for device size 500/900	Ident. No.	-	-	423 ○

Prod. Gr. 433

Ident. No. 421



Ident. No. 422

Submersible baskets for ultrasonic cleaning devices

made of Hostalen (polyethylene) or stainless steel

Application:
Ident. No. 311: For cleaning high-quality, sensitive parts
Ident. No. 411–412: Ideal for small parts.

Execution:
- **Ident. No. 311:**
  - Hostalen version (polyethylene)
  - Closed immersion basket without cover
- **Ident. No. 411–412:**
  - Stainless steel version
  - Close-meshed immersion basket without cover

43690...	Hostalen immersion basket	Ident. No.	311 ●
43690...	Stainless steel wire basket, small	Ident. No.	411 ●
43690...	Stainless steel wire basket, large	Ident. No.	412 ●

43690 311 = Prod. Gr. 433
43690 411 = Prod. Gr. 433
43690 412 = Prod. Gr. 486

Ident. No. 311

Ident. No. 411

Ident. No. 412

Holders and goods carriers

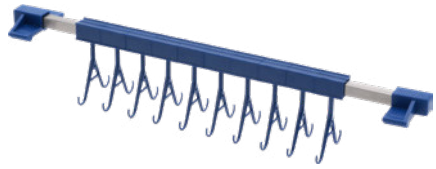
for Elmasonic Select 30 to 300 and Elmasonic Easy ultrasonic cleaning devices

Execution:
- with 10 hooks, flexible mounting
- Plastic support surfaces to prevent scratching of the tray and goods
- Dimensions WxDxH: 335x60x75 mm
- Hook clearance front to rear: 55 mm
- Support height to hook ends: 55 mm

Technical data:
- Height: 75 mm

43693...	Holders and goods carriers	Ident. No.	550 ○

Prod. Gr. 433



High-performance steam jet cleaner

Model series Elmasteam

Application:
For professional steam cleaning in industrial environments. Particularly suitable for pre-cleaning of components with stubborn contamination, cleaning baths and quality improvement when using demulsifying cleaning chemicals.

Execution:
- two selectable pressure ranges: soft 4–6 bar or strong 6–8 bar, adjustable in steps of 0.5 bar
- Housing made from durable stainless steel
- Flexible handle with 1.4 m hose length
- Device and safety equipment TÜV-tested according to DIN EN 61010-1

Advantage:
- 3-year warranty if used correctly
- stable steam availability through strong heating power
- perfect for use even in small spaces
- environmentally-friendly without the use of chemicals
- ECO mode, environmentally friendly, saves energy and costs

Delivery:
tweezers, strainer, maintenance hose, rinsing set; safety screw cap with 3 exchange sealing rings; measuring strip

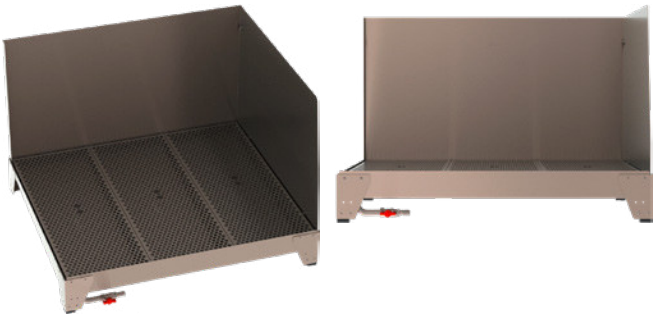
Type		Elmasteam 8 basic
Pressure reservoir capacity (l)		5
Max. fill capacity (l)		3.8
Min./max. operating pressure		4-8 bar
Vapour temperature (°C)		160
Max. power drain (W)		3120
Min./max. nominal voltage		220 / 240 V
Width x depth x height		285 x 350 x 520 mm
43690...	Ident. No.	680 ○+

Prod. Gr. 433

Washbasin for tabletop

Application:
For pre-cleaning, rinsing, draining and drying.

Execution:
- Stainless steel version



Model		Table L/Low
Working surface width x working surface depth		840 x 740 mm
Width x depth x height (external dimension)		855 x 775 x 590 mm
Number of drip trays (PCS)		3
Collection volume (l)		19.5
Inner hose Ø (mm)		14
43695...	Ident. No.	854 ○+

Prod. Gr. 4BB

Test case for measuring fluids

Application:
The standard test case offers everything you need to measure in accordance with TRGS611. Various different versions provide you with even more options. You can also digitally measure conductivity and pH value, testing more quickly and reliably with the digital refractometer. (Options)

Execution:
- **Ident. No. 181: Standard case contents:** 1x analogue refractometer with LED lighting, 0–18% 1x measuring strip pH 7 0–14.0 (100 pieces), 1x measuring strip hardness 0–28°dH (100 pieces), 1x measuring strip nitrite 0–25 mg/l (100 pieces), 2x sample glass 50 ml with wide neck for sampling, 1x plastic measuring cup, 250 ml, 1x digital thermometer, black (-50°C up to +110°C), 1x LED pocket torch titanium, incl. 3 AAA batteries, 1x calculator Solar Mini, 1x safety goggles, one size, 1x nitrile disposable gloves, black – 5 pairs
- **Ident. No. 182: Suitcase contents for Exclusive:** See Standard case, additionally each: 1x conductivity meter, 0–1999 us/cm, 1x pH measuring instrument, 0–14 pH, 1x buffer solution pH 4 and 7, 50 ml (for adjusting pH measuring instrument)
- **Ident. No. 183: Suitcase contents for Premium:** See Standard case, additionally each: 1x conductivity meter, 0–1999 us/cm, 1x pH measuring instrument, 0–14 pH, 1x buffer solution pH 4 and 7, 50 ml (for adjusting pH measuring instrument), 1x digital refractometer, 0–50%

Advantage:
- Robust, high quality and compact
- Conforms to TRSG611
- Improves performance and saves money

Ident. No. 181

Ident. No. 182

Ident. No. 183

Type		Standard	Exclusive	Premium
18300...	Ident. No.	181 ●	182 ●	183 ○

Prod. Gr. 147

Fluids service case

Application:
For testing emulsions in line with TRGS 611.

Execution:
- Thermometer to determine the temperature of the samples
- 100 each of nitrite and nitrate test rods
- 100 each of pH and water hardness test rods
- Plastic cup for sampling
- 3 x plastic bottles for sampling
- Pipette
- Maintenance and service plan for coolants
- Technical regulations TRGS 611

Advantage:
- Reliable detection of emulsion suitability
- Enables early reaction and saves significant costs

18300...	Ident. No.	160 ●

Prod. Gr. 147

Test strip

Application:
Dip the test strips in the emulsion, wait a few seconds, then place on the coloured comparison charts to read.

Execution:
- Plastic rods
- Non-bleeding paper
- Coloured comparison scale
- Suitable for measurements in line with TRGS 611

Advantage:
- Quick and easy to read
- Testing the coolant quality saves money
- Enables timely intervention

Ident. No. 166

Ident. No. 167

Ident. No. 168

Ident. No. 169

For determining		pH value	Nitrate	Nitrite	Water hardness
Cooling lubricants test area		7-14 pH	0-500 mg/l	0-25 mg/l	0-28 °dH
18300...	Ident. No.	166 ●	167 ●	168 ●	169 ●

Prod. Gr. 147

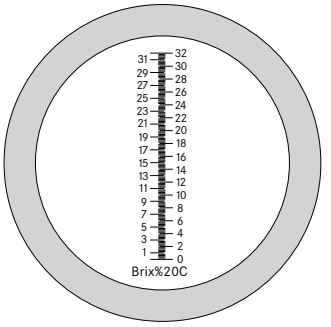
ORION® Hand-held refractometer

Application:
Easy and exact checking of coolants, cutting fluids and lubricants to ensure optimum concentration of the liquid.

Execution:
- Well-illuminated scale
- Adjustable eyepiece for adjusting sharpness
- Easy to read

Advantage:
- Exact concentration testing
- Prevents rust caused by insufficient concentration

Delivery:
In a case with operating instructions



Min./max. percent of measuring range		0-32 %	0-15 %
Scale value in % (%)		0.2	0.2
41580...	Ident. No.	010 ●	020 ●

Prod. Gr. 454

Accessories for		41580 010
41580... Replacement flap for hand-held refractometer	Ident. No.	040 ●

Accessories for		41580 020
41580... Replacement flap for hand-held refractometer	Ident. No.	050 ●

ORION® Digital-hand-held refractometer

Application:
The ORION digital hand-held refractometer enables a quick check of emulsion concentrations in coolants and lubricants. The concentration can be read from the hand-held refractometer display.

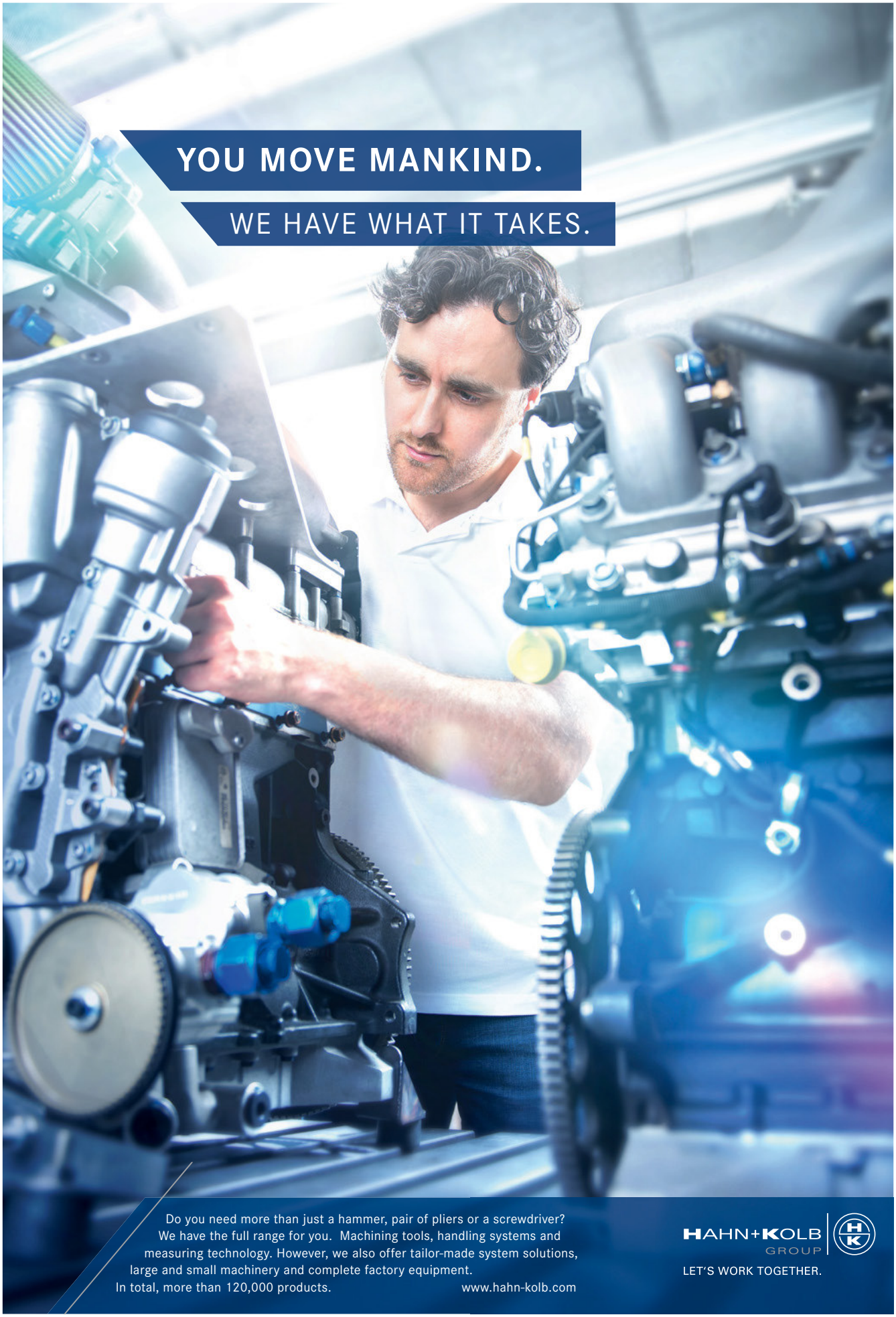
Execution:
- TFT colour display
- Brix measuring range: 0-45%
- Brix division: 0.1%
- degree of protection IP65

Advantage:
- quick and safe concentration testing
- prevents rust caused by insufficient concentration
- factory-calibrated, for immediate use
- integrated temperature display for reliable determination of the measured value
- long battery life approx. 3750 measurements

Delivery:
incl. calibration solution, pipette, storage case, 2x AAA batteries, leather case, screwdriver and cleaning cloth

Measuring accuracy in % (%)		0.2
41580...	Ident. No.	100 ●

Prod. Gr. 412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	Pipe cutter	1405
	Bending equipment	1409

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	Open-end and box-end wrenches	1410
	Sockets, 1/4 inch	1425
	Socket 3/8 inch	1442
	Socket 1/2 inch	1449
	Sockets, 3/4 inch	1464
	1-inch socket	1468
	Sockets, machine operated	1469
	Hook wrenches	1474
	Hexagon and TX keys	1476
	Slotted and Phillips screwdrivers	1495
	Bit range	1517

Screwdriving tools

	Tubular socket wrenches	1529
	Torque screwdriver	1534
	Torque wrench	1542

Hand tools

	Gripping pliers	1554
	Water pump pliers	1566
	Circlip pliers	1570
	Cutting pliers	1575
	Electronics pliers	1585
	Tweezers	1591
	Stripping and crimping tools	1595
	hammers	1607
	Striking tools	1615
	Scribers	1620
	Hand saws, bevelled-edge chisels	1621
	Cutting tools	1624
	Manual deburring tools	1634
	Hole punchers, hole saws	1638

Hand tools

	Riveting tools	1641

Welding and soldering

	Oxyacetylene welding	1645
	Brazing	1645
	Electric welding	1645

ORION® Tool holders

Application:
For clamping tools with a round shank

Execution:
- With perforated, nickel-plated brass grip
- Brass chuck and grip

Min./max. clamping width	0-1 mm		1-2 mm	
Length (mm)	74		74	
Shank Ø (mm)	6		6	
	51000... Ident. No.		51000... Ident. No.	
	010	●	020	●

Prod. Gr. 510

ORION® Tool holder
with ratchet, all-steel finish

Application:
For mounting tools with square shank.

Execution:
- Dual-jaw chuck with hardened jaws
- Polished surface
- Movable T-handle
- Ratchet function, reversible

Advantage:
- Clockwise/anti-clockwise rotation and rigid application

Ident. No. 510

Ident. No. 530

Ident. No. 540

Min./max. clamping width of square		2-5 mm	2-5 mm	4.6-8 mm	4.6-8 mm	9-12.5 mm
Suitable for min./max. screw tap		M3-M8	M3-M8	M5-M12	M5-M12	M13-M20
Length (mm)		85	250	110	300	117
51005...	Ident. No.	500 ●	520 ●	510 ●	530 ●	540 ●

Prod. Gr. 510

ATORN Parallel vices
Rear-opening, made of grey cast iron

Application:
For clamping all angular and round workpieces for manual processing.

Execution:
- High-quality grey cast iron with pearlitic microstructure
- Interchangeable and reversible jaws with smooth and serrated clamping surface
- Smooth-running spindle with trapezoidal thread
- Cast-on pipe clamping jaws
- Plain anvil face
- **Ident. No. 001–003:** Painted similarly to RAL 5015
- **Ident. No. 011–013:** Painted similarly to RAL 6011
- **Ident. No. 015:** Painted similarly to RAL 7016

Advantage:
- Excellent clamping accuracy thanks to long, prismatic precision guide
- **Ident. No. 001–013:** Spindle protected from dirt and damage by covering
- **Ident. No. 015:** spindle protected from dirt and damage by covering

Ident. No. 001–003

Ident. No. 011–013

Ident. No. 015

Jaws width (mm)		100	125	150	100	125	150	125
Min./max. clamping width		0-140 mm	0-200 mm	0-250 mm	0-140 mm	0-200 mm	0-250 mm	0-200 mm
Clamp in depth (mm)		75	80	90	75	80	90	80
Weight (kg)		13	24	41	13	24	41	24
Colour		Blue	Blue	Blue	Green	Green	Green	Grey
Material		Grey cast iron	Grey cast iron	Grey cast iron	Grey cast iron	Grey cast iron	Grey cast iron	Grey cast iron
51028...	Ident. No.	001 ●	002 ●	003 ●+	011 ●	012 ●	013 ●+	015 ●

Prod. Gr. 5HA

Accessories for		51028 001	51028 002	51028 003	51028 011	51028 012	51028 013
51028... Rotary base for ATORN vices, colour blue For bench mounting	Ident. No.	021 ●	022 ●	023 ●	-	-	-
51028... Steel jaw pairs 100, 125 and 150 mm	Ident. No.	041 ●	042 ●	043 ●	041 ●	042 ●	043 ●
51028... Rotary base for ATORN vices, colour green For bench mounting	Ident. No.	-	-	-	031 ○	032 ●	033 ○

ATORN Vice lifts/height adjustment devices

With gas strut, to fit no. 51028 001-015

Application:
For lifting, rotating and lowering of parallel vices.

Execution:
- Can be rotated 360°
- Simple to open and close using the clamping lever
- Including fastening screws
- Suitable for 51028 015

Advantage:
- Required height and rotation direction can be continuously adjusted

Technical data:
- Height adjustment: 215 mm

Suitable for jaw width (mm)		100	100	125	125	125
Colour		Blue	Green	Blue	Green	Grey
51060...	Ident. No.	100 ●	110 ○	120 ●	130 ●	150 ●

Prod. Gr. 5HA

Ident. No. 100, 120

Ident. No. 110, 130

LEINEN Parallel vice

Rear-opening, made of grey cast iron

Execution:
- High-quality grey cast iron with pearlitic texture
- hardened, corrugated interchangeable steel jaws
- Smooth-running spindle with trapezoidal thread
- High-quality hammertone finish, green (similar to RAL 6011)

Advantage:
- Excellent clamping precision thanks to long, prismatic precision guide
- Spindle protected from dirt and damage by covering

Technical data:
- Colour: Green
- Material: Grey cast iron

Jaws width (mm)		80	100	125	150
Min./max. clamping width		0-100 mm	0-140 mm	0-200 mm	0-250 mm
Clamp in depth (mm)		55	75	75	90
Weight (kg)		6.5	17.0	29.0	53.0
51035...	Ident. No.	130 ●+	140 ●+	150 ●+	160 ●+

Prod. Gr. 512

Accessories for		51035 130	51035 140	51035 150	51035 160
51037... Rotary base for LEINEN vices For bench mounting	Ident. No.	130 ●+	140 ●+	150 ●+	-
51038... Steel jaw pairs, 80, 100, 125 and 150 mm Fluted, suitable for LEINEN 51035 and 51036	Ident. No.	030 ●	040 ●	050 ●	060 ●
51038... Steel jaw pairs, 80, 100, 125 and 150 mm Smooth, suitable for LEINEN 51035 and 51036	Ident. No.	130 ●	140 ●	150 ●	160 ●

LEINEN Vice lift/height adjustment device

With gas strut, to fit 51035 140 and 150

Application:
For lifting, rotating and lowering of parallel vices.

Execution:
- Can be rotated 360°
- Simple to loosen and close using the clamping lever
- Includes fastening screws

Advantage:
- Required height and rotation direction can be continuously adjusted

Technical data:
- Height adjustment: 215 mm
- Colour: Reseda green RAL 6011

Suitable for jaw width (mm)		100	125
51060...	Ident. No.	050 ●	060 ●

Prod. Gr. 512

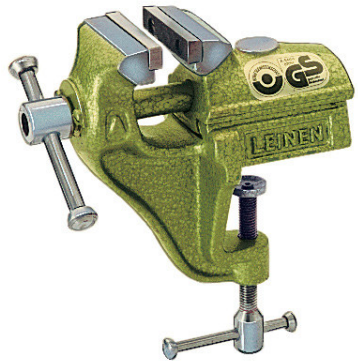
Parallel vice with clamp

Rear-opening

Execution:
- High-quality grey cast iron with pearlitic texture
- Smooth-running spindle with trapezoidal thread
- hardened, corrugated interchangeable steel jaws
- High-quality hammertone finish, green (similar to RAL 6011)

Advantage:
- Flexible application thanks to simple clamping on table tops
- Excellent clamping precision thanks to long, prismatic precision guide
- Spindle protected from dirt and damage by covering

Technical data:
- Colour: Green
- Material: Grey cast iron



Jaws width (mm)		60	80
Min./max. clamping width		0-65 mm	0-100 mm
Clamp in depth (mm)		35	55
Weight (kg)		2.5	7
51036...	Ident. No.	120 ●+	130 ●+

Prod. Gr. 512

Accessories for		51036 130
51038... Steel jaw pairs, 80, 100, 125 and 150 mm Fluted, suitable for LEINEN 51035 and 51036	Ident. No.	030 ●
51038... Steel jaw pairs, 80, 100, 125 and 150 mm Smooth, suitable for LEINEN 51035 and 51036	Ident. No.	130 ●

Parallel vices

Front-opening, forged steel

Execution:
- With forged on pipe clamping jaws
- Large deep clamping option
- Easy-to-adjust central guide
- Precision spindle bearing with double trapezoidal thread
- **Ident. No. 090–175:**
  - Fixed, ribbed jaws
  - Fully zinc-plated spindle with rolled, double-start thread
- **Ident. No. 215–250:** Hardened, changeable steel jaws with smooth and ribbed sides

Advantage:
- Completely forged from steel, guaranteed to be unbreakable
- Spindle protected from dirt and damage by covering
- Large guide surfaces machined on all sides guarantee precision and a long service life
- **Ident. No. 090–175:** Made in Germany

Technical data:
- Colour: Blue

Ident. No. 090–175

Ident. No. 215–250

Jaws width (mm)			100	120	140	160	180
Min./max. clamping width			0-125 mm	0-150 mm	0-200 mm	0-225 mm	0-225 mm
Clamp in depth (mm)			50	65	80	100	100
Weight (kg)			4.5	9	16	27	29
Min./max. pipe Ø			16-30 mm	16-55 mm	27-70 mm	27-100 mm	27-100 mm
51042...	With fixed jaws	Ident. No.	090 ●	115 ●	130 ●	150 ●	175 ●
51042...	With steel jaws	Ident. No.	-	215 ●	230 ●	250 ●	-

Prod. Gr. 513

Accessories for		51042 115	51042 130	51042 215	51042 230	51042 250
51043... Rotary base for HEUER vices For bench mounting	Ident. No.	115 ●	130 ●	115 ●	130 ●	-
51044... Screw-on steel jaw pairs 120, 140 and 160 mm Suitable for HEUER art. no. 51041220 and 51042 215, 230, 250	Ident. No.	-	-	215 ●	230 ●	250 ●
51051... Screw-on aluminium jaw pairs 120, 140 and 160 mm Suitable for HEUER art. no. 51041220 and 51042 215, 230, 250	Ident. No.	-	-	420 ●	440 ●	460 ●

HEUER® Das Original Compact parallel vice

Front-opening

Execution:
- 10 kN clamping force
- Opening width gauge with centimetre scale
- Integrated pipe jaws
- Changeable and reversible jaws with smooth and ribbed clamping surface
- Steel body

Advantage:
- HEUER Quicklaunch – the revolutionary quick-adjustment device – from 0-130 mm in three seconds
- Ideal for mobile use thanks to weight of just 4.5 kg
- Made in Germany

Jaws width (mm)		120
Min./max. clamping width		0-130 mm
Clamp in depth (mm)		65
Weight (kg)		4.5
Colour		Blue
Min./max. pipe Ø		15-50 mm
51041...	Ident. No.	220 ●

Prod. Gr. 513

Accessories for		51041 220
51041... Table clamp with clamping handle	Ident. No.	240 ●
51041... Ball clamp for HEUER 100 mm vice and for HEUER compact Swivel range up to 45°	Ident. No.	250 ●
51051... Screw-on aluminium jaw pairs 120, 140 and 160 mm Suitable for HEUER art. no. 51041220 and 51042 215, 230, 250	Ident. No.	420 ●
51044... Screw-on steel jaw pairs 120, 140 and 160 mm Suitable for HEUER art. no. 51041220 and 51042 215, 230, 250	Ident. No.	215 ●

HEUER® Das Original HEUER-KLAPP-LIFT hinged and height adjustment device

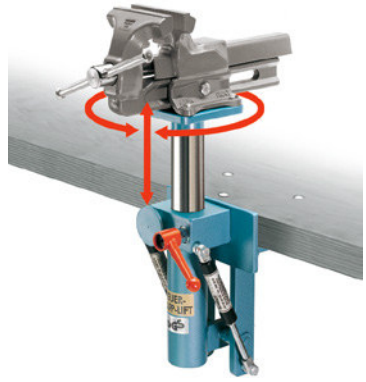
For parallel vices no. 51042

Application:
For lifting, rotating, lowering and folding parallel vices.

Execution:
- Can be rotated 360°

Advantage:
- Required height and rotation direction can be continuously adjusted
- When not in use, the vice can be folded away beneath the workbench.

Technical data:
- Height adjustment: 175 mm
- Colour: Blue



Suitable for jaw width (mm)		120	140
51044...	Ident. No.	515 ●	530 ●

Prod. Gr. 513

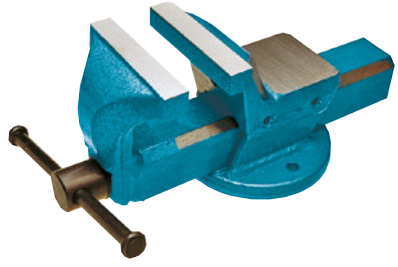
ATORN Parallel vice

Fixed jaws, front-opening action

Execution:
- Made of forged steel
- Hardened and serrated fixed steel jaws
- Adjustable guide
- Suitable pipe clamping jaws for jaw widths of 100 mm and 125 mm see 51064200-225

Advantage:
- Location holes for pipe clamping jaws
- Enclosed spindle protected against dirt and damage
- Hardened anvil face

Technical data:
- Colour: Blue
- Material: Forged steel



Jaws width (mm)		100	125	150
Min./max. clamping width		0-100 mm	0-125 mm	0-150 mm
Clamp in depth (mm)		65	80	95
Weight (kg)		7.0	11.0	17.0
51064...	Ident. No.	010 ●	012 ●	015 ●

Prod. Gr. 586

Accessories for		51064 010	51064 012
51064... Pipe clamping jaws Suitable for the ATORN bench vice, suitable for jaw width 100 mm	Ident. No.	200 ●	-
51064... Pipe clamping jaws Suitable for the ATORN bench vice, suitable for jaw width 125 mm	Ident. No.	-	225 ●

Engineering vices

On ball joint

Application:

Ident. No. 045–050: Facilitates a range of working processes in precision mechanics, laboratories, testing fields and all electronic/mechanic workshops.

Ident. No. 081–086: Facilitates a range of working processes in precision engineering, laboratories, testing fields and all electronic/mechanic workshops.

Execution:

- **Ident. No. 045–050:**
  - Lightweight design
  - For clamping or screwing on
- **Ident. No. 081:**
  - Table top thickness: up to max. 80 mm, working radius: 330 mm (from centre of ball)
  - Screw-on clamping foot
- **Ident. No. 081–086:**
  - Clamping pressure/clamping force: 12,000 N
  - Cast aluminium with chromed steel parts,
  - Colour: textured powder coat in metallic dark grey
  - With clamping pins, replaceable clamping jaws, centring eye and outstanding ball clamping force
  - The four clamping horns adapt to the shape and size of the product. They can be rotated on their axis and keep a firm grip on every object. The centring eye ensures that the work is perpendicular
- **Ident. No. 086:** For screwing on (base plate 190 x 155 mm, through holes dia. 10 mm), working radius: 330 mm (from centre of ball)

Advantage:

- Vice can be rotated by 360° to all sides and swivelled by 90° thanks to firmly integrated ball joint
- **Ident. No. 045, 081:** Quick, flexible mounting of the vice on the workbench with no damaged sustained
- **Ident. No. 086:** The ball is held and released with a simple lever movement.

Technical data:

- Colour: Grey

Ident. No. 045

Ident. No. 050

Ident. No. 081

Ident. No. 086

Vice design		Screw-on clamping foot	Screw-on plate	Screw-on clamping foot	Screw-on plate
Jaws width (mm)		50	50	100	100
Min./max. clamping width		0-70 mm	0-70 mm	0-100 mm	0-100 mm
Clamp in depth (mm)		38	38	50	50
51056...	Ident. No.	045 ●	050 ●	081 ●	086 ●

Prod. Gr. 515

Accessories for		51056 045	51056 050	51056 081	51056 086
51056... Clamping leg	Ident. No.	200 ●	200 ●	-	-
51056... Clamping leg for clamping	Ident. No.	220 ●	220 ●	220 ●	220 ●
51056... ESD pair of plastic jaws 50 mm For replacing in the event of wear	Ident. No.	250 ●	250 ●	-	-

Vice base plates

Application:

As base plate for all vices.

Execution:

- ANKE workbench-top version
- Specially finished, kiln-dried red beech timber
- Planed, ground, oiled

Length x width x height		300 x 250 x 50 mm
51059...	Ident. No.	100 ●

Prod. Gr. 502

Magnetic vice jaws

Application:
For simple and quick attachment to all vices.

Execution:
- With integrated permanent magnet
- **Ident. No. 100–140:**
  - Made from elastic, durable, age-resistant polyurethane
  - Restores the original shape after deformation by pressure
  - The ribbing grips the clamped parts without damaging them
- **Ident. No. 200–250:**
  - One horizontal and three vertical prisms in different sizes allow safe clamping of round and oval components
  - The 90° recess at the top end of the jaws allows easy horizontal clamping of flat material
- **Ident. No. 200–250, 500–550:** Aluminium with a hardness between copper and lead
- **Ident. No. 300–350:**
  - Aluminium body with clamping surfaces consisting of synthetic special rubber
  - The workpiece is held securely even with low clamping pressures
- **Ident. No. 400–450:**
  - Aluminium body with clamping surfaces consisting of fibre with a special layered structure
  - The fibreglass coating does not deform even when clamping heated workpieces
- **Ident. No. 500–550:**
  - Six recessed grooves hold the workpiece securely
  - A deeper groove is used to securely clamp e.g. thin shafts

Advantage:
- Precise and gentle clamping

Delivery:
In pairs

Ident. No. 100–140

Ident. No. 200–250

Ident. No. 300–350

Ident. No. 400–450

Ident. No. 500–550

Jaw design	With fluting		With prism		With rubber insert		With fibre inlay		Grooved	
Material	Polyurethane		Aluminium		Aluminium		Aluminium		Aluminium	
Jaws width (mm)	51068... Ident. No.		51068... Ident. No.		51068... Ident. No.		51068... Ident. No.		51068... Ident. No.	
100	100	●	200	●	300	●	400	●	500	●
120	120	●	220	●	320	●	420	●	520	●
140	140	●	240	●	340	●	440	●	540	●
125	-	-	225	●	325	●	425	●	525	●
150	-	-	250	●	350	●	450	●	550	●

Prod. Gr. 513

ORION® Hand vice
Forged steel

Application:
For clamping and holding smaller workpieces.

Execution:
- Made of steel, forged
- With trapezoidal spindle and wing nut
- With captive bracing spring

Jaws width (mm)		36	40	42	48	52	55
Length (mm)		100	120	130	145	160	180
51016...	Ident. No.	510 ●	520 ●	530 ●	540 ●	550 ●	560 ●

Prod. Gr. 510

Pipe vice
Hinged, die-forged

Application:
For clamping and machining pipes.

Execution:
- Drop-forged
- Hardened and milled steel jaws
- Spindle with rolled trapezoidal thread
- For screwing onto a table

Advantage:
- Hasp closes automatically when the upper section is shut

Suitable for max. pipe external Ø (mm)		50	75
51096...	Ident. No.	120 ●	130 ●

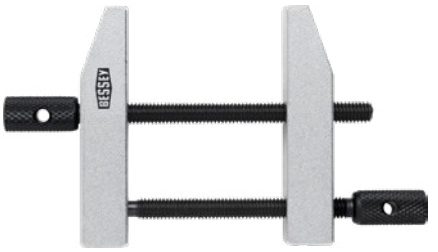
Prod. Gr. 579

Parallel screw clamp

Bright zinc-plated steel

Application:
Exact parallel movement of both clamping surfaces

Execution:
- Double spindle guide
- a = max. clamping width (opening width)
- b = overhang (max. clamping depth/ distance between jaw outer edge and spindle)



Overhang (mm)		19	26	35	50	72
Max. clamping width (mm)		36	46	60	87	116
Rail cross-section L x W		9.6 x 9.6 mm	12.8 x 12.8 mm	12.8 x 12.8 mm	16 x 16 mm	19 x 19 mm
51102...	Ident. No.	500 ●	510 ●	520 ●	530 ●	540 ●

Prod. Gr. 516

ATORN Malleable iron screw clamp

With anti-slip and spindle safety device

Application:
For rigidly clamping various workpieces together.

Execution:
- Heavy-duty version with groove-reinforced malleable-iron arms
- Profile rail with corrugation, galvanised surface
- Smooth-running, black-oxide steel spindle with trapezoidal thread
- Clamping jaws with plastic protective caps
- Clamping force up to 6000 N

Advantage:
- Ergonomic 2-component handle for optimum power transmission

Technical data:
- Material of handle: 2-component plastic

Max. clamping width (mm)		120	160	200	250	300	400	500	600	800
Overhang (mm)		65	80	100	120	140	175	120	120	120
Rail cross-section L x W		22 x 6 mm	22 x 6 mm	30 x 8 mm	30 x 8 mm	35 x 9 mm	35 x 9 mm	35 x 11 mm	35 x 11 mm	35 x 11 mm
51102...	Ident. No.	012 ●	016 ●	020 ●	025 ●	030 ●	040 ●	050 ●	060 ●	080 ●

Prod. Gr. 5HJ

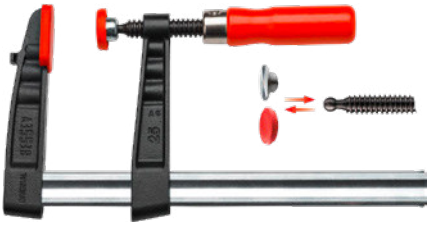
Quick-action screw clamps

With non-slip device from size 160x80 mm, spindle with black oxide finish

Application:
For rigidly clamping various workpieces together.

Execution:
- Upper and lower sections made from high-quality malleable cast iron
- Corrugated section provides additional resistance to torsion
- Galvanised, sturdy, twist-resistant profile rail with 6-ply corrugation
- Burnished spindle
- **Ident. No. 100–400:** With plastic protective caps
- **Ident. No. 420–560:** In accordance with DIN 5117

Advantage:
- **Ident. No. 160–560:** With original Bessey anti-slip protection



Ident. No. 100–400

Ident. No. 420–560

Max. clamping width (mm)		100	120	150	160	200	200	250	300
Overhang (mm)		50	60	50	80	60	100	120	60
Rail cross-section L x W		15 x 5 mm	20 x 5 mm	15 x 5 mm	25 x 6 mm	20 x 5 mm	27 x 7 mm	29 x 9 mm	20 x 5 mm
Material of handle		Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood
51104...	Ident. No.	100 ●	120 ●	150 ●	160 ●	180 ●	200 ●	250 ●	290 ●

Max. clamping width (mm)		300	400	500	600	800	1000	1500	2000
Overhang (mm)		140	175	120	120	120	120	120	120
Rail cross-section L x W		32 x 10 mm	32 x 10 mm	35 x 11 mm	35 x 11 mm	35 x 11 mm	35 x 11 mm	35 x 11 mm	35 x 11 mm
Material of handle		Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood
51104...	Ident. No.	300 ●	400 ●	420 ●	440 ●	460 ●	480 ●	520 ●	560 ●

Prod. Gr. 516

Deep-grip screw clamp

Application:
For rigidly clamping various workpieces together.

Execution:
- Large, sturdy bracket made of annealed cast iron
- Sturdy, twist-resistant solid rail with 6-ply corrugation
- Clamping force up to 7000 N

Technical data:
- Material of handle: Wood

Max. clamping width (mm)		400	400	600	600	800
Overhang (mm)		200	250	250	500	300
Rail cross-section L x W		35 x 11 mm	40 x 11 mm	40 x 11 mm	45 x 12 mm	45 x 12 mm
51105...	Ident. No.	100 ●	110 ●	150 ●	160 ●	170 ●

Prod. Gr. 516

ATORN All-steel screw clamp

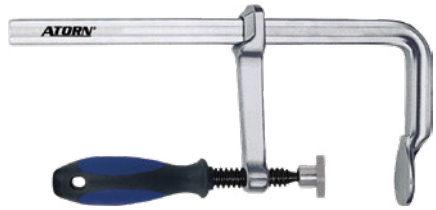
With anti-slip and spindle safety device

Application:
For sprung and elastic clamping of a range of workpieces.

Execution:
- Fixed clamp made of cold-drawn profile steel, hardened and galvanised
- Sliding clamp drop-forged, hardened and galvanised
- Movable pressure plate with integrated spindle safety device
- Smooth-running, black-oxide steel spindle with trapezoidal thread

Advantage:
- Ergonomic 2-component handle for optimum power transmission

Technical data:
- Material of handle: 2-component plastic



Max. clamping width (mm)		120	160	200	250	300	400	500	600
Overhang (mm)		60	80	100	120	140	120	120	120
Rail cross-section L x W		13.5 x 6.5 mm	16 x 7.5 mm	19.5 x 9.5 mm	22 x 10.5 mm	25 x 12 mm	25 x 12 mm	25 x 12 mm	25 x 12 mm
51105...	Ident. No.	012 ●	016 ●	020 ●	025 ●	030 ●	040 ●	050 ●	060 ●

Prod. Gr. 5HJ

All-steel screw clamp

Cold drawn steel

Application:
For sprung and elastic clamping of a range of workpieces.

Execution:
- Fixed and sliding bars made from tempered steel
- Clamping force up to 6,000 N

Advantage:
- Optimised blade profile for 20% more clamping force per spindle revolution
- Force transmitted to the sliding bar in a straight line for optimum safety

Technical data:
- Material of handle: Wood

Max. clamping width (mm)		100	120	160	200	250	300	400	500
Overhang (mm)		60	60	80	100	120	140	120	120
Rail cross-section L x W		15 x 6 mm	15 x 6 mm	17.5 x 6.8 mm	22 x 8.5 mm	24.5 x 9.5 mm	28 x 11 mm	28 x 11 mm	28 x 11 mm
51108...	Ident. No.	010 ●	012 ●	016 ●	020 ●	025 ●	030 ●	040 ●	050 ●

Max. clamping width (mm)		600	800	1000	1250
Overhang (mm)		120	120	120	120
Rail cross-section L x W		28 x 11 mm	28 x 11 mm	28 x 11 mm	28 x 11 mm
51108...	Ident. No.	060 ●	080 ●	110 ●	125 ●

Prod. Gr. 517

All-steel screw clamp

Cold drawn steel

Application:
For sprung and elastic clamping of a range of workpieces.

Execution:
- Fixed and sliding bars made from tempered steel
- Clamping force up to 5000 N

Advantage:
- Optimised blade profile for 20% more clamping force per spindle revolution
- Force transmitted to the sliding bar in a straight line for optimum safety

Technical data:
- Material of handle: 2-component plastic

Max. clamping width (mm)		100	120	160	200	250	300	400	500
Overhang (mm)		60	60	80	100	120	140	120	120
Rail cross-section L x W		15 x 6 mm	15 x 6 mm	17.5 x 6.8 mm	22 x 8.5 mm	24.5 x 9.5 mm	28 x 11 mm	28 x 11 mm	28 x 11 mm
51109...	Ident. No.	010 ●	012 ●	016 ●	020 ●	025 ●	030 ●	040 ●	050 ●

Prod. Gr. 517

All-steel screw clamps GZ with folding handle

Application:
Quickly and safely generate high clamping forces

Execution:
- The folding handle can be folded down by 90° and turned by 360° without touching the rail
- For fast and comfortable working even in hard-to-reach places.
- Clamping force up to 5,000 N
- Tempered sliding and fixed arms for spring-loaded and elastic clamping
- High-quality 2-component plastic handle
- Folding function for additional lever action when tightening
- Pressure plates can be changed without tools

Technical data:
- Overhang: 120 mm
- Rail cross-section L x W: 24.5 x 9.5 mm
- Material of handle: 2-component plastic

Max. clamping width (mm)		250	300	400	500
51109...	Ident. No.	325 ●	330 ●	340 ●	350 ●

Prod. Gr. 517

Gear clamp GearKlamp GK

For use in confined spaces

Execution:
- Patented mechanism that separates the handle from the spindle and positions it around the track
- Secure hold of round, pointy and edgy parts through cross prism at the top
- Glass-fibre reinforced polyamide clamping parts as well as tempered steel in the hollow profile track
- 2-component plastic turning handle for safe handling
- Quick-action slide button on the sliding bar and swivelling pressure plate
- Clamping forces up to 2000 N

Advantage:
- Extremely flexible, can be used even in tight spaces

Technical data:
- Overhang: 60 mm
- Rail cross-section L x W: 25 x 12 mm
- Material of handle: 2-component plastic

Max. clamping width (mm)		150	300	450	600
51110...	Ident. No.	515 ●	530 ●	545 ●	560 ●

Prod. Gr. 517

All-steel lever clamp

Application:
For rapid sprung and elastic clamping of a range of workpieces.

Execution:
- Particularly wear-resistant eccentric guarantees a long service life
- More energy saved thanks to optimised rail section
- Even pressure build up, particularly when the clamping width is fully utilised
- Serrated sliding bracket made from drop-forged, tempered steel
- Clamping force up to 8500 N

Advantage:
- Up to five times quicker than conventional screw clamps
- Resistant to vibrations thanks to release lever with anti-slip protection

Max. clamping width (mm)		120	160	200	250	300	400
Overhang (mm)		60	80	100	120	140	120
Rail cross-section L x W		15 x 6 mm	17.5 x 6.8 mm	22 x 8.5 mm	24.5 x 9.5 mm	28 x 11 mm	28 x 11 mm
51113...	Ident. No.	012 ●	016 ●	020 ●	025 ●	030 ●	040 ●

Prod. Gr. 517

One-handed clamp

Application:
Quick and simple to fix in place and clamp with just one hand.

Execution:
- Pump lever can be actuated from both sides
- Removable, super-elastic protective caps
- Spring-mounted and elastic clamping
- Fixed arm and pressure plate made from a single piece and tempered
- Clamping force up to 3,500 N

Advantage:
- Ergonomic two-component handle for optimum force transmission
- Quick-action slide button

Max. clamping width (mm)		300	600
Overhang (mm)		100	100
Rail cross-section L x W		19.5 x 9.5 mm	19.5 x 9.5 mm
51114...	Ident. No.	010 ●	020 ●

Prod. Gr. 517

ORION® Parallel clamp

Application:
For clamping a wide variety of workpiece shapes.

Execution:
- With fine-threaded spindle
- Swivel-mounted clamping jaws
- Clamping jaws with four different surfaces: Smooth, ribbed, cross-over and v-block
- Galvanised bar

Advantage:
- Precise and powerful clamping

Min./max. clamping width		0-25 mm	0-50 mm	0-75 mm	0-100 mm	0-150 mm
Width of clamping jaw (mm)		11	16	19	19	22
51115...	Ident. No.	001 ●	002 ●	003 ●	004 ●	005 ●

Prod. Gr. 598

All-steel high-performance clamps

Application:
For powerful clamping of a range of workpieces.

Execution:
- Movable locking handle
- Fixed part in tempered steel
- Sliding bar in forged tempered steel
- Tempered spindle
- **Ident. No. 025–030:** Clamping force up to 12,000 N

Advantage:
- Optimised blade profile, 20% more clamping force per spindle revolution
- Heat-resistant, movable special pressure plate with hardened, oil-soaked sintered steel inlay for a long service life

Max. clamping width (mm)		250	300	500	800
Overhang (mm)		140	140	140	140
Rail cross-section L x W		34 x 13 mm	34 x 13 mm	34 x 13 mm	34 x 13 mm
Material of handle		Steel	Steel	Steel	Steel
51118...	Ident. No.	025 ●	030 ●	050 ●	080 ●

Prod. Gr. 517

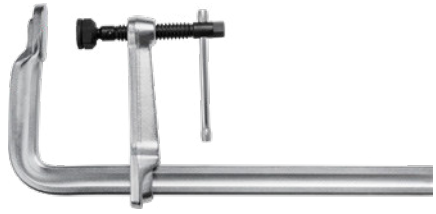
Structural steel bar clamps

Heavy-duty version

Application:
For powerful clamping of a range of workpieces.

Execution:
- Movable locking handle
- Fixed part in tempered steel
- Sliding bar in forged tempered steel
- Tempered spindle
- Clamping force up to 22,000 N

Advantage:
- Heat-resistant, movable special pressure plate with hardened, oil-soaked sintered steel inlay for a long service life



Max. clamping width (mm)		300	400	500	600	800
Overhang (mm)		175	175	175	175	175
Rail cross-section L x W		40 x 20 mm	40 x 20 mm	40 x 20 mm	40 x 20 mm	40 x 20 mm
Material of handle		Steel	Steel	Steel	Steel	Steel
51120...	Ident. No.	030 ●	040 ●	050 ●	060 ●	080 ●+

Prod. Gr. 517

Assembly clamps
The flexible spring clamp

Application:
For flexible, gentle clamping of a wide range of small workpieces.

Execution:
- Ergonomically shaped two-component handle
- Constant clamping force
- Superpolyamide clamping arms

Advantage:
- Softpads for particularly gentle clamping with delicate surfaces
- **Ident. No. 060–100:** Variable clamping width can be continuously adjusted on one side
- **Ident. No. 110:** Variable clamping width can be continuously adjusted on both sides
- **Ident. No. 120–130:** Long, pointed clamping arms for working in narrow gaps and areas close to edges

Ident. No. 060–100

Ident. No. 110

Ident. No. 120–130

Max. clamping width (mm)		55	100	170	55	70
Overhang (mm)		37	50	50	60	110
51126...	Ident. No.	060 ●	100 ●	110 ●	120 ●	130 ●

Prod. Gr. 517

ORION® Assembly clamp
For rapid clamping and locking operations

Application:
For simple and rapid clamping of a wide range of workpieces.

Execution:
- Pressed sheet steel, galvanised
- Consistent and constant pressure thanks to in-built spiral spring

Max. clamping width (mm)		30	50
51127...	Ident. No.	010 ●	020 ●

Prod. Gr. 518

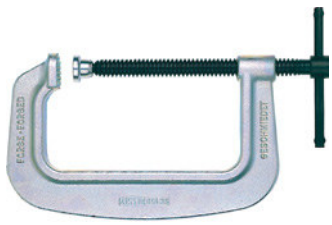
All-steel C screw clamps
Die-forged

Execution:
- Very high clamping forces achievable owing to solid design
- Extremely robust and durable
- Spindle with T-handle
- Clamping force up to 22,000 N

Max. clamping width (mm)		40	60	80	100
Overhang (mm)		40	55	65	75
51107...	Ident. No.	040 ●	060 ●	080 ●	100 ●

Max. clamping width (mm)		120	150	200
Overhang (mm)		85	95	105
51107...	Ident. No.	120 ●	150 ●	200 ●

Prod. Gr. 517



EZS one-handed clamp

Execution:
- Ergonomically shaped 2C handle behind the rail
- One-handed clamping and bracing of workpieces with clamping forces of up to 2000 N
- Upper section can be converted from clamping to bracing without tools
- With removable protective caps on clamping surfaces

Max. clamping width (mm)		150	300	450	600
Overhang (mm)		80	80	80	80
Rail cross-section L x W		6 x 19 mm	6 x 19 mm	6 x 19 mm	6 x 19 mm
51110...	Ident. No.	001 ●	002 ●	003 ●	004 ●

Prod. Gr. 517

KliKlamp magnesium lever clamp

Application:
Quick and gentle clamping.

Execution:
- Robust fixed and sliding bars in light magnesium
- Clamping force up to 1200 N
- Multi-stage, vibration-proof VIBRAFIX engaging mechanism
- Fixed part with cross-over V-block also holds round, pointed or sharp-edge parts
- Ergonomically shaped, fibre glass-reinforced polyamide clamping arm

Advantage:
- Extremely lightweight yet very strong
- Easy to use and proportion

Ident. No. 112

Max. clamping width (mm)		120	160	200	250	300	400
Overhang (mm)		80	80	80	80	80	80
51114...	Ident. No.	112 ●	116 ●	120 ●	125 ●	130 ●	140 ●

Prod. Gr. 517

KANT-TWIST quick-action clamps

Application:
For clamping a wide variety of workpiece shapes.

Execution:
- Strong steel construction
- With rotating, smooth clamping jaws with V-shaped groove

Advantage:
- **Ident. No. 340:** With V-block for clamping pipes

Ident. No. 010

Ident. No. 040

Ident. No. 060

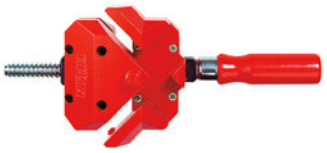
Min./max. clamping width		0-25 mm	0-50 mm	0-75 mm	0-110 mm	0-150 mm	0-100 mm
Width of clamping jaw (mm)		8	12	16	22	22	-
51115...	Ident. No.	010 ●	020 ●	030 ●	040 ●	060 ●	340 ●

Prod. Gr. 518

Angle clamp

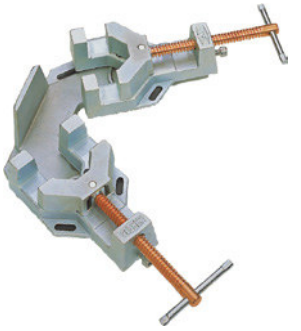
Application:
Versatile clamping device for holding, setting and aligning parts at **angles** in relation to one another.

Execution:
- **Ident. No. 020:**
  - Plastic-coated metal jaws
  - Nut and guide joint made from fibre glass-reinforced polyamide
- **Ident. No. 100–120:**
  - Galvanised metal version
  - Copper-plated spindle
- **Ident. No. 120:** Angle range can be adjusted from 5° to 180°



Ident. No. 020

Ident. No. 100–110



Ident. No. 120

Max. clamping width (mm)		100	90	120	100
Ø (mm)		60	60	100	100
Jaws height (mm)		36	35	61	35
51116...	Ident. No.	020 ●	100 ●	110 ●	120 ●

Prod. Gr. 517

GEDORE Terminal puller and two-arm puller

Application:
For extracting washers, wheels, ball bearings, battery pole terminals.

Execution:
- Strong and practical
- Self-centring puller hooks, screwed
- **Ident. No. 001–003:** With handle
- **Ident. No. 010–030:** For key actuation

Max. clamping width (mm)		65	70	80
Max. clamping depth (mm)		50	70	80
55023...	Ident. No.	001 ●	002 ●	003 ●

Max. clamping width (mm)		110	160	200
Max. clamping depth (mm)		110	140	200
55023...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 5JB

Ident. No. 001–003

Ident. No. 010–030

GEDORE Two-legged pullers

Application:
For extracting washers, wheels, ball bearings

Execution:
- Strong and practical

Advantage:
- Self-clamping hooks
- Self-centring puller hooks, screwed
- toggle or key actuation
- Less working area required

Max. clamping width (mm)		60	60	70
Max. clamping depth (mm)		40	60	80
55024...	Ident. No.	100 ●	110 ●	115 ●

Max. clamping width (mm)		90	130	180
Max. clamping depth (mm)		120	160	200
55024...	Ident. No.	120 ●	130 ●	140 ●

Prod. Gr. 5JB

Ident. No. 100

Ident. No. 115

GEDORE Two-legged pullers

Application:
For internal and external extraction of washers, wheels, ball bearings.

Execution:
- Strong, drop-forged design
- For key actuation

Advantage:
- Can be used as external or internal extractor by switching the hooks
- Setting scale for even hook adjustments
- With hook stop to secure against unwanted slippage; pressing the button moves the hook

Max. external clamping width (mm)			100	140	170	210	250	340	520
Max. internal clamping width (mm)			140	180	220	260	340	430	610
Max. clamping depth (mm)			100	100	150	150	200	200	200
Max. pulling force (t)			3	3	5	5	7.5	7.5	10
	Extractor design								
55028...	Two arms	Ident. No.	208 ●	212 ●	216 ●	220 ●	225 ●	235 ●	252 ●

Prod. Gr. 5JB

GEDORE Two-arm puller set

For various clamping depths

Application:
For internal and external extraction with a range of clamping depths.

Execution:
- For key actuation
- 2 puller hooks with 100, 200 and 250-mm clamping depth

Advantage:
- With extremely narrow, reversible puller hooks for use as external and internal extractor

Delivery:
In cardboard box

Min./max. clamping width		30-130 mm
Min./max. clamping depth		50-250 mm
Max. clamping depth (mm)		250
Min. clamping depth (mm)		50
Max. clamping width (mm)		130
Min. clamping width (mm)		30
55026...	Ident. No.	020 ●

Prod. Gr. 5JB

GEDORE Universal external and internal puller sets

For various clamping depths

Application:
For internal and external extraction with a range of clamping depths.

Execution:
- Forged traverses and pull-out hooks
- **Ident. No. 090:** One 2- and one 3-arm traverse, 2 spindles and 3 narrow pull-out hooks in each of 3 lengths 100/200/250 mm. Clamping depths up to 250 mm. Maximum external clamping width 130 mm, internal 170 mm. Delivery in case with foam insert
- **Ident. No. 091:** Two 2-arm traverses, 4 x maintenance-free spindles (3 x ball/tip) and 2 pull hooks in each of the 2 lengths 100/250 mm, hook extensions in 2 lengths 100/150 mm. Clamping depth up to 300 mm Maximum clamping width external: 200 mm, internal: 70–260 mm. Delivery in L-Boxx with foam insert

Ident. No. 090

Ident. No. 091

Min./max. clamping width		80-170 mm	100-260 mm
Min./max. clamping depth		50-250 mm	50-300 mm
Max. clamping depth (mm)		250	300
Min. clamping depth (mm)		50	50
Max. clamping width (mm)		170	260
Min. clamping width (mm)		80	100
55026...	Ident. No.	090 ●	091 ●

Prod. Gr. 5JB

Two-arm and three-arm universal puller set

For various clamping depths

Application:
For universal pulling tasks for a range of clamping depths.

Execution:
- For key actuation
- Slim S-shaped puller hooks at multiple clamping depths for narrow gaps
- can also be used as internal extractor by reversing the hooks
- Internal clamping width, then 70-180 mm

Advantage:
- With extra-long spindle
- Two legs for especially space-saving working processes
- Three legs for even load distribution and particularly secure hold on the part being removed

Min./max. clamping width		120-130 mm
Min./max. clamping depth		100-350 mm
Max. clamping depth (mm)		350
Min. clamping depth (mm)		100
Max. clamping width (mm)		130
Min. clamping width (mm)		120
55003...	Ident. No.	001 ●

Prod. Gr. 5JA

Two-arm pullers

With puller hooks in standard lengths

Application:
For universal internal and external extraction of gear wheels, ball bearings, bearings etc.

Execution:
- Strong version, special steel
- Strong spindle and movable spindle tip
- Spindle head with collar (anti-slip protection)
- Sliding puller hooks (that remain parallel) and large contact surfaces for smooth pulling tasks
- **Ident. No. 010–060:** Fixed hook fastening once the screws are tightened

Advantage:
- Tie-bar with hexagonal socket for holding
- Can be used as external and internal extractor
- **Ident. No. 100–230:** Quick to loosen and move the hooks using the manual setting knurl without the need for a screw wrench
- **Ident. No. 200–230:** For narrow gaps

Ident. No. 010–060

Ident. No. 100–150

Ident. No. 200–230

Extractor design		Fixed hook fastening		Quickly adjustable hook		Quickly adjustable, narrow hook	
Max. clamping width (mm)	Max. clamping depth (mm)	55003... Ident. No.		55003... Ident. No.		55003... Ident. No.	
90	100	010	●	100	●	200	●
120	100	020	●	110	●	210	●
160	150	030	●	120	●	220	●
200	150	040	●	130	●	230	●
250	200	050	●	140	●	-	-
350	200	060	●	150	●	-	-

Prod. Gr. 5JA

GEDORE Three-arm pullers

WERKZEUGE FÜRS LEBEN

Application:
For safe extraction of washers, wheels, ball bearings

Execution:
- Strong and practical
- For key actuation

Advantage:
- Self-clamping hooks
- Even load distribution and particularly secure hold on the part being removed thanks to three puller hooks

Max. clamping width (mm)		70	90	130	180
Max. clamping depth (mm)		80	120	160	200
55045...	Ident. No.	010 ●	020 ●	030 ●	040 ●

Prod. Gr. 5JB

GEDORE Twist & Pull three-arm puller

Application:
For safe extraction of washers, wheels, ball bearings.

Execution:
- For key actuation

Advantage:
- User-friendly extractor with high-speed locking via rotary disc
- Particularly secure hold on the part being removed thanks to even load distribution

Technical data:
- Extractor design: Three arms
- Max. pulling force: 6.5 t

Min./max. clamping width		30-150 mm	80-250 mm
Max. clamping depth (mm)		130	250
55050...	Ident. No.	010 ●	020 ●

Prod. Gr. 5JB

GEDORE Three-arm terminal pullers and three-arm pullers

Application:
For safe extraction of washers, wheels, ball bearings, battery pole terminals.

Execution:
- Self-centring puller hooks, screwed
- **Ident. No. 001–003:** With handle
- **Ident. No. 010–030:** For key actuation

Advantage:
- Even load distribution and particularly secure hold on the part being removed thanks to three puller hooks

Ident. No. 001–003

Ident. No. 010–030

Max. clamping width (mm)		65	70	80	110	160	200
Max. clamping depth (mm)		50	70	80	110	140	200
55043...	Ident. No.	001 ●	002 ●	003 ●	010 ●	020 ●	030 ●

Prod. Gr. 5JB

GEDORE Three-arm puller with hook stop

Application:
For safe internal and external extraction of washers, wheels, ball bearings.

Execution:
- Strong, drop-forged design
- For key actuation

Advantage:
- Can be used as external and internal extractor
- Secure hold and centred pulling thanks to the even load distribution
- With hook stop to secure against unwanted slippage; pressing the button moves the hook

Max. external clamping width (mm)		90	130	160	200	250
Max. internal clamping width (mm)		140	180	220	260	400
Max. clamping depth (mm)		100	100	150	150	200
Max. pulling force (t)		3	3	5	5	7.5
55046...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 5JB

GEDORE Ball bearing internal extractors

Application:
For extracting ball bearings, ball bearing outer rings and bushings.

Execution:
- Can be used with slide hammer or counterpart
- Not suitable for shaft-mounted bearings

Advantage:
- Bearings seated close to the back wall of the casing are securely gripped by the sharp projections on the shells.

Suitable for min./max. internal Ø		5-8 mm	8-12 mm	12-15 mm	14-19 mm	19-24 mm	24-30 mm	30-36 mm	36-46 mm	46-56 mm	56-70 mm	70-100 mm
Connection thread		M10	M10	M10	M10	M10	M10	M10	M14 x 1.5	M14 x 1.5	M14 x 1.5	M14 x 1.5
55095...	Ident. No.	002 ●	004 ●	010 ●	020 ●	030 ●	040 ●	050 ●	060 ●	070 ●	080 ●	090 ●

Prod. Gr. 5JB

GEDORE Ball bearing internal extractors

Titanium-nitrided

Application:
For extracting ball bearings, rings and bushings.

Execution:
- Titanium-nitrated coating for greater hardness
- Multiple wrench width 11 + 13 mm
- Wear-free ball construction ensures permanently invariable spreading range

Suitable for min./max. internal Ø		5-8.5 mm	8-15 mm	15-24 mm	25-36 mm
Connection thread		M10	M10	M10	M10
55095...	Ident. No.	110 ●	120 ●	130 ●	140 ●

Prod. Gr. 5JB

GEDORE Ball bearing internal extractor set

Titanium-nitrided, with slide hammer

Application:
For extracting ball bearings, rings and bushings.

Execution:
- Set of 4 internal extractors and slide hammer with 1.7 kg impact weight
- M10 connection thread
- Multiple wrench width 11 + 13 mm
- Design with expanded clamping range
- Titanium-nitrided surface

Delivery:
In sturdy plastic case with foam insert

Suitable for min./max. internal Ø		5-36 mm
55095...	Ident. No.	200 ●

Prod. Gr. 5JB

GEDORE Slide hammer device

Compatible with internal extractors

Application:
For extracting without counterparts.

Execution:
- **Ident. No. 100:** With M 14 x 1.5 connecting thread + adapter to M 10
- **Ident. No. 300:** With M 10 connecting thread
- **Ident. No. 310:** With M 10 connecting thread + adapter to M 14 x 1.5
- **Ident. No. 320:** With M 14 x 1.5 connecting thread

Ident. No. 310

Impact length (mm)		180	230	400	500
Impact weight (kg)		0.2	0.7	1.7	3.0
55095...	Ident. No.	300 ●	310 ●	100 ●	320 ●

Prod. Gr. 5JB

GEDORE Counter-supports

For ball bearing internal extractor

Application:
For extracting using counterparts.

Execution:
- Two-armed counterpart
- With locking handle

Suitable for min./max. internal Ø		5-36 mm	36-70 mm	70-100 mm
Width across flats		27 mm	32 mm	32 mm
Connection thread		M10	M14 x 1.5	M14 x 1.5
55100...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 5JB

Ball bearing internal extractors

Application:
For extracting ball bearings and dowel pins.

Execution:
- Set of 4 internal extractors, slide hammer and M3-M18 thread adapters
- Slide hammer with 1700-g impact weight
- Internal extractor for bearing diameters from 6 to 19 mm
- With 1 tube of special grease
- In robust case with foam inlay

Suitable for min./max. internal Ø		5-19 mm
55007...	Ident. No.	635 ●

Prod. Gr. 5JA

Slide hammer set

10-piece slide hammer set for internal extractors and needle bearing extractors, in a plastic case

Application:
For extracting close-fitting ball bearings, rings, bushings and parts with centred threaded holes.

Execution:
- Suitable for all hole diameters
- Thread inserts and connectors M3, M4, M5, M6, M7, M8, M10,15.16 G
- Slide hammer with striking weight, 0.9 kg

Advantage:
- Can also be used where a strong shock effect is required
- Can be used anywhere threaded pins can be screwed straight into the part being removed
- Ergonomically shaped slide block for optimum force transmission
- Pinching and deep holes are prevented, as the slide hammer bar completely disappears into the slide block during striking

Impact length (mm)		230
Number of pieces in assortment/set (PCS)		10
55007...	Ident. No.	630 ●

Prod. Gr. 5JA

Two-arm bearing puller

With separating claw and side clamp

Application:
gentle extraction of bearings located directly on surfaces

Execution:
- extraction arms can be fixed securely with side clamp
- **Ident. No. 100:** 2 toggles for actuating spindles
- **Ident. No. 110:** hexagonal screw actuation

Max. clamping width (mm)		50	90
Max. clamping depth (mm)		70	100
55131...	Ident. No.	100 ●	110 ●

Prod. Gr. 5JA

Ident. No. 100

Ident. No. 110

GEDORE Separator

WERKZEUGE FÜRS LEBEN

Application:
For separating and detaching parts to be removed from their position.

Execution:
- Centred clamping of the separating jaws thanks to the key-operated pressure spindles
- Sharp blades on the separating jaws also detach close-fitting parts

Max. clamping width (mm)		120	165	215	300
Min./max width of mouth		5-60 mm	12-75 mm	22-115 mm	30-155 mm
55200...	Ident. No.	005 ●	010 ●	020 ●	030 ●

Prod. Gr. 5JB

GEDORE Puller

Application:
For pulling in combination with a separator.

Execution:
- The tension bolts are screwed into the threaded holes in the separator jaws of the puller
- Key-operated pressure spindle

Min./max width of mouth		50-60 mm	12-75 mm	70-215 mm	90-300 mm
Min./max. clamping width		40-120 mm	65-165 mm	70-215 mm	90-300 mm
55205...	Ident. No.	005 ●	010 ●	020 ●	030 ●

Prod. Gr. 5JB

Puller sets for parts with threaded holes

Application:
for removing bushings, dowel pins, keys and bolts

Execution:
- practice-oriented set configurations for universal application
- can also be combined with counterparts
- thread inserts hardened and tempered
- **Ident. No. 100–110:**
  - with slide hammer, 0.9 kg impact weight
  - thread inserts in sizes M3,M4,M5,M6,M8,M10,M12,M14,M16,M18
- **Ident. No. 120:**
  - with slide hammer, 1.7 kg impact weight
  - Thread inserts in sizes M8,M10,M12,M14,M16,M18,M20,M22,M24

Delivery:
Ident. No. 110–120: in plastic case with foam insert

Ident. No. 100

Ident. No. 110

Ident. No. 120

Suitable for min./max. thread		M3-M18	M3-M18	M8-M24
Impact length (mm)		225	226	270
55008...	Ident. No.	100 ●	110 ●	120 ●

Prod. Gr. 5JA

Pin extractor

With impact piece

Application:
For pulling and extracting threaded parts, e.g. tapered and cylindrical pins

Delivery:
Including M4, 5, 6, 8, 10, 12 screws and washers

Suitable for min./max. thread		M4-M12	M4-M12
Impact length (mm)		85	300
55015...	Ident. No.	010 ●	020 ●

Prod. Gr. 5JC

Zokker pin extractor set

Application:
Easy removal of all cylinder pins and conical pins, V-ledges, belt discs and much more.

Execution:
- Handy, compact set
- Bits and tensile rods tempered to 1000 Nm/mm², burnished
- 2 tensile rods, 120 and 200 mm
- Driver, 770 g
- 6 bits in magazine ring, M3, 4, 5, 6, 8 and M10

Advantage:
- Excellent tensile strength thanks to the rolled male thread and shaped female thread

55016...	Ident. No.	010 ●

Prod. Gr. 5JC

PEDDINGHAUS HI-TRAC screw extractor set

Chromium-vanadium steel

Application:
For removing broken screws, threaded pins and pipe ends.

Execution:
- 54-56 HRC
- Only screws with a right-hand thread can be unscrewed

Advantage:
- The HI-TRAC profile reduces the extraction torque by 30%

Technical data:
- Suitable for min./max. thread: M4-M24
- Min./max. pilot hole diameter: 1.8-10.3 mm
- Number of pieces in assortment/set: 6 PCS

55006...	Ident. No.	100 ●

Prod. Gr. 5JC

PEDDINGHAUS Screw extractor

Made of chrome-vanadium steel, individual

Application:
For removing broken screws, threaded pins and pipe ends.

Execution:
- 54-56 HRC
- Rolled thread
- Ground shaft
- Only screws with a right-hand thread can be unscrewed

Suitable for min./max. thread		M4-M6	M5-M7	M8-M10	M11-M14	M15-M18	M18-M24	M24-M33	M33-M45
Pre-drilling Ø (mm)		1.8	2.6	3.7	5.5	7	10.3	15.3	20
Length (mm)		50	57	64	71	78	85	92	100
55010...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●	060 ●	070 ●	080 ●

Prod. Gr. 5JC

PEDDINGHAUS Screw extractor sets

Chromium-vanadium steel, individual

Application:
For removing broken screws, threaded pins and pipe ends.

Execution:
- Rolled thread
- Ground shaft
- Only screws with a right-hand thread can be unscrewed
- **Ident. No. 020:** 54-56 HRC
- **Ident. No. 030:** 55-56 HRC

Suitable for min./max. thread		M4-M24	M4-M45
Min./max. pilot hole Ø		1.8-10.3 mm	1.8-20.0 mm
55011...	Ident. No.	020 ●	030 ●

Prod. Gr. 5JC

KUKKO Screw extractor set

Application:
For removing broken screws, threaded pins and pipe ends.

Execution:
- Set of drill bits and drill bushings
- In robust case with foam inlay

Advantage:
- Easy to remove the damaged bolt precisely, without damaging the thread

Suitable for min./max. thread		M5-M16
Min./max. pilot hole Ø		2.3-11.0 mm
55012...	Ident. No.	010 ●

Prod. Gr. 5JA

wiha Screw extractor set

Chromium-vanadium-molybdenum steel

Application:
For removing all types of damaged or broken screws.

Execution:
- 16-piece set including twist drill
- For screws with right-hand or left-hand threads
- Spot-drill broken off screw, drive in extractor, extract with box wrench.

Suitable for min./max. thread		M5-M16
Min./max. pilot hole Ø		2.3-11.0 mm
55013...	Ident. No.	**010** ●

Prod. Gr. 5JC

KUKKO Stud extractor

Individual or in a 4-piece set

Application:
for extraction of stud bolts or broken off components

Execution:
- high performance and long service life
- Operation via hexagon insert bit
- for use in confined spaces
- **Ident. No. 200:** 4-piece set, extra large clamping range
- **Ident. No. 206–216:** individual sizes with extra large clamping range

Min./max. clamping width	Max. clamping width (mm)	Length (mm)	55009... Ident. No.	
6-12 mm	12	-	**200**	●
-	6	65	**206**	●
-	8	65	**208**	●
-	10	75	**210**	●
-	12	75	**212**	●
-	14	75	**214**	●
-	16	75	**216**	●

Prod. Gr. 5JA

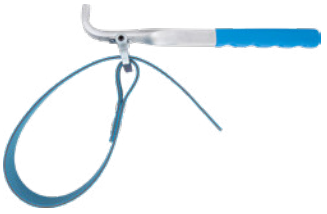
Ident. No. 200

Ident. No. 206–208, 212–214

GEDORE Strap wrenches

Application:
for gentle clamping of round parts

Execution:
- tensioning strap: highly tear-resistant and non-slip, replaceable.
- **Ident. No. 010:**
- C 45 – all-steel version
- Plastic-dipped steel handle
- **Ident. No. 020:**
- Forged version in 31CrV3 chrome-vanadium steel
- all-steel handle with jointed head



Ident. No. 010

Ident. No. 020

Max. clamping width (mm)		140	200
Length (mm)		220	285
Width of band (mm)		25	25
52157...	Ident. No.	**010** ●	**020** ●

Prod. Gr. 530

STAHLWILLE strap wrenches

Application:
For oil filters and delicate screws

Execution:
- Steel lever with plastic handle
- Non-slip rubber cloth tape

Technical data:
- Max. clamping width: 180 mm
- Length: 236 mm
- Width of band: 22 mm

52158...	Ident. No.	**200** ●

Prod. Gr. 531

RENNSTEIG Screw extractor set

Chromium-vanadium steel

Application:
For damage-free extraction of broken screws or bolts.

Execution:
- Non-slip, twin-edged intrusion in the damaged screw
- Burnished surface
- Polished cutting surface
- Patented version

- **Ident. No. 100:** Set of 5
- **Ident. No. 110:** Set of 5 pieces

Advantage:
- With centre punch tip and hexagonal shoulder
- For right-hand and left-hand threads

Delivery:
Ident. No. 100: In plastic bag
Ident. No. 110: In metal cassette

Ident. No. 100

Suitable for min./max. thread		M5-M20	M5-M20
Min./max. pilot hole Ø		3.2-15.9 mm	3.1-15.9 mm
55004...	Ident. No.	100 ●	110 ●

Prod. Gr. 522

Ident. No. 110

ZENTEN Pipe cutter

For thin-walled Al, Cu, stainless steel metal pipes

Application:
For cutting pipes with a clean cut.

Execution:
- For thin-walled metal pipes (aluminium, copper, INOX)
- **Ident. No. 410–450:**
  - With cutting wheel and two guide rollers
  - Die-cast zinc body, carriage and rotary knob
  - Steel-mounted spindle
- **Ident. No. 500:**
  - With cutting wheel and four guide rollers for optimum grip on the pipe
  - Magnesium die-cast body – lightweight yet with identical stress properties
  - Steel-mounted spindle, removable deburring tool.

Advantage:
- Quick cutting wheel replacement without needing tools thanks to Instant Change (IC) system
- **Ident. No. 410:** Compact design allows for considerably smaller working radius
- **Ident. No. 410–450:** Ergonomic rotary knob for optimum force transmission
- **Ident. No. 440, 500:** With spare cutting wheel in rotary knob

Ident. No. 410

Ident. No. 440

Ident. No. 450

Ident. No. 500

Model		basick+	kompakt+	basick+	kompakt+
Suitable for min./max. pipe outer Ø		3-16 mm	3-30 mm	3-35 mm	3-35 mm
Material of housing		Die-cast zinc	Die-cast zinc	Die-cast zinc	Die-cast magnesium
57001...	Ident. No.	410 ●	440 ●	450 ●	500 ●

Prod. Gr. 580

Accessories for		57001 410	57001 440	57001 450	57001 500
57001... Replacement cutting wheel for pipe cutter art. no. 57001410, 440, 450 and 500	Ident. No.	600 ●	600 ●	600 ●	600 ●

RIDGID 2-in-1 miniature pipe cutters

Application:
For particularly easy cutting of pipes with a clean cut.

Execution:
- Robust, lightweight carriage and wheel housing
- Cutting wheel and two guide rollers
- For copper and aluminium pipes
- Not suitable for composite pipes

Advantage:
- The mini pipe cutter can either be used alone or together with the ratchet
- With automatic feed using spring mechanism
- Particularly effective in confined areas thanks to the ratchet

Suitable for min./max. pipe outer Ø		6-28 mm
57019...	Ident. No.	010 ●

Prod. Gr. 5JR

Accessories for		57019 010
57019... Replacement cutting wheel for pipe cutter art. no. 57019010	Ident. No.	100 ●

ZENTEN Pipe cutter

For plastic and composite pipes

Application:
For cutting pipes with a clean cut.

Execution:
- For synthetic and compound pipes
- Cast aluminium body
- Die-cast zinc slide and rotary knob
- **Ident. No. 101:** With four guide rollers for optimum grip on pipe
- **Ident. No. 102:** With two fixed guide rollers and one adjustable guide roller

Advantage:
- Conical rotary knob for improved force transfer
- Quick cutting wheel replacement without needing tools thanks to Instant Change (IC) system
- Includes fully removable deburring tool
- With quick-action feed system
- **Ident. No. 101:** With spare cutting wheel in rotary knob
- **Ident. No. 102:** PTFE-coated pinion type cutters

Technical data:
- Model: kompakt+ quick

Ident. No. 101

Ident. No. 102

Suitable for min./max. pipe outer Ø		6-76 mm	50-127 mm
57030...	Ident. No.	101 ●	102 ●

Prod. Gr. 580

Accessories for		57030 101	57030 102
57032... Replacement cutting wheel for pipe cutter art. no. 57030101 19 x 6 mm	Ident. No.	100 ●	-
57032... Replacement cutting wheel for pipe cutter art. no. 57030101 30 x 62 mm	Ident. No.	106 ●	-
57032... Replacement cutting wheel for pipe cutter art. no. 57030102 25 x 11 mm	Ident. No.	-	107 ●
57032... Replacement cutting wheel for pipe cutter art. no. 57030102 51 x 11 mm	Ident. No.	-	108 ●
57032... Replacement cutting wheel for pipe cutter art. no. 57030102 45 x 11 mm	Ident. No.	-	109 ●

ZENTEN Pipe cutter

For INOX stainless steel pipes

Execution:
- For thin-walled INOX stainless steel pipes
- With needle bearing-mounted cutting wheel with special cutting geometry
- With four needle bearing-mounted guide rollers for easy and quick cuts
- Steel-mounted spindle
- **Ident. No. 035:** Die-cast magnesium body
- **Ident. No. 076:** Cast aluminium body

Advantage:
- Conical rotary knob for improved force transfer
- Quick cutting wheel replacement without needing tools thanks to Instant Change (IC) system
- With spare cutting wheel in rotary knob
- Includes fully removable deburring tool
- **Ident. No. 076:** With quick-action feed system

Technical data:
- Model: inox kompakt+

Ident. No. 035

Ident. No. 076

Suitable for min./max. pipe outer Ø		3-35 mm	6-76 mm
57035...	Ident. No.	035 ●	076 ●

Prod. Gr. 580

Accessories for		57035 035	57035 076
57035... Replacement cutting wheel for pipe cutter art. no. 57035035	Ident. No.	135 ●	-
57035... Replacement cutting wheel for pipe cutter art. no. 57035076	Ident. No.	-	176 ●

ZENTEN RAPTOR plastic and composite pipe cutters

Application:
For cutting pipes without warping the pipe.

Execution:
- Made from die-cast magnesium with INOX blade
- Optimum force transmission
- 100% straight cut
- **Ident. No. 110:** With progressive, gear-driven blade feed

Advantage:
- Easy cutting thanks to PTFE-coated blade
- Tools not needed to change blades
- **Ident. No. 110:**
  - Blade quickly retracts at the push of a button
  - Handle with ergonomic rubber inlay

Ident. No. 100

Ident. No. 110

Suitable for min./max. pipe outer Ø		0-26 mm	0-42 mm
53138...	Ident. No.	100 ●	110 ●

Prod. Gr. 580

Accessories for		53138 100	53138 110
53138... Replacement blade for pipe cutters art. 53138100	Ident. No.	200 ●	-
53138... Replacement blade for pipe cutters art. 53138110	Ident. No.	-	210 ●

ZENTEN DENAKUT hose and composite pipe cutters

For flexible hoses, thin-walled plastic pipes, composite and corrugated pipes

Application:
Ident. No. 400: For cutting flexible hoses
Ident. No. 410: For cutting flexible hoses and soft plastic tubes
Ident. No. 420: for cutting composite piping and corrugated pipes

Execution:
- **Ident. No. 400–410:**
  - Magnesium die-cast body
  - Blade with optimised cutting geometry and PTFE coating
  - One-handed closure system
- **Ident. No. 410:**
  - Steel bearing axle with needle roller bearings
  - Ergonomic two-component handles with anti-impact absorption
- **Ident. No. 420:**
  - magnesium die-cast body
  - twist and cut system: 4 needle bearing guide rollers make it easy to rotate the pipe when cutting
  - one-handed closure system
  - blade with optimised cutting geometry and PTFE coating
  - steel bearing axle with needle roller bearings
  - with 4 x 3-edged blades on the inside of the handle, protective corrugated pipes from 8 to 35 mm can be cut without damaging the inner tube
  - ergonomic two-component handles with anti-impact absorption

Advantage:
- **Ident. No. 400–410:** Easier, faster and more precise cutting with minimal application of force
- **Ident. No. 420:** easier, faster and more precise cutting with minimal application of force

Ident. No. 400

Ident. No. 410

Ident. No. 420

Suitable for min./max. pipe outer Ø		0-22 mm	0-28 mm	0-26 mm
53138...	Ident. No.	400 ●	410 ●	420 ●

Prod. Gr. 580

Accessories for		53138 400	53138 410	53138 420
53138... Replacement blade for hose cutter DENAKUT 22 mm art. no. 53138400	Ident. No.	500 ●	-	-
53138... Replacement blade for hose cutter DENAKUT 28 mm art. no. 53138410	Ident. No.	-	510 ●	-
53138... Replacement blade for composite pipe cutter DENAKUT 26 mm art. no. 53135 420	Ident. No.	-	-	520 ●
53138... Replacement blade for corrugated pipe shears DENAKUT 26 mm Set of 4 pieces	Ident. No.	-	-	530 ●

ATORN Pipe and hose cutters for professional users

With interchangeable blade

Application:
For cutting at right angles without deformation of the pipe

Execution:
- Universal support for right-angled positioning
- Ergonomic handle design
- Automatic opening by spring mechanism
- Low manual force thanks to optimum lever transmission
- Permanently sharp blade with long service life
- Wide range of applications from 4–20 mm diameter
- Suitable for all standard liquid, multi-layer and pneumatic hoses/pipes
- Rectangular blade as spare part - art. no. 53139100, triangular blade for softer materials - art. no. 53139110

Advantage:
- Light and precise cut
- Up to 20,000 cuts through composite pipe without the need to change blades

Delivery:
With rectangular blade

Technical data:
- Suitable for min./max. pipe outer diameter: 4-20 mm
- Length: 185 mm

53139...	Ident. No.	010 ●

Prod. Gr. 520

Accessories for		53139 010
53139... Spare blade for ATORN pipe cutters Rectangular or triangular	Ident. No.	100 ● 110 ●

ZENTEN Pipe deburring tools

Application:
For deburring pipes inside and out.

Execution:
- ABS plastic body with three in-laid Solingen blades
- For hard plastic pipes and soft metal pipes

57033...	Ident. No.	010 ●

Prod. Gr. 580

RIDGID Pipe deburring tools

Application:
For copper and stainless steel pipes

Execution:
- Hardened steel construction, internal/external deburrer
- 46 blades on the hardened cone enable quick and clean deburring from inside and internal chamfering.
- Non-slip external knurling on housing

57033...	Ident. No.	110 ●

Prod. Gr. 5JR

ZENTEN Chalk line reel with coloured powder

Application:
For simple marking of lines.

Execution:
- Lightweight and low-wear die-cast magnesium housing
- When pressure is applied to the axis, the line can be drawn out in idle mode, without the crank rotating
- Storage space for hook integrated in body
- Large inner capacity for colour powder

Advantage:
- Quick-action retraction with 5:1 ratio
- Hardened hook with curved spikes (can be nailed onto edges)
- 3-part set with chalk line roller and 2 x 250-g bottles of colour powder, in blue and red

Technical data:
- Cord length: 30 m
- Contents: 500

57041...	Ident. No.	010 ●

Prod. Gr. 580

KNIPEX Pipe cutter
with interchangeable blade

Application:
Ident. No. 010: For burr-free cutting of thin-walled plastic pipes and hoses (incl. fabric-reinforced) up to 25 mm.
Ident. No. 020: For burr-free cutting of plastic pipes from 6–35 mm

Execution:
- **Ident. No. 010:**
  - Wedge-shaped blade made from special tool steel, oil-hardened
  - Tool body: Plastic, glass fibre reinforced
  - Not suitable for cutting cables
  - With opening spring and catch
- **Ident. No. 020:**
  - Low effort required thanks to special cutting edge geometry and optimum transmission
  - Ergonomic grip design and step-by-step blade feed
  - Blade can be retrieved from any position

Advantage:
- **Ident. No. 010:** Straight and clean cut without deformation

Suitable for min./max. pipe outer Ø		0-25 mm	6-35 mm
Length (mm)		185	184
53728...	Ident. No.	010 ●	020 ●

Prod. Gr. 535

Accessories for		53728 010
53728... Pipe cutter With interchangeable knife	Ident. No.	100 ●

Ident. No. 010

Ident. No. 020

Karnasch angle bender 100 E

Bending machine to meet exacting requirements and for professional applications

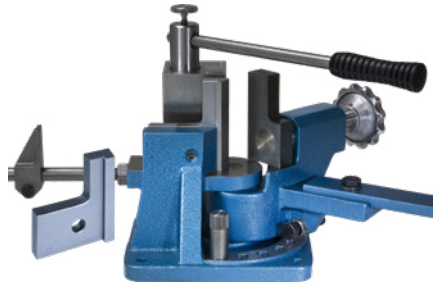
Application:
For cold and warm bending

Execution:
- Basic body and bending arm cast and milled from spheroidal graphite iron (no grey cast iron)
- Bending performance with radius jaw: Flat steel 100 x 6 mm or 50 x 12 mm, hot 100 x 12 mm or 60 x 20 mm
- Round steel: 18 mm, hot: 30 mm
- Using the included sharp-edged jaw: sheets up to maximum thickness of 2 mm
- With holes for workbench mounting
- Can be used immediately with basic equipment provided
- Dimensions: 290 x 260 mm (length x width), bending lever: 710 mm, longitudinal stop: 440 mm

Advantage:
- The low tare weight of the spheroidal graphite iron still allows optimum bending performance
- Using high-grade steel that has undergone subsequent heat treatment,
- it is possible to keep the dimensions of the bending jaws small.
- Tightest Z and U-bends are therefore possible

Delivery:
Bender with bending lever, sharp-edged jaw, radius jaw r = 4 mm, longitudinal stop, bending stop, on-board tool

Technical data:
- Max. flexible cross-section: 100 x 10 mm
- Max. bend angle: 60 Degree
- Weight: 25 kg



57586...	Ident. No.	200 ●

Prod. Gr. 5IF

ORION® Single open-end wrench (DIN 894)

15° jaw angle

Execution:
- Special steel
- Strong shank with double-T profile

Advantage:
- Shaft profile creates excellent bending rigidity
- Good force transfer
- Non-slip feel

Technical data:
- Jaw position: 15 Degree
- Surface: Burnished
- Material: Chrome-vanadium steel

Width across flats	Length (mm)	Thickness (mm)	52002... Ident. No.	
6 mm	75	3.2	006	●
7 mm	80	3.2	007	●
8 mm	95	3.5	008	●
9 mm	100	4	009	●
10 mm	105	4.5	010	●
11 mm	110	5	011	●
12 mm	125	5	012	●
13 mm	130	5.5	013	●
14 mm	140	5.5	014	●
15 mm	145	5.5	015	●
16 mm	155	5.5	016	●
17 mm	160	6	017	●
18 mm	160	6	018	●

Width across flats	Length (mm)	Thickness (mm)	52002... Ident. No.	
19 mm	170	7	019	●
22 mm	195	8	022	●
24 mm	215	9	024	●
25 mm	215	9	025	●
27 mm	240	10	027	●
30 mm	260	11	030	●
32 mm	275	12	032	●
36 mm	305	13	036	●
38 mm	305	13	038	●
41 mm	345	14	041	●
46 mm	380	15	046	●
50 mm	415	16	050	●
55 mm	460	17	055	●

Width across flats	Length (mm)	Thickness (mm)	52002... Ident. No.	
60 mm	495	18	060	●
65 mm	530	19	065	●
70 mm	575	20	070	●
75 mm	610	21	075	●
80 mm	645	22	080	●
85 mm	690	23	085	●
90 mm	740	25	090	●
95 mm	740	25	095	●
100 mm	800	26	100	●
105 mm	850	28	105	●
110 mm	900	28	110	●

Prod. Gr. 526

ATORN Open-end slugging wrench (DIN 133)

15° jaw angle

Application:
For loosening tightly secured fittings

Execution:
- Die-forged heat-treated steel
- Very high impact strength for especially heavy screwing applications

Technical data:
- Jaw position: 15 Degree
- Surface: Plain
- Material: Chrome-vanadium steel

Ident. No. 027

Width across flats	Length (mm)	Thickness (mm)	52004... Ident. No.	
24 mm	180	16	024	●
27 mm	180	16	027	●
30 mm	190	17	030	●
32 mm	190	17	032	●
34 mm	215	17.5	034	●
36 mm	215	17.5	036	●

Width across flats	Length (mm)	Thickness (mm)	52004... Ident. No.	
41 mm	235	18.5	041	●
46 mm	255	20	046	●
50 mm	275	21	050	●
55 mm	300	23	055	●
60 mm	320	24.5	060	●
65 mm	342	27	065	●

Width across flats	Length (mm)	Thickness (mm)	52004... Ident. No.	
70 mm	375	30	070	●
75 mm	375	30	075	●
80 mm	408	34	080	●
85 mm	408	34	085	●

Prod. Gr. 5HB

ATORN Double open-end wrench (DIN 3110)

Jaw angle 15° at both ends

Execution:
- With completely new special surface
- Maximum resistance against contact corrosion
- 15x greater corrosion protection against exposure to temperature, road salt and environmental influences compared to conventionally coated keys
- Up to 720 hours in the salt spray test in accordance with DIN EN ISO 9227
- Environmentally friendly chromium-VI-free coating process
- Made from chromium-vanadium steel, die-forged and hardened.

Advantage:
- Extremely durable and robust industrial design

Technical data:
- Jaw position: 15 Degree
- Material: Chrome-vanadium steel
- Surface: Special coating according to specifications

Ident. No. 290

Width across flats	Length (mm)	52010... Ident. No.	
5.5 x 7 mm	124	200	●
6 x 7 mm	125	210	●
8 x 9 mm	140	220	●
8 x 10 mm	144	230	●
10 x 11 mm	159	240	●
10 x 13 mm	173	250	●
11 x 13 mm	173	260	●
12 x 13 mm	173	270	●
12 x 14 mm	174	280	●
13 x 14 mm	186	290	●
13 x 15 mm	188	300	●

Width across flats	Length (mm)	52010... Ident. No.	
13 x 17 mm	191	310	●
14 x 15 mm	191	320	●
14 x 17 mm	192	330	●
16 x 17 mm	201	340	●
16 x 18 mm	201	350	●
17 x 19 mm	204	360	●
18 x 19 mm	220	370	●
19 x 22 mm	236	380	●
20 x 22 mm	237	400	●
21 x 23 mm	239	410	●
22 x 24 mm	248	420	●

Width across flats	Length (mm)	52010... Ident. No.	
24 x 26 mm	247	430	●
24 x 27 mm	263	440	●
25 x 28 mm	280	450	●
27 x 30 mm	280	460	●
27 x 32 mm	292	470	●
30 x 32 mm	295	480	●
32 x 36 mm	310	490	●
34 x 36 mm	332	500	●
36 x 41 mm	352	510	●
41 x 46 mm	421	520	●

Prod. Gr. 5HB

ORION® Double open-end wrench (DIN 895)

Jaw angle 15° at both ends

Execution:
- Special steel
- Strong shank with double-T profile

Advantage:
- Shaft profile creates excellent bending rigidity
- Good force transfer
- Non-slip feel

Technical data:
- Jaw position: 15 Degree
- Material: Chrome-vanadium steel
- Surface: Burnished

Width across flats	Length (mm)	Thickness (mm)	52008... Ident. No.	
6 x 7 mm	96	3.3	010	●
7 x 8 mm	108	4	020	●
8 x 9 mm	108	4	040	●
8 x 10 mm	115	4.5	050	●
9 x 11 mm	124	5	080	●
10 x 11 mm	124	5	090	●
10 x 13 mm	140	5	110	●
11 x 13 mm	140	5.5	130	●
12 x 13 mm	140	5.5	150	●
12 x 14 mm	140	5.5	160	●
13 x 14 mm	140	5.5	170	●
13 x 15 mm	155	5.5	180	●
13 x 17 mm	160	6	190	●
14 x 15 mm	155	5.5	195	●
14 x 17 mm	160	6	200	●
16 x 17 mm	160	6	205	●
16 x 18 mm	170	6.5	208	●
17 x 19 mm	170	7	210	●
17 x 22 mm	195	8	220	●
18 x 19 mm	170	7	225	●

Width across flats	Length (mm)	Thickness (mm)	52008... Ident. No.	
18 x 21 mm	195	8	228	●
19 x 22 mm	195	8	230	●
19 x 24 mm	205	9	240	●
20 x 22 mm	195	8	245	●
21 x 23 mm	220	9	247	●
22 x 24 mm	220	9	250	●
22 x 27 mm	235	10	260	●
24 x 27 mm	245	10	270	●
24 x 30 mm	270	11	280	●
25 x 28 mm	245	10	285	●
27 x 30 mm	275	12	290	●
27 x 32 mm	275	11	300	●
30 x 32 mm	275	12	310	●
30 x 36 mm	305	13	320	●
32 x 36 mm	310	14	330	●
36 x 41 mm	345	14	340	●
41 x 46 mm	380	15	350	●
46 x 50 mm	420	16	360	●
50 x 55 mm	460	17	370	●
55 x 60 mm	500	18	380	●

Prod. Gr. 526

STAHLWILLE® Double open-end wrench (DIN 3110)

Jaw angle 15° at both ends

Technical data:
- Jaw position: 15 Degree
- Material: Steel, specially hardened
- Surface: Chrome plated

Width across flats	Length (mm)	52013... Ident. No.	
4 x 5 mm	100	010	●
5.5 x 7 mm	120	030	●
6 x 7 mm	120	040	●
7 x 8 mm	140	050	●
8 x 9 mm	140	060	●
8 x 10 mm	140	070	●
10 x 11 mm	155	100	●
10 x 12 mm	170	105	●
10 x 13 mm	170	110	●
11 x 13 mm	170	130	●
12 x 13 mm	170	150	●
12 x 14 mm	170	160	●
13 x 14 mm	190	170	●

Width across flats	Length (mm)	52013... Ident. No.	
13 x 15 mm	190	180	●
13 x 17 mm	205	190	●
14 x 15 mm	190	200	●
14 x 17 mm	205	210	●
16 x 17 mm	205	220	●
16 x 18 mm	220	222	●
17 x 19 mm	220	230	●
18 x 19 mm	220	240	●
18 x 21 mm	235	245	●
19 x 22 mm	235	250	●
20 x 22 mm	235	270	●
21 x 23 mm	250	280	●
21 x 24 mm	250	285	●

Width across flats	Length (mm)	52013... Ident. No.	
22 x 24 mm	250	290	●
24 x 26 mm	270	310	●
24 x 27 mm	280	320	●
25 x 28 mm	285	340	●
27 x 32 mm	300	370	●
30 x 32 mm	300	380	●
30 x 34 mm	300	385	●
32 x 36 mm	325	400	●
34 x 36 mm	325	405	●
36 x 41 mm	375	410	●
41 x 46 mm	425	420	●

Prod. Gr. 531

ORION® Double open-end wrench (DIN 3110)

Jaw angle 15° at both ends

Technical data:
- Jaw position: 15 Degree
- Material: Chrome-vanadium steel
- Surface: Chrome plated

Width across flats	Length (mm)	Thickness (mm)	52017... Ident. No.	
6 x 7 mm	125	3.5	040	●
8 x 9 mm	142	3.9	060	●
8 x 10 mm	140	4.2	070	●
10 x 11 mm	157	4.5	105	●
10 x 13 mm	172	5.0	110	●
12 x 13 mm	173	5.0	150	●
13 x 15 mm	188	5.5	180	●
13 x 17 mm	205	5.8	190	●
14 x 15 mm	188	5.5	200	●

Width across flats	Length (mm)	Thickness (mm)	52017... Ident. No.	
16 x 17 mm	205	6.0	220	●
17 x 19 mm	210	6.5	230	●
18 x 19 mm	222	6.5	240	●
19 x 22 mm	233	7.0	250	●
20 x 22 mm	236	7.0	270	●
22 x 24 mm	249	7.8	290	●
24 x 27 mm	266	8.0	320	●
30 x 32 mm	304	9.0	380	●

Prod. Gr. 526

ATORN Double open-end wrench sets (DIN 3110)

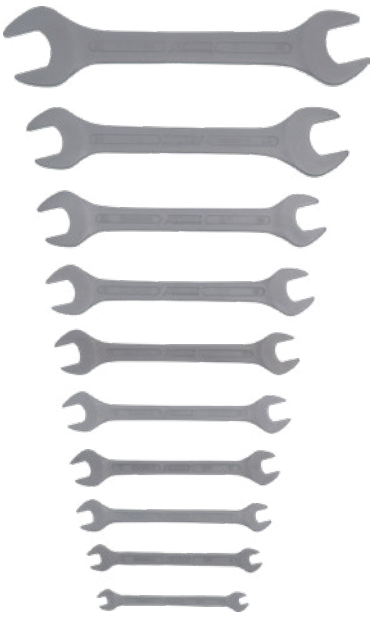
Jaw angle 15° at both ends

Application:
For tightening and loosening all types of screw connections

Execution:
- With completely new special surface
- Maximum resistance against contact corrosion
- 15x greater corrosion protection against exposure to temperature, road salt and environmental influences compared to conventionally coated keys
- Up to 720 hours in the salt spray test in accordance with DIN EN ISO 9227
- Environmentally friendly chromium-VI-free coating process
- Made from chromium-vanadium steel, die-forged and hardened.

Advantage:
- Extremely durable and robust industrial design

Technical data:
- Jaw position: 15 Degree
- Surface: Special coating according to specifications
- Material: Chrome-vanadium steel



Ident. No. 610

Width across flats	Number of pieces in assortment/set (PCS)	52010... Ident. No.	
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm	8	600	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm | 24 x 27 mm | 30 x 32 mm	10	610	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm | 21 x 23 mm | 24 x 27 mm | 25 x 28 mm | 30 x 32 mm	12	620	●

Prod. Gr. 5HB

GEDORE Double open-end wrench sets (DIN 3110)

Jaw angle 15° at both ends

Advantage:
- Range of the most common double open-end wrenches to suit practical demands

Technical data:
- Jaw position: 15 Degree
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Ident. No. 715

Width across flats	Number of pieces in assortment/set (PCS)	52012... Ident. No.	
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm	8	700	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm | 21 x 23 mm | 24 x 27 mm | 25 x 28 mm | 30 x 32 mm	12	710	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm | 21 x 23 mm | 24 x 26 mm | 25 x 28 mm | 27 x 32 mm	12	715	●

Prod. Gr. 530

STAHLWILLE® Double open-end wrench sets, metric and inch (DIN 3110)

Jaw angle 15° at both ends

Advantage:
- Range of the most common double open-end wrenches to suit practical demands

Delivery:

Ident. No. 700–720: in fabric tool roll with Velcro fastener

Ident. No. 800–810: in fabric tool roll with hook-and-loop fastener

Technical data:
- Jaw position: 15 Degree
- Surface: Chrome plated
- Material: Steel, specially hardened

Width across flats	Number of pieces in assortment/set (PCS)	52013... Ident. No.	
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm	8	700	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm | 24 x 27 mm | 30 x 32 mm	10	715	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm | 21 x 23 mm | 24 x 27 mm | 25 x 28 mm | 30 x 32 mm	12	720	●
1/4 x 5/16 inch | 3/8 x 7/16 inch | 1/2 x 9/16 inch | 5/8 x 3/4 inch | 11/16 x 13/16 inch | 7/8 x 15/16 inch | 11/8 x 15/16 inch	7	800	●
1/4 x 5/16 inch | 3/8 x 7/16 inch | 1/2 x 9/16 inch | 9/16 x 5/8 inch | 19/32 x 11/16 inch | 5/8 x 3/4 inch | 11/16 x 13/16 inch | 3/4 x 7/8 inch | 25/32 x 13/16 inch | 7/8 x 15/16 inch | 11/8 x 15/16 inch	11	810	●

Prod. Gr. 531

Ident. No. 715

Ident. No. 800

HAZET Double open-end wrench sets (DIN 3110)

Jaw angle 15° at both ends

Advantage:
- Range of the most common double open-end wrenches to suit practical demands

Delivery:

Ref. no. 820 and 840 in box, ref. no. 870 and 890 in plastic clamp holder

Technical data:
- Jaw position: 15 Degree
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats	Number of pieces in assortment/set (PCS)	52015... Ident. No.	
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 21 x 22 mm | 24 x 26 mm | 27 x 32 mm	10	820	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm | 21 x 23 mm | 24 x 26 mm | 25 x 28 mm | 27 x 32 mm	12	840	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 21 x 22 mm	8	870	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm | 21 x 23 mm | 24 x 27 mm | 25 x 28 mm | 30 x 32 mm	12	890	●

Prod. Gr. 569

Ident. No. 840

Ident. No. 890

ORION® Double open-end wrench sets (DIN 3110)

Jaw angle 15° at both ends

Advantage:
- Range of the most common double open-end wrenches to suit practical demands

Technical data:
- Jaw position: 15 Degree
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Ident. No. 870

Width across flats	Number of pieces in assortment/set (PCS)	52017... Ident. No.	
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm	8	850	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm | 24 x 27 mm | 30 x 32 mm	10	860	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 10 x 13 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 17 x 19 mm | 18 x 19 mm | 20 x 22 mm | 24 x 27 mm | 30 x 32 mm	12	870	●

Prod. Gr. 526

ATORN Combination wrench (DIN 3113)

Jaw angle 15°, box-end side angled 15°

Ident. No. 013

Execution:
- With completely new special surface
- Maximum resistance against contact corrosion
- 15x greater corrosion protection against exposure to temperature, road salt and environmental influences compared to conventionally coated keys
- Up to 720 hours in the salt spray test in accordance with DIN EN ISO 9227
- Environmentally friendly chromium-VI-free coating process
- Made from chromium-vanadium steel, die-forged and hardened.
- DIN 3113 A

Advantage:
- Extremely durable and robust industrial design

Technical data:
- Tip profile type: ENERGY profile
- Jaw position: 15 Degree
- Surface: Special coating according to specifications
- Material: Chrome-vanadium steel

Width across flats	Length (mm)	52034... Ident. No.	
5 mm	90	004	●
5.5 mm	92	005	●
6 mm	100	006	●
7 mm	110	007	●
8 mm	120	008	●
9 mm	130	009	●
10 mm	140	010	●
11 mm	150	011	●
12 mm	160	012	●
13 mm	170	013	●
14 mm	180	014	●

Width across flats	Length (mm)	52034... Ident. No.	
15 mm	190	015	●
16 mm	190	016	●
17 mm	210	017	●
18 mm	210	018	●
19 mm	230	019	●
20 mm	230	020	●
21 mm	260	021	●
22 mm	260	022	●
23 mm	270	023	●
24 mm	280	024	●
25 mm	280	025	●

Width across flats	Length (mm)	52034... Ident. No.	
26 mm	290	026	●
27 mm	310	027	●
28 mm	310	028	●
30 mm	340	030	●
32 mm	360	032	●
34 mm	420	034	●
36 mm	460	036	●
41 mm	480	041	●
46 mm	500	046	●

Prod. Gr. 5HB

STAHLWILLE® Combination wrench (DIN 3113)

Jaw angle 15°, box-end side angled 15°

Execution:
- Up to size 5 mm with hexagon box end
- From size 5.5 mm with bi-hexagon box end

Advantage:
- High force transmission to the edges of the bolts and nuts for optimum load distribution
- Increased bolt and nut service lives

Technical data:
- Tip profile type: AS drive profile
- Jaw position: 15 Degree
- Surface: Chrome plated
- Material: Steel, specially hardened

Ident. No. 170

Width across flats	Length (mm)	52036... Ident. No.	
3.2 mm	75	032	●
3.5 mm	75	035	●
4 mm	85	040	●
4.5 mm	85	045	●
5 mm	95	050	●
5.5 mm	100	055	●
6 mm	105	060	●
7 mm	110	070	●
8 mm	115	080	●
9 mm	120	090	●
10 mm	125	100	●

Width across flats	Length (mm)	52036... Ident. No.	
11 mm	135	110	●
12 mm	140	120	●
13 mm	160	130	●
14 mm	165	140	●
15 mm	170	150	●
16 mm	180	160	●
17 mm	190	170	●
18 mm	200	180	●
19 mm	230	190	●
20 mm	230	200	●
21 mm	260	210	●

Width across flats	Length (mm)	52036... Ident. No.	
22 mm	260	220	●
23 mm	280	230	●
24 mm	280	240	●
25 mm	300	250	●
26 mm	300	260	●
27 mm	300	270	●
28 mm	320	280	●
29 mm	330	290	●
30 mm	330	300	●
32 mm	360	320	●
34 mm	450	340	●

Width across flats	Length (mm)	52036... Ident. No.	
36 mm	460	360	●
38 mm	480	380	●
41 mm	480	410	●

Width across flats	Length (mm)	52036... Ident. No.	
46 mm	500	460	●
50 mm	530	500	●
55 mm	560	550	●

Width across flats	Length (mm)	52036... Ident. No.	
60 mm	590	600	●

Prod. Gr. 531

ORION® Combination wrench (DIN 3113)

Jaw angle 15°, box-end side angled 15°

Technical data:
- Tip profile type: Standard profile
- Jaw position: 15 Degree
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats	Length (mm)	52037... Ident. No.	
6 mm	100	060	●
7 mm	110	070	●
8 mm	120	080	●
9 mm	130	090	●
10 mm	140	100	●
11 mm	150	110	●
12 mm	160	120	●

Width across flats	Length (mm)	52037... Ident. No.	
13 mm	170	130	●
14 mm	180	140	●
15 mm	190	150	●
16 mm	190	160	●
17 mm	210	170	●
18 mm	210	180	●
19 mm	230	190	●

Width across flats	Length (mm)	52037... Ident. No.	
20 mm	230	200	●
22 mm	260	220	●
24 mm	280	240	●
27 mm	310	270	●
30 mm	340	300	●
32 mm	360	320	●

Prod. Gr. 526

ATORN Combination wrench sets (DIN 3113)

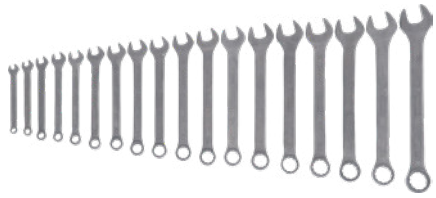
Jaw angle 15°, box-end side angled 15°

Energy

Execution:
- With completely new special surface
- Maximum resistance against contact corrosion
- 15x greater corrosion protection against exposure to temperature, road salt and environmental influences compared to conventionally coated keys
- Up to 720 hours in the salt spray test in accordance with DIN EN ISO 9227
- Environmentally friendly chromium-VI-free coating process
- Made from chromium-vanadium steel, die-forged and hardened.
- DIN 3113 A

Advantage:
- Extremely durable and robust industrial design

Technical data:
- Jaw position: 15 Degree
- Tip profile type: ENERGY profile
- Surface: Special coating according to specifications
- Material: Chrome-vanadium steel



Ident. No. 730

Width across flats	Number of pieces in assortment/set (PCS)	52034... Ident. No.	
8 mm | 10 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm	9	700	●
6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm	12	710	●
10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 17 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	12	720	●
6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 24 mm	18	730	●

Prod. Gr. 5HB

GEDORE Combination wrench sets, metric (DIN 3113)

Jaw angle 15°, box-end side angled 15°

Execution:
- ring side with UD profile for gentle power transmission
- hollow shaft for a secure grip

Technical data:
- Jaw position: 15 Degree
- Tip profile type: UD profile
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Ident. No. 410

Width across flats	Number of pieces in assortment/set (PCS)	52032... Ident. No.	
10 mm | 12 mm | 13 mm | 14 mm | 17 mm | 19 mm | 22 mm | 24 mm	8	400	●
10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 17 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	12	410	●
6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm	17	420	●

Prod. Gr. 530

GEDORE Combination wrench set XL, extra long (DIN 3113)

Wrench types 52032610-632

Execution:
- Ring side with UD profile for gentle power transmission
- Hollow shaft for a secure grip
- Extra long for increased torque

Technical data:
- Width across flats: 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 17 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm
- Number of pieces in assortment/set: 12 PCS
- Jaw position: 15 Degree
- Tip profile type: UD profile
- Surface: Chrome plated
- Material: Chrome-vanadium steel

52032...	Ident. No.	700 ●

Prod. Gr. 530

STAHLWILLE Combination wrench sets, metric and inch (DIN 3113)

Execution:
- Type AK

Advantage:
- Practical range of various combination wrenches with the most common wrench sizes

Delivery:
in textile tool roll with hook-and-loop fastener, 800 and 810 in cardboard box

Technical data:
- Jaw position: 15 Degree
- Tip profile type: AS drive profile
- Surface: Chrome plated
- Material: Steel, specially hardened

Ident. No. 710

Width across flats	Number of pieces in assortment/set (PCS)	52036... Ident. No.	
8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 17 mm | 19 mm	11	700	●
6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 17 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	15	710	●
6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm	17	720	●
7/16 inch | 1/2 inch | 9/16 inch | 5/8 inch | 11/16 inch | 3/4 inch | 13/16 inch | 7/8 inch	8	800	●
1/4 inch | 9/32 inch | 5/16 inch | 11/32 inch | 3/8 inch | 7/16 inch | 1/2 inch | 9/16 inch | 19/32 inch | 5/8 inch | 11/16 inch | 3/4 inch | 25/32 inch | 13/16 inch | 7/8 inch | 15/16 inch | 1 inch | 1 1/16 inch | 1 1/8 inch | 1 1/4 inch	20	810	●

Prod. Gr. 531

HAZET Combination wrench sets, metric (DIN 3113)

Advantage:
- Practical range of various combination wrenches with the most common wrench sizes

Delivery:
Supplied in boxes

Technical data:
- Jaw position: 15 Degree
- Tip profile type: Tractions profile
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Ident. No. 820

Width across flats	Number of pieces in assortment/set (PCS)	52038... Ident. No.	
7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 21 mm | 22 mm | 24 mm | 27 mm	17	820	●
6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 21 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm | 34 mm	21	830	●
5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 23 mm | 24 mm | 25 mm | 26 mm | 27 mm | 28 mm | 29 mm | 30 mm | 32 mm | 34 mm | 36 mm | 41 mm	30	840	●

Prod. Gr. 569

ORION® Combination wrench sets, metric (DIN 3113)

Jaw angle 15°, box-end side angled 15°

Advantage:
- Practical range of various combination wrenches with the most common wrench sizes

Technical data:
- Jaw position: 15 Degree
- Tip profile type: ENERGY profile
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Ident. No. 670

Width across flats	Number of pieces in assortment/set (PCS)	52037... Ident. No.	
8 mm | 9 mm | 10 mm | 11 mm | 13 mm | 14 mm | 17 mm | 19 mm	8	670	●
6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 17 mm | 19 mm | 22 mm	12	680	●
10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 17 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	12	684	●
6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 22 mm | 24 mm	17	690	●

Prod. Gr. 526

ATORN Combination wrench (DIN 3113)

15° jaw angle, box-end side flat depressed centre

Energy

Ident. No. 119

Execution:
- With completely new special surface
- Maximum resistance against contact corrosion
- 15x greater corrosion protection against exposure to temperature, road salt and environmental influences compared to conventionally coated keys
- Up to 720 hours in the salt spray test in accordance with DIN EN ISO 9227
- Environmentally friendly chromium-VI-free coating process
- Made from chromium-vanadium steel, die-forged and hardened.
- DIN 3113 B

Advantage:
- Extremely durable and robust industrial design

Technical data:
- Tip profile type: ENERGY profile
- Jaw position: 15 Degree
- Surface: Special coating according to specifications
- Material: Chrome-vanadium steel

Width across flats	Length (mm)	52039... Ident. No.	
5 mm	95	104	●
5.5 mm	100	105	●
6 mm	100	106	●
7 mm	115	107	●
8 mm	125	108	●
9 mm	140	109	●
10 mm	145	110	●
11 mm	160	111	●

Width across flats	Length (mm)	52039... Ident. No.	
12 mm	165	112	●
13 mm	180	113	●
14 mm	190	114	●
15 mm	210	115	●
16 mm	220	116	●
17 mm	230	117	●
18 mm	245	118	●
19 mm	260	119	●

Width across flats	Length (mm)	52039... Ident. No.	
20 mm	270	120	●
21 mm	280	121	●
22 mm	290	122	●
24 mm	320	124	●
27 mm	350	127	●
30 mm	390	130	●
32 mm	410	132	●
36 mm	430	136	●

Prod. Gr. 5HB

GEDORE Combination wrench (DIN 3113)

WERKZEUGE FÜRS LEBEN

15° jaw angle, box-end side flat depressed centre

Advantage:
- No pinching of edges on bolts and nuts due to force application on sides with optimum load distribution

Technical data:
- Tip profile type: UD profile
- Jaw position: 15 Degree
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats	Length (mm)	52042... Ident. No.	
5 mm	100	550	●
5.5 mm	100	555	●
6 mm	100	560	●
7 mm	112	570	●
8 mm	125	580	●
9 mm	138	590	●
10 mm	148	600	●
11 mm	158	610	●
12 mm	168	620	●
13 mm	185	630	●
14 mm	198	640	●
15 mm	210	650	●

Width across flats	Length (mm)	52042... Ident. No.	
16 mm	220	660	●
17 mm	232	670	●
18 mm	245	680	●
19 mm	258	690	●
20 mm	270	700	●
21 mm	280	710	●
22 mm	292	720	●
23 mm	305	730	●
24 mm	318	740	●
25 mm	328	750	●
26 mm	340	760	●
27 mm	352	770	●

Width across flats	Length (mm)	52042... Ident. No.	
28 mm	370	780	●
29 mm	370	790	●
30 mm	390	800	●
32 mm	412	820	●
34 mm	412	840	●
36 mm	460	860	●
41 mm	520	880	●
46 mm	550	890	●
50 mm	580	900	●
55 mm	620	910	●
60 mm	660	920	●

Prod. Gr. 530

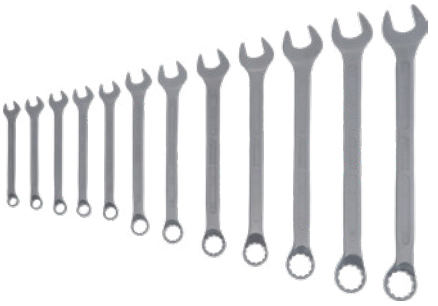
ATORN Combination wrench sets (DIN 3113)

15° jaw angle, box-end side flat depressed centre

Execution:
- With completely new special surface
- Maximum resistance against contact corrosion
- 15x greater corrosion protection against exposure to temperature, road salt and environmental influences compared to conventionally coated keys
- Up to 720 hours in the salt spray test in accordance with DIN EN ISO 9227
- Environmentally friendly chromium-VI-free coating process
- Made from chromium-vanadium steel, die-forged and hardened.
- DIN 3113 B

Advantage:
- Extremely durable and robust industrial design

Technical data:
- Jaw position: 15
- Tip profile type: ENERGY profile
- Surface: Chrome plated
- Material: Chrome-vanadium steel



Ident. No. 410

Width across flats		8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm	10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 17 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 24 mm
Number of pieces in assortment/set (PCS)		10	12	18
52039...	Ident. No.	400 ●	410 ●	420 ●

Prod. Gr. 5HB

STAHLWILLE Combination wrench sets, metric (DIN 3113)

15° jaw angle, box-end side flat depressed centre

Advantage:
- Practical range of various combination wrenches with the most common wrench sizes

Delivery:
in fabric tool roll with Velcro fastener

Technical data:
- Jaw position: 15 Degree
- Tip profile type: AS drive profile
- Surface: Chrome plated
- Material: Steel, specially hardened

Ident. No. 810

Width across flats	Number of pieces in assortment/set (PCS)	52039... Ident. No.	
8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 17 mm | 19 mm | 22 mm	11	800	●
6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 17 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	15	810	●
6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm	17	820	●

Prod. Gr. 531

GEDORE Combination wrench sets, metric (DIN 3113)

WERKZEUGE FÜRS LEBEN

15° jaw angle, box-end side flat depressed centre

Advantage:
- Practical range of various combination wrenches with the most common wrench sizes

Delivery:
Packed in a box

Technical data:
- Jaw position: 15 Degree
- Tip profile type: UD profile
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Ident. No. 035

Width across flats	Number of pieces in assortment/set (PCS)	52043... Ident. No.	
10 mm | 12 mm | 13 mm | 14 mm | 17 mm | 19 mm | 22 mm | 24 mm	8	020	●
10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 17 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	12	035	●
6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm	17	045	●

Prod. Gr. 530

GEDORE Double ring ratchet wrench, 4 in 1

Execution:
- Straight shape
- Switchable ratchet function

Advantage:
- The four most common wrench sizes in a single tool

Width across flats		10 mm | 13 mm | 17 mm | 19 mm
Length (mm)		210
Surface		Chrome plated
Material		Chrome-vanadium steel
52043...	Ident. No.	**100** ●

Prod. Gr. 586

ATORN Ratchet combination wrench
straight version

Execution:
- Finely toothed ratchet on socket end with 72 teeth
- 5° return angle

Advantage:
- 5° switching angle enables working in the most confined spaces

Technical data:
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Ident. No. 108

Width across flats	Length (mm)	52044... Ident. No.	
6 mm	125	**106**	●
7 mm	130	**107**	●
8 mm	136	**108**	●
9 mm	143	**109**	●
10 mm	160	**110**	●
11 mm	168	**111**	●
12 mm	174	**112**	●
13 mm	180	**113**	●

Width across flats	Length (mm)	52044... Ident. No.	
14 mm	193	**114**	●
15 mm	200	**115**	●
16 mm	216	**116**	●
17 mm	233	**117**	●
18 mm	239	**118**	●
19 mm	250	**119**	●
21 mm	285	**121**	●
22 mm	285	**122**	●

Width across flats	Length (mm)	52044... Ident. No.	
24 mm	325	**124**	●
27 mm	359	**127**	●
30 mm	425	**130**	●
32 mm	425	**132**	●
34 mm	430	**134**	●
36 mm	460	**136**	●
38 mm	480	**138**	●
41 mm	520	**141**	●

Prod. Gr. 5HB

ATORN Ratchet combination wrench set
straight version

Execution:
- Finely toothed ratchet on socket end with 72 teeth
- 5° return angle

Advantage:
- 5° switching angle enables working in the most confined spaces

Delivery:
In tool roll

Width across flats		8 mm | 10 mm | 13 mm | 17 mm | 19 mm
Number of pieces in assortment/set (PCS)		5
Surface		Chrome plated
Material		Chrome-vanadium steel
52044...	Ident. No.	**200** ●

Prod. Gr. 5HB

ATORN Ratchet combination wrench
Reversible

Execution:
- Finely toothed ratchet on socket end with 72 teeth
- 5° switching angle
- Socket end angled 15°

Advantage:
- 15° angled offset for better access in tight installation spaces

Technical data:
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Ident. No. 208

Width across flats	Length (mm)	52044... Ident. No.	
6 mm	125	**206**	●
7 mm	130	**207**	●
8 mm	140	**208**	●

Width across flats	Length (mm)	52044... Ident. No.	
9 mm	150	**209**	●
10 mm	159	**210**	●
11 mm	165	**211**	●

Width across flats	Length (mm)	52044... Ident. No.	
12 mm	172	**212**	●
13 mm	178	**213**	●
14 mm	191	**214**	●

Width across flats	Length (mm)	52044... Ident. No.	
15 mm	200	215	●
16 mm	208	216	●
17 mm	226	217	●
18 mm	237	218	●

Width across flats	Length (mm)	52044... Ident. No.	
19 mm	248	219	●
21 mm	285	221	●
22 mm	285	222	●
24 mm	325	224	●

Width across flats	Length (mm)	52044... Ident. No.	
27 mm	360	227	●
30 mm	425	230	●
32 mm	425	232	●
36 mm	425	236	●

Prod. Gr. 5HB

ATORN Ratchet combination wrench set
Reversible

Execution:
- Finely toothed ratchet on socket end with 72 teeth
- 5° switching angle
- Socket end angled 15°

Advantage:
- 15° angled offset for better access in tight installation spaces

Delivery:
In tool roll

Width across flats		8 mm | 10 mm | 13 mm | 17 mm | 19 mm
Number of pieces in assortment/set (PCS)		5
Surface		Chrome plated
Material		Chrome-vanadium steel
52044...	Ident. No.	300 ●

Prod. Gr. 5HB

ATORN Ratchet combination wrench set
swivel head

Execution:
- Finely toothed ratchet on socket end with 72 teeth
- 5° switching angle

Advantage:
- Flexible applications and access to confined installation spaces thanks to the swivel head

Delivery:
In tool roll

Width across flats		8 mm | 10 mm | 13 mm | 17 mm | 19 mm
Number of pieces in assortment/set (PCS)		5
Surface		Chrome plated
Material		Chrome-vanadium steel
52044...	Ident. No.	400 ●

Prod. Gr. 5HB

ATORN Wrench adapter for combination ratchet wrench

Execution:
- **Ident. No. 410–415:** Suitable for wrenches no. 52044 110 and 310
- **Ident. No. 420:** Suitable for wrenches no. 52044 113 and 313
- **Ident. No. 430:** Suitable for wrenches no. 52044 119 and 319

Advantage:
- Wrench is used as fine-pitch drive ratchet for various applications

Technical data:
- Surface: Chrome plated
- Material: Chrome-vanadium steel

		Suitable for width across flats		
52044...	For 1/4" bits, hexagon	10 mm	Ident. No.	410 ●
52044...	For 1/4" nuts, square	10 mm	Ident. No.	415 ●
52044...	For 3/8" nuts, square	13 mm	Ident. No.	420 ●
52044...	For 1/2" nuts, square	19 mm	Ident. No.	430 ●

Prod. Gr. 5HB

ATORN Ratchet combination wrench
swivel head

Execution:
- Finely toothed ratchet on socket end with 72 teeth
- 5° switching angle

Technical data:
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Advantage:
- Flexible applications and access to confined installation spaces thanks to the swivel head

Width across flats		8 mm	9 mm	10 mm	11 mm	12 mm	13 mm	14 mm	15 mm	16 mm	17 mm	18 mm	19 mm
Length (mm)		136	143	160	168	174	180	193	200	216	233	239	250
52044...	Ident. No.	308 ●	309 ●	310 ●	311 ●	312 ●	313 ●	314 ●	315 ●	316 ●	317 ●	318 ●	319 ●

Prod. Gr. 5HB

ATORN Ratchet combination wrench
ratchet function on both sides

Head detail

Application:
For screw connections in inaccessible places with optimum flexibility.

Execution:
- Finely toothed ratchet on socket end with 72 teeth
- Ratchet function on jaw side via spring-loaded insert and special jaw geometry

Advantage:
- Small ratcheting angle thanks to the fine toothing
- Maximum flexibility thanks to the two-sided ratchet function

Technical data:
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats	Length (mm)	52044... Ident. No.	
8 mm	140	508	●
9 mm	149	509	●
10 mm	158	510	●
11 mm	165	511	●
12 mm	171	512	●

Width across flats	Length (mm)	52044... Ident. No.	
13 mm	178	513	●
14 mm	190	514	●
15 mm	199	515	●
16 mm	208	516	●
17 mm	225	517	●

Width across flats	Length (mm)	52044... Ident. No.	
18 mm	236	518	●
19 mm	247	519	●
21 mm	289	521	●
22 mm	289	522	●
24 mm	322	524	●

Prod. Gr. 5HB

ATORN Ratchet combination wrench set
ratchet function on both sides

Application:
For screw connections in inaccessible places where maximum flexibility is required.

Execution:
- Finely toothed ratchet on socket end with 72 teeth
- Ratchet function on jaw side via spring-loaded insert and special jaw geometry

Advantage:
- Small ratcheting angle thanks to the fine toothing
- Maximum flexibility thanks to the two-sided ratchet function

Width across flats		8 mm | 10 mm | 13 mm | 17 mm | 19 mm
Number of pieces in assortment/set (PCS)		5
Surface		Chrome plated
Material		Chrome-vanadium steel
52044...	Ident. No.	600 ●

Prod. Gr. 5HB

Wera Combination ratchet wrench set JOKER

Execution:
- Made from chrome-molybdenum steel
- Nickel/chrome coating
- Ratchet mechanism on the ring side
- Finely serrated ring ratchet with 80 teeth
- Jaw side with clamping function and bi-hexagonal shape
- Jaw return angle of 30°

Advantage:
- Excellent rigidity and torque transfer thanks to cutting geometry
- Bi-hexagonal shape for positive force transfer
- clamping function for secure clamping of nuts and bolts
- end stop reduces risk of slipping
- Nickel/chrome coating protects against corrosion

Delivery:
In robust tool roll

Ident. No. 510

Composition of set	Width across flats	Number of pieces in assortment/set (PCS)	Surface	Material	52040... Ident. No.	
Supplied lengths: 159-246 mm	10 mm | 13 mm | 17 mm | 19 mm	4	Chrome plated	Chrome molybdenum	500	●
lengths supplied: 144-246 mm	8 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm	11	Chrome plated	Chrome molybdenum	510	●

Prod. Gr. 542

ATORN Striking face box-end wrench (DIN 7444)

Application:
For loosening tightly secured fittings

Execution:
- Die-forged heat-treated steel
- Very high impact strength for especially heavy screwing applications
- Special profile for a better grip and prevents damage to the screw head

Technical data:
- Tip profile type: Special profile
- Surface: Plain
- Material: Chrome-vanadium steel

Ident. No. 036

Width across flats	Length (mm)	Thickness (mm)	52049... Ident. No.	
24 mm	165	15	024	●
27 mm	180	16	027	●
30 mm	190	17	030	●
32 mm	190	17	032	●
34 mm	205	18	034	●
36 mm	205	18	036	●

Width across flats	Length (mm)	Thickness (mm)	52049... Ident. No.	
41 mm	230	20	041	●
46 mm	240	22	046	●
50 mm	255	24	050	●
55 mm	270	25	055	●
60 mm	280	26	060	●
65 mm	300	30	065	●

Width across flats	Length (mm)	Thickness (mm)	52049... Ident. No.	
70 mm	330	33	070	●
75 mm	330	33	075	●
80 mm	360	36	080	●
85 mm	360	36	085	●

Prod. Gr. 5HB

ATORN XL impact box-end wrench
With higher sidewall

Application:
For loosening tightly secured fittings

Execution:
- Heat-treated steel, forged, highest level of stability
- Very high impact strength for extreme screwing applications
- Special profile for prevents damage to the screw head
- High sidewalls for perfect grip on the screw connection

Technical data:
- Tip profile type: Special profile
- Surface: Plain
- Material: Chrome-vanadium steel

Ident. No. 136

Width across flats	Length (mm)	Thickness (mm)	52049... Ident. No.	
36 mm	195	52	136	●
41 mm	200	58	141	●
46 mm	250	64	146	●
50 mm	280	69	150	●

Width across flats	Length (mm)	Thickness (mm)	52049... Ident. No.	
55 mm	300	75	155	●
60 mm	300	82	160	●
65 mm	325	90	165	●
70 mm	355	96	170	●

Width across flats	Length (mm)	Thickness (mm)	52049... Ident. No.	
75 mm	360	103	175	●
80 mm	440	109	180	●
85 mm	440	116	185	●

Prod. Gr. 5HB

ATORN Attachable box-end wrench

depressed centre, heavy-duty version

Ident. No. 024

Application:
For the transmission of extremely high tightening torques

Execution:
- Forged from CrV steel and hardened
- Ring with depressed centre
- Spring-loaded locking pin for locking the extension bar
- Matching extension bar, art. no. 52051 001 to 004

Technical data:
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats	Length (mm)	Thickness (mm)	52051... Ident. No.	
24 mm	180	17	024	●
27 mm	185	17	027	●
30 mm	195	18	030	●
32 mm	230	18	032	●
34 mm	235	19	034	●
36 mm	240	20	036	●

Width across flats	Length (mm)	Thickness (mm)	52051... Ident. No.	
41 mm	250	22	041	●
46 mm	260	23	046	●
50 mm	270	25.5	050	●
55 mm	270	28	055	●
60 mm	345	30.5	060	●
65 mm	355	33	065	●

Width across flats	Length (mm)	Thickness (mm)	52051... Ident. No.	
70 mm	365	35.5	070	●
75 mm	375	38	075	●
80 mm	385	40.5	080	●
85 mm	385	40.5	085	●

Prod. Gr. 5HB

ATORN Extension bar for attachable box-end wrench

Application:
Extension bar to extend the lever arm.

Execution:
- Chrome-plated CrV steel
- With hole for the locking pin

Technical data:
- Surface: Chrome plated

Suitable for width across flats	Pipe Ø (mm)	Length (mm)	52051... Ident. No.	
24-30 mm	19	460	001	●
32-41 mm	22	610	002	●
46-55 mm	25	760	003	●
60-95 mm	30	865	004	●

Prod. Gr. 5HB

ATORN Double box-end wrench (DIN 838)

Deep offset on both sides

Ident. No. 210

Execution:
- With completely new special surface
- Maximum resistance against contact corrosion
- 15x greater corrosion protection against exposure to temperature, road salt and environmental influences compared to conventionally coated keys
- Up to 720 hours in the salt spray test in accordance with DIN EN ISO 9227
- Environmentally friendly chromium-VI-free coating process
- Made from chromium-vanadium steel, die-forged and hardened.

Advantage:
- Extremely durable and robust industrial design

Technical data:
- Tip profile type: ENERGY profile
- Surface: Special coating according to specifications
- Material: Chrome-vanadium steel

Width across flats	Length (mm)	52054... Ident. No.	
6 x 7 mm	178	100	●
8 x 9 mm	195	110	●
8 x 10 mm	195	120	●
10 x 11 mm	200	130	●
10 x 13 mm	220	140	●
12 x 13 mm	220	150	●
12 x 14 mm	220	160	●
13 x 14 mm	220	170	●
13 x 15 mm	225	180	●

Width across flats	Length (mm)	52054... Ident. No.	
13 x 17 mm	250	190	●
14 x 15 mm	235	200	●
14 x 17 mm	250	210	●
16 x 17 mm	250	220	●
17 x 19 mm	285	240	●
18 x 19 mm	285	250	●
19 x 22 mm	300	260	●
19 x 24 mm	300	270	●
20 x 22 mm	300	280	●

Width across flats	Length (mm)	52054... Ident. No.	
21 x 23 mm	300	290	●
22 x 24 mm	320	300	●
24 x 26 mm	330	310	●
24 x 27 mm	330	320	●
25 x 28 mm	345	330	●
27 x 32 mm	360	340	●
30 x 32 mm	360	350	●
32 x 36 mm	400	360	●
36 x 41 mm	440	370	●

Prod. Gr. 5HB

ATORN Double ring wrench sets (DIN 838)

Deep offset on both sides

Execution:
- With completely new special surface
- Maximum resistance against contact corrosion
- 15x greater corrosion protection against exposure to temperature, road salt and environmental influences compared to conventionally coated keys
- Up to 720 hours in the salt spray test in accordance with DIN EN ISO 9227
- Environmentally friendly chromium-VI-free coating process
- Made from chromium-vanadium steel, die-forged and hardened.

Advantage:
- Extremely durable and robust industrial design

Technical data:
- Tip profile type: ENERGY profile
- Surface: Special coating according to specifications
- Material: Chrome-vanadium steel

Width across flats	Number of pieces in assortment/set (PCS)	52054... Ident. No.	
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm	8	500	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm | 21 x 23 mm | 24 x 27 mm | 25 x 28 mm | 30 x 32 mm	12	510	●

Prod. Gr. 5HB

Ident. No. 510

GEDORE Double box-end wrench sets (DIN 838)

Deep offset on both sides

Advantage:
- No pinching of edges on bolts and nuts due to force application on sides with optimum load distribution
- Shaft profile creates excellent bending rigidity
- Deep offset makes it easier to work in hard-to-reach places

Delivery:
Packed in boxes

Technical data:
- Tip profile type: UD profile
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats	Number of pieces in assortment/set (PCS)	52056... Ident. No.	
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm	8	700	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm | 21 x 23 mm | 24 x 27 mm | 25 x 28 mm | 30 x 32 mm	12	710	●

Prod. Gr. 530

Ident. No. 700

ORION Double ring wrench sets (DIN 838)

Deep offset on both sides

Technical data:
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats	Number of pieces in assortment/set (PCS)	52059... Ident. No.	
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm	8	790	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm | 24 x 27 mm | 30 x 32 mm	10	800	●
6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 10 x 13 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 17 x 19 mm | 18 x 19 mm | 20 x 22 mm | 24 x 27 mm | 30 x 32 mm	12	810	●

Prod. Gr. 526

Ident. No. 800

ATORN Wrench
adjustable

Application:
For quickly adjusting the wrench size.

Execution:
- Chrome-vanadium steel
- Die-forged
- Type B
- Polished head
- Scale
- With suspension eyelet

Advantage:
- Shank profile creates excellent bending rigidity
- Enables quick work due to flexible widths across flats and scale

Max. width across flats (mm)		13	19	24	29	34
Length (mm)		110	155	205	255	310
52150...	Ident. No.	010 ●	015 ●	020 ●	025 ●	030 ●

Prod. Gr. 5HB

ATORN socket set
1/4" square drive 6.3, DIN 3120

Application:
For tightening and loosening all types of screw connections

Execution:
- Chrome-vanadium steel inserts
- Hexagon with special profile

Advantage:
- Optimum power transmission thanks to special profile
- Bolt and nut are not damaged
- Higher torques possible

- Two-tone polyethylene foam inlay ensures any missing tools are instantly detected
- Oil and chemical-resistant foam inlay

Delivery:
In powder-coated sheet steel case with polyethylene foam insert

Ident. No. 011

Ident. No. 021

Ident. No. 031

Ident. No. 101

Drive		1/4 inch	1/4 inch	1/4 inch	1/4 inch | 1/2 inch
Number of pieces in assortment/set (PCS)		18	28	42	35
Sockets with hexagon-head tip provided		4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm	4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm	4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm	5.5 mm | 7 mm | 8 mm | 10 mm | 13 mm | 16 mm | 17 mm | 18 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm
Long sockets with hexagon-head tip provided		-	-	8 mm | 10 mm | 11 mm | 13 mm	-
Sockets with socket hexagon-head tip provided		-	3 mm | 4 mm | 5 mm | 6 mm | 8 mm	3 mm | 4 mm | 5 mm | 6 mm | 8 mm	3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm | 12 mm | 14 mm | 17 mm
Sockets with socket hexagon head or external TX tip provided		-	-	TX10 | TX15 | TX20 | TX25 | TX30 | TX40	-
Sockets with cross-head tip provided		-	PH1 | PH2 | PZ1 | PZ2	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	-
Sockets with slotted tip provided		-	4 mm | 5.5 mm | 6.5 mm	4 mm | 5.5 mm | 6.5 mm	-
Ratchets provided		1/4-inch square | 150 mm	1/4-inch square | 150 mm	1/4-inch square | 150 mm	1/4-inch square | 150 mm | 1/2-inch square | 255 mm
Extensions provided		50 mm | 105 mm	50 mm	50 mm | 105 mm	50 mm | 105 mm | 125 mm | 250 mm
Cross handles provided		115 mm	115 mm	115 mm	115 mm | 300 mm
Cardan joints provided		38 mm	38 mm	38 mm	38 mm | 75 mm
External dimensions of box		220 x 110 x 35 mm	220 x 110 x 35 mm	315 x 115 x 43 mm	-
58006...	Ident. No.	011 ●	021 ●	031 ●	101 ●

Prod. Gr. 582

ATORN Socket set, 40 pieces

suitable for hexagon, bi-hexagon, E-TX and inch

Application:
High-gloss chrome-plated

Execution:
- Chromium-vanadium steel

Advantage:
- Universal screw system for hexagon, bi-hexagon and E-TX screws and nuts. Fits all standard inch sizes.

Delivery:
In ABS plastic box

Technical data:
- Drive: 1/4 inch
- Number of pieces in assortment/set: 40 PCS
- Sockets with hexagon-head tip provided: 4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm
- Sockets with socket hexagon-head tip provided: 3 mm | 4 mm | 5 mm | 6 mm | 7 mm | 8 mm
- Sockets with socket hexagon head or external TX tip provided: TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40 | E5 | E6 | E7 | E8 | E10 | E11 | E12 | E14
- Sockets with cross-head tip provided: PH1 | PH2 | PZ1 | PZ2
- Sockets with multi-tooth XZN tip: M4 | M5 | M6 | M8 | M10
- Ratchets provided: 1/4-inch square | 120 mm
- Extensions provided: 100 mm
- Drive handle provided: 150 mm
- Cardan joints provided: 35 mm
- Bit holder provided: 1/4 inch

58006...	Ident. No.	041 ●

Prod. Gr. 582

ATORN Socket set

with hexagon sockets, 1/4 inch square drive 6.3 DIN 3120

Ident. No. 045

Execution:
- **Ident. No. 045:**
  - 36 pieces – 8 actuating tools and 28 inserts
  - Ratchet and Stubby handle with ergonomically shaped 3-component handle
- **Ident. No. 045, 048:**
  - Highly impact-resistant plastic box with anti-slip properties
  - All tools secured in place in 2-colour foam insert
- **Ident. No. 047:**
  - 29 pieces - 5 actuating tools, 24 screw inserts
  - Smart combi grip with fold-out function for high torques
  - Highly impact-resistant plastic box with non-slip properties
  - Ratchet and screwdriver with ergonomically shaped 3-component handle
- **Ident. No. 048:**
  - 20 pieces – 2 actuating tools and 18 inserts
  - Highly flexible ratcheting handle with 180° bend mechanism
  - 1/4 in quick-change chuck for bit or adapter direct mounting
  - Ratchet with ergonomically shaped 3-component handle

Advantage:
- **Ident. No. 048:**
  - Extremely high transmittable torques of up to 50 Nm via the bend handle
  - Super strong reversing mechanism with fine toothing, 48 teeth/7.5° return angle
  - Handle is non-detachably connected to the forged part

Technical data:
- Drive: 1/4 inch

Ident. No. 048

Number of pieces in assortment/set (PCS)		36	29	20
Sockets with hexagon-head tip provided		4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm	4 mm | 5 mm | 5.5 mm | 6 mm | 8 mm | 10 mm | 13 mm	7 mm | 8 mm | 10 mm | 12 mm | 13 mm
Sockets with socket hexagon-head tip provided		4 mm | 5 mm | 6 mm	5 mm | 6 mm	-
Sockets with socket hexagon head or external TX tip provided		TX10 | TX15 | TX20 | TX25 | TX30	TX15 | TX20 | TX25 | TX30 | TX40	TX15 | TX20 | TX25 | TX30
Sockets with cross-head tip provided		PH1 | PH2 | PH3 | PZ1 | PZ2	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	PH0 | PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3
Sockets with slotted tip provided		4 mm | 5.5 mm	5 mm | 6.5 mm	1.2 x 6.5 mm
Ratchets provided		1/4-inch square	1/4-inch square	-
Extensions provided		50 mm | 100 mm	75 mm	150 mm
Cross handles provided		-	165 mm	-
Cardan joints provided		35 mm	-	-
58006...	Ident. No.	045 ●	047 ●	048 ●

58006 047 = Prod. Gr. 5HG
58006 045 = Prod. Gr. 582
58006 048 = Prod. Gr. 582

ATORN socket set

1/4" square drive 6.3, DIN 3120

Execution:
- Chrome-vanadium steel inserts
- Matt chrome-plated
- Ratchet with two-component handle
- Finely toothed
- With release button

Advantage:
- Two-tone polyethylene foam inlay ensures any missing tools are instantly detected

Delivery:
In sheet steel case with polyethylene foam insert

Drive	Number of pieces in assortment/ set (PCS)	Sockets with socket hexagon-head tip provided	Sockets with socket hexagon head or external TX tip provided	Ratchets provided	Extensions provided	58006... Ident. No.	
1/4 inch	18	-	TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40 | E4 | E5 | E6 | E7 | E8 | E10	1/4-inch square	50 mm | 105 mm	050	●
1/4 inch	17	3 mm | 4 mm | 5 mm | 6 mm | 8 mm	TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40	1/4-inch square	50 mm | 105 mm	060	●

Prod. Gr. 582

Ident. No. 050

Ident. No. 060

ORION Socket sets

with hexagon sockets, 1/4 inch square drive 6.3 DIN 3120

Execution:
- Chrome-vanadium steel
- Chrome-plated

- **Ident. No. 010:** 11 socket wrench inserts, 5 operating tools
- **Ident. No. 020:** 35 socket wrench inserts, 5 operating tools
- **Ident. No. 030:** 27 socket wrench inserts, 4 operating tools

Delivery:
In painted metal case

Ident. No. 010

Ident. No. 020

Ident. No. 030

Drive		1/4 inch	1/4 inch	1/4 inch
Number of pieces in assortment/set (PCS)		16	40	31
Sockets with hexagon-head tip provided		4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 13 mm	4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm	4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm
Sockets with socket hexagon-head tip provided		-	3 mm | 4 mm | 5 mm | 6 mm	4 mm | 5 mm | 6 mm
Sockets with socket hexagon head or external TX tip provided		-	TX8 | TX9 | TX10 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40	TX10 | TX15 | TX20
Sockets with cross-head tip provided		-	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3
Sockets with slotted tip provided		-	3 mm | 4 mm | 6 mm	4 mm | 5 mm | 6 mm
Ratchets provided		1/4-inch square	1/4-inch square	1/4-inch square
Extensions provided		100 mm	50 mm	50 mm
Drive handle provided		150 mm	150 mm	-
Cross handles provided		115 mm	115 mm	115 mm
Cardan joints provided		35 mm	35 mm	35 mm
External dimensions of box		195 x 105 x 33 mm	330 x 170 x 55 mm	230 x 140 x 40 mm
58010...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 5LB

ORION® Socket sets

1/4 inch and combination set 1/4+3/8+1/2 inch

Execution:
- Chrome-vanadium steel
- **Ident. No. 100:** With flexible 145-mm extension

Advantage:
- High-quality insertion tools to robust, long-lasting industry-standard specification
- Reversible ratchet with two-component handle and locking button
- Individual parts are securely stored and transported using clamping function
- Any missing tools are instantly detected thanks to size-related tool recesses

Delivery:
In impact-resistant plastic box

Drive		1/4 inch	1/4 inch | 3/8 inch | 1/2 inch
Number of pieces in assortment/set (PCS)		46	172
Sockets with hexagon-head tip provided		4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm	4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm
Long sockets with hexagon-head tip provided		-	16 mm | 18 mm | 21 mm
Sockets with socket hexagon-head tip provided		3 mm | 4 mm | 5 mm | 6 mm | 7 mm | 8 mm	3 mm | 4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 10 mm | 12 mm | 14 mm
Sockets with socket hexagon head or external TX tip provided		TX10 | TX15 | TX20 | TX25 | TX30 | TX40	TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40 | TX45 | TX50 | TX55 | TX60 | TX70 | E4 | E5 | E6 | E7 | E8 | E10 | E11 | E12 | E14 | E16 | E18
Sockets with cross-head tip provided		PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	PH0 | PH1 | PH2 | PH3 | PH4 | PZ0 | PZ1 | PZ2 | PZ3 | PZ4
Sockets with slotted tip provided		4 mm | 5.5 mm | 7 mm	4 mm | 5 mm | 6.5 mm | 7 mm | 8 mm | 10 mm | 12 mm
Ratchets provided		1/4-inch square	3/8-inch square | 1/4-inch square | 1/2-inch square
Extensions provided		50 mm | 100 mm | 145 mm	50 mm | 100 mm | 125 mm | 250 mm
Drive handle provided		150 mm	150 mm
Cross handles provided		115 mm	115 mm
Cardan joints provided		35 mm	34 mm | 48 mm | 70 mm
Bit holder provided		1/4 inch	1/4 inch
External dimensions of box		-	520 x 370 x 100 mm
58010...	Ident. No.	100	500
		●	●

Prod. Gr. 5LB

Ident. No. 100

Ident. No. 500

ORION® Adapter set (DIN 3123)

6 pieces

Application:
For universal use of 1/4” up to 3/4” square

Execution:
- Internal square to external square adapter:
- 1/4” to 3/8”; 3/8” to 1/4”; 1/2” to 3/4”
- 3/8” to 1/2”; 1/2” to 3/8”; 3/4” to 1/2”

Advantage:
- Individual parts are securely stored and transported using clamping function
- Any missing tools are instantly detected thanks to size-related tool recesses

Drive		1/4 inch | 3/8 inch | 1/2 inch | 3/4 inch
Tip size		1/4 inch | 3/8 inch | 1/2 inch | 3/4 inch
Surface		Chrome plated
Material		Chrome-vanadium steel
Number of pieces in assortment/set (PCS)		6
58010...	Ident. No.	600 ●

Prod. Gr. 5LB

GEDORE Socket sets

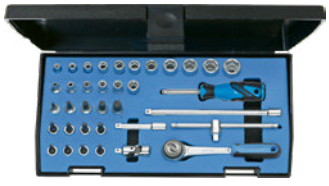
with hexagon sockets, 1/4 inch square drive 6.3 DIN 3120

Execution:
- Operating tools made from Gedore steel 31CrV3
- **Ident. No. 100:** 26 inserts, 6 operating tools
- **Ident. No. 100–200:** Forged and tempered inserts
- **Ident. No. 110:** 30 inserts, 6 operating tools
- **Ident. No. 120:** 11 inserts, 5 operating tools
- **Ident. No. 130:** 32 inserts, 5 operating tools
- **Ident. No. 150:** 43 inserts, 6 operating tools
- **Ident. No. 200:**
  - 49 inserts, 3 operating tools
  - Lever reversible ratchet and 1/4-inch T-handle ratchet
- **Ident. No. 210:**
  - Power screwdriver inserts suitable for machine control
  - Particularly thin-walled and yet with maximum strength
  - 34 inserts, 1 operating tools

Advantage:
- **Ident. No. 100–150:** Soft foam inlay for securely storing tools
- **Ident. No. 200:** Soft foam inlay, also removable, for securely storing tools

Delivery:
Ident. No. 100–150: In plastic box
Ident. No. 200: In robust fabric bag with riptape fastening and carry handle
Ident. No. 210: In a sturdy plastic case with soft foam insert

Ident. No. 100


Ident. No. 110

Ident. No. 120

Ident. No. 130

Ident. No. 150

Ident. No. 200

Ident. No. 210

Drive		1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch | 1/2 inch	1/4 inch
Sockets with hexagon-head tip provided		4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 13 mm	4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm	4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm	4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 13 mm | 14 mm	4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm	4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm
Sockets with socket hexagon-head tip provided		3 mm | 4 mm | 5 mm | 6 mm | 8 mm	3 mm | 4 mm | 5 mm | 6 mm | 8 mm	-	3 mm | 4 mm | 5 mm | 6 mm	3 mm | 4 mm | 5 mm | 6 mm | 8 mm	3 mm | 4 mm | 5 mm | 6 mm | 8 mm	3 mm | 4 mm | 5 mm | 6 mm | 8 mm
Sockets with socket hexagon head or external TX tip provided		-	TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | E4 | E5 | E6 | E7 | E8 | E10	-	TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40	TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40	TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40	TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40
Sockets with cross-head tip provided		PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	-	-	PH1 | PH2 | PZ1 | PZ2 | PZ3	PH1 | PH2 | PZ1 | PZ2 | PZ3	PH1 | PH2 | PZ1 | PZ2 | PZ3	PH1 | PH2 | PZ1 | PZ2 | PZ3
Sockets with slotted tip provided		4 mm | 5.5 mm | 6.5 mm | 8 mm	-	-	4 mm | 5.5 mm | 6.5 mm	4 mm | 6.5 mm	5.5 mm | 6.5 mm	5.5 mm | 6.5 mm
Ratchets provided		1/4-inch square	1/4-inch square	1/4-inch square	1/4-inch square	1/4-inch square	1/4-inch square | 1/2-inch square	1/4-inch square
Extensions provided		55 mm | 150 mm	55 mm | 150 mm	100 mm	97 mm	55 mm | 150 mm	100 mm | 250 mm	100 mm
Drive handle provided		140 mm	140 mm	140 mm	100 mm	100 mm	100 mm	-
Cross handles provided		115 mm	115 mm	115 mm	-	-	-	-
Cardan joints provided		38 mm	38 mm	38 mm	38 mm	38 mm	-	-
58016...	Ident. No.	100 ●	110 ●	120 ●	130 ●	150 ●	200 ●	210 ●

Prod. Gr. 530

GEDORE Socket sets

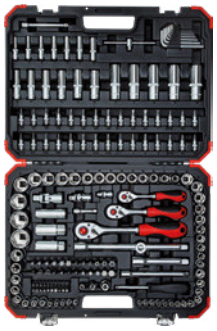
Execution:
- Forged and chrome-plated inserts
- **Ident. No. 300:** 166 inserts, 6 operating tools
- **Ident. No. 300–320:** Reversible ratchets, fine-toothed 72 Z
- **Ident. No. 310:**
  - Screwdriver set, combination spanner set SW 8 - 19 mm
  - Water pump pliers, side cutters, snipe nose pliers
  - Socket wrench inserts and extensions SW 4 - 32 mm
  - Bit set, machinist's hammer, 500 g, adjustable wrench
  - Hexagon socket screwdriver
- **Ident. No. 320:** 90 inserts, 4 operating tools
- **Ident. No. 350:**
  - Fine-toothed reversible ratchet 72 Z
  - 44 inserts, 2 operating tools

Delivery:

Ident. No. 300–320: In sturdy plastic case with metal closures and self-adhesive tool recesses

Ident. No. 350: In sturdy plastic case with metal closure and self-adhesive tool recesses

Technical data:
- Sockets with cross-head tip provided: PH1 | PH2 | PZ1 | PZ2 | PZ3



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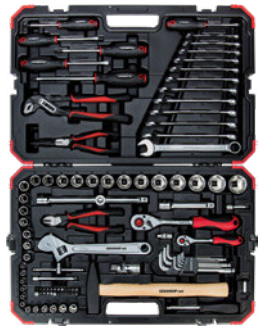

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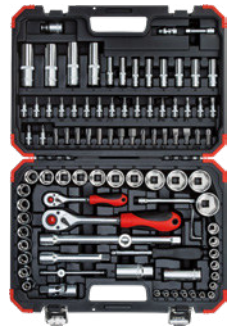

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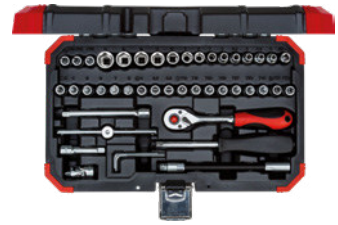


Ident. No. 350

Drive		1/4 inch | 3/8 inch | 1/2 inch	1/4 inch | 1/2 inch	1/4 inch | 1/2 inch	1/4 inch
Sockets with hexagon-head tip provided		4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm
Sockets with socket hexagon-head tip provided		3 mm | 4 mm | 5 mm | 6 mm | 8 mm	3 mm | 4 mm | 5 mm | 6 mm | 8 mm	3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm | 12 mm | 14 mm | 17 mm | 19 mm	3 mm | 4 mm | 5 mm | 6 mm | 8 mm
Sockets with socket hexagon head or external TX tip provided		TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40 | TX45 | TX50 | TX55 | TX60 | TX70	TX8 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40	TX8 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40	TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40
Sockets with slotted tip provided		4 mm | 6.5 mm	4 mm | 6.5 mm	5.5 mm | 6.5 mm	5.5 mm | 6.5 mm
Ratchets provided		1/4-inch square | 3/8-inch square | 1/2-inch square	1/4-inch square | 1/2-inch square	1/4-inch square | 1/2-inch square	1/4-inch square
Extensions provided		50 mm | 100 mm | 150 mm | 250 mm	50 mm | 150 mm	50 mm | 150 mm	50 mm | 101 mm
Drive handle provided		150 mm	150 mm	-	150 mm
Cardan joints provided		38 mm	38 mm	38 mm	-
58016...	Ident. No.	**300** ●	**310** ●	**320** ●	**350** ●

Prod. Gr. 586

Zyklop Speed socket set

With hexagon inserts, 1/4 inch square drive 6.3 DIN 3120

Execution:
- Zyklop Speed ratchet with 1/4” square drive and freely swivelling head with 5 specific positions
- Pushbutton release
- Changes between anti-clockwise/clockwise
- Finely toothed
- **Ident. No. 015:**
  - 5° return angle
  - Multi-component power grip
  - Bits: 50 mm length
- **Ident. No. 020:**
  - Multi-component handle
  - Extensions with quick-action rotary sleeves and Flexible-Lock system
  - With quick-change chuck

Advantage:
- **Ident. No. 020:**
  - Robust metal case with soft foam inlay and non-slip rubber stoppers on the base for secure storage
  - Wobble extension enables swivelling up to 15°
  - Quick to change bits using the quick-action chuck

Delivery:
Ident. No. 015: In fabric case with rip-tape fastening
Ident. No. 020: In robust metal case

Ident. No. 015

Ident. No. 020

Drive		1/4 inch	1/4 inch
Number of pieces in assortment/set (PCS)		26	42
Sockets with hexagon-head tip provided		5.5 mm | 6 mm | 7 mm | 8 mm | 10 mm | 12 mm | 13 mm	4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 13 mm | 14 mm
Sockets with socket hexagon-head tip provided		3 mm | 4 mm | 5 mm | 6 mm | 8 mm	3 mm | 4 mm | 5 mm | 6 mm | 8 mm
Sockets with socket hexagon head or external TX tip provided		TX10 | TX15 | TX20 | TX25 | TX27 | TX30	TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30
Sockets with cross-head tip provided		PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3
Ratchets provided		1/4-inch square	1/4-inch square
Extensions provided		75 mm | 150 mm	150 mm
Cross handles provided		-	115 mm
Cardan joints provided		-	38 mm
Bit holder provided		1/4 inch	1/4 inch
58009...	Ident. No.	**015** ●	**020** ●

Prod. Gr. 542

TOOL-Check socket and bit set

1/4" square drive 6.3, DIN 3120

Execution:
- Holding sockets, bits and adapters
- Functional fold-out holder for quick access
- **Ident. No. 051:** Bit ratchet in drop-forged, all-steel design
- **Ident. No. 056:**
  - Ratchet in die-forged, all-steel design
  - With additional Kraftform handle

Ident. No. 051

Ident. No. 056

Drive		1/4 inch	1/4 inch
Number of pieces in assortment/set (PCS)		38	39
Sockets with hexagon-head tip provided		5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 12 mm | 13 mm	5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 12 mm | 13 mm
Sockets with socket hexagon-head tip provided		3 mm | 4 mm | 5 mm | 6 mm | 8 mm	3 mm | 4 mm | 5 mm | 6 mm | 8 mm
Sockets with socket hexagon head or external TX tip provided		TX10 | TX15 | TX20 | TX25 | TX30 | TX40	TX10 | TX15 | TX20 | TX25 | TX30 | TX40
Sockets with cross-head tip provided		PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3
Sockets with slotted tip provided		5.5 mm	5.5 mm
Ratchets provided		1/4-inch square	1/4-inch square
Bit holder provided		1/4 inch	1/4 inch
Bit holder		1/4 inch hexagon	1/4 inch hexagon
58009...	Ident. No.	051 ●	056 ●

Prod. Gr. 542

Socket sets

with hexagon sockets, 1/4 inch square drive 6.3 DIN 3120

Execution:
- **Ident. No. 005:**
  - 10 socket wrench inserts
  - 7 TX bit inserts
  - 6 cross-head bit inserts
  - 3 slotted bit inserts
  - 5 hexagon socket bit inserts
  - 1 bit adapter
- **Ident. No. 005–030:**
  - Chrome-vanadium steel inserts
  - Chrome-plated
- **Ident. No. 015:**
  - 11 hexagon socket wrench inserts
  - 5 E-TX socket spanner inserts
  - 11 screwdriver bits
- **Ident. No. 015–030:** Smart-Case with safety insert system
- **Ident. No. 030:**
  - 12 socket wrench inserts
  - 12 screwdriver bits
- **Ident. No. 065:**
  - Equipped with 31 bits 25 mm long, 12 bits 50 mm long and 12 bits 89 mm long in TX, TX-IP, slotted, Phillips, hex socket
  - HIPER high-performance bit ratchet with fine toothing
  - Hex and TX keys, L-shaped
- **Ident. No. 065, 075:**
  - Innovative concept of a compact, folding tool set
  - Easy-to-wipe material and pleasant touch-and-feel
  - Combines the benefits of a slim and lightweight textile case with the ruggedness of hard shell tool boxes
  - Long-lasting, robust clamps - no loose, rattling tools
  - Magnetic lock - quick to open and wear-free
  - Easy removal of the tool - can be folded out flat - similar to a tablet case - can be set up
  - Maximum number of tools in the smallest space for the best overview
- **Ident. No. 075:**
  - Equipped with 15 bits 25 mm long, 12 bits 50 mm long and 12 bits 89 mm long in TX, TX-IP, slotted, Phillips, hex socket
  - HIPER high-performance bit ratchet with fine toothing, adapter insert
  - Hex key, hex socket
- **Ident. No. 080:**
  - Miniature full steel fine-tooth bit ratchet with 60 teeth and 6° operating angle
  - SmartHolder tool holder, extremely handy and compact with a great many tools clearly arranged in the smallest of space
  - Robust, easily accessible tool storage
  - Equipped with 18 bits 25 mm long, 11 bits 50 mm long in TX, slotted, Phillips, hex socket
  - With hand-held bit holder, quick-change chuck, adapter
  - Socket mount with locking system

Advantage:
- **Ident. No. 005:** Impact-resistant "smart case" with non-slip coating for secure storage of tools
- **Ident. No. 065, 075–080:** "Made in Germany": developed and produced
- **Ident. No. 075–080:** Double-hexagon traction profile on the outside

Delivery:
Ident. No. 065: With bit ratchet, hand-held bit holder, quick-change chuck and angled screwdrivers
Ident. No. 075: With bit ratchet and sockets

Ident. No. 005

Ident. No. 015

Ident. No. 060

Ident. No. 065

Ident. No. 070

Ident. No. 075

Ident. No. 080

Ident. No. 030

Drive		1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch
Number of pieces in assortment/set (PCS)		38	33	30	69	73	50	59	39
Sockets with hexagon-head tip provided		5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm	5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm	4 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm	-	-	4 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm	5.5 mm | 6 mm | 7 mm | 8 mm | 10 mm | 13 mm	5.5 mm | 7 mm | 8 mm | 10 mm | 12 mm
Sockets with socket hexagon-head tip provided		3 mm | 4 mm | 5 mm | 6 mm | 7 mm	3 mm | 4 mm | 5 mm | 6 mm	3 mm | 4 mm | 5 mm | 6 mm | 8 mm	2 mm | 3 mm | 4 mm | 5 mm | 6 mm	2 mm | 3 mm | 4 mm | 5 mm | 6 mm | 7 mm | 8 mm	2 mm | 3 mm | 4 mm | 5 mm | 6 mm	2 mm | 3 mm | 4 mm | 5 mm | 6 mm | 7 mm | 8 mm	3 mm | 4 mm | 5 mm | 6 mm | 7 mm | 8 mm
Sockets with socket hexagon head or external TX tip provided		TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40	TX10 | TX15 | TX20 | TX25 | TX30 | E5 | E6 | E7 | E8 | E10	-	TX6 | TX7 | TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40	TX6 | TX7 | TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40	TX10 | TX15 | TX20 | TX25	TX10 | TX15 | TX20 | TX25 | TX30 | TX40	TX10 | TX15 | TX20 | TX25 | TX30 | TX40
Sockets with cross-head tip provided		PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	PH2	PH1 | PH2 | PZ1 | PZ2	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3
Sockets with slotted tip provided		6 mm | 10 mm | 11 mm	1 x 5.5 mm	3.5 mm | 5.5 mm | 8 mm	4 mm | 4.5 mm | 5.5 mm | 6.5 mm	4 mm | 4.5 mm | 5.5 mm | 6.5 mm	4 mm | 4.5 mm | 5.5 mm | 6.5 mm	4 mm | 4.5 mm | 5.5 mm | 6.5 mm	4.5 mm | 5.5 mm
Ratchets provided		1/4-inch square	1/4-inch square	1/4-inch square	-	120 mm	1/4-inch square	120 mm	1/4-inch square
Extensions provided		55 mm | 101 mm	55 mm | 101 mm | 147 mm	55 mm | 147 mm	-	-	105 mm	-	-
Drive handle provided		134 mm	134 mm	134 mm	100 mm	100 mm	-	100 mm	100 mm
Cross handles provided		-	-	115 mm	-	-	-	-	-
Cardan joints provided		38 mm	38 mm	38 mm	-	-	-	-	-
58020...	Ident. No.	**005** ●	**015** ●	**030** ●	**060** ●	**065** ●	**070** ●	**075** ●	**080** ●

Prod. Gr. 569

STAHLWILLE® Socket sets

With hexagon or bi-hexagon sockets

Execution:
- HPQ steel, die-forged
- chrome-plated, polished
- Socket wrench inserts with AS-Drive profile
- **Ident. No. 301–311:** 13 socket wrench inserts, 6 operating tools
- **Ident. No. 311:** Ratchet, extensions and plug-in handle with quick-release safety lock
- **Ident. No. 341:** 17 socket wrench inserts, 5 operating tools

Advantage:
- Excellent load capacity thanks to tough, hard HPQ steel alloy
- Cadmium-free, therefore also suitable for working on titanium-alloy parts and titanium connecting elements
- High force transmission to the edges of the bolts and nuts for optimum load distribution
- Longer bolt and nut service lives

Delivery:
in robust, stackable ABS plastic storage box

Ident. No. 301–311

Ident. No. 341

Drive		1/4 inch	1/4 inch	1/4 inch
Sockets with hexagon-head tip provided		3.5 mm | 4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm	3.5 mm | 4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm	3.5 mm | 4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm
Sockets with socket hexagon-head tip provided		-	-	3 mm | 4 mm | 5 mm | 6 mm
Ratchets provided		1/4-inch square	1/4-inch square	1/4-inch square
Extensions provided		54 mm | 150 mm	54 mm | 150 mm	150 mm
Cross handles provided		115 mm	115 mm	115 mm
Cardan joints provided		38 mm	38 mm	38 mm
External dimensions of box		220 x 130 x 42 mm	220 x 110 x 40 mm	220 x 130 x 42 mm
58024...	Ident. No.	301 ●	311 ●	341 ●

Prod. Gr. 531

STAHLWILLE® Socket sets

1/4" square drive 6.3, DIN 3120

Execution:
- HPQ steel, die-forged
- chrome-plated, polished
- Socket wrench inserts with AS-Drive profile
- 27 socket wrench inserts, 11 operating tools

Advantage:
- Excellent load capacity thanks to tough, hard HPQ steel alloy
- Cadmium-free, therefore also suitable for working on titanium-alloy parts and titanium connecting elements
- High force transmission to the edges of the bolts and nuts for optimum load distribution
- Longer bolt and nut service lives

Delivery:
in robust, stackable ABS plastic storage box

Drive		1/4 inch | 1/2 inch
Sockets with hexagon-head tip provided		4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 13 mm | 16 mm | 17 mm | 18 mm | 19 mm | 21 mm | 22 mm | 24 mm | 27 mm | 30 mm
Sockets with socket hexagon-head tip provided		3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm | 12 mm | 14 mm
Ratchets provided		1/4-inch square | 1/2-inch square
Extensions provided		54 mm | 130 mm | 150 mm | 255 mm
Cross handles provided		115 mm | 300 mm
Cardan joints provided		38 mm | 70 mm
58024...	Ident. No.	361 ●

Prod. Gr. 531

STAHLWILLE® socket set

1/4" and 3/8" square drive 6.3 DIN 3120

Execution:
- HPQ steel, die-forged
- chrome-plated, polished
- Hexagon and bi-hexagon inserts with AS-Drive profile
- 36 socket wrench inserts, 12 operating tools

Advantage:
- Excellent load capacity thanks to tough, hard HPQ steel alloy
- Cadmium-free, therefore also suitable for working on titanium-alloy parts and titanium connecting elements
- High force transmission to the edges of the bolts and nuts for optimum load distribution
- Longer bolt and nut service lives

Delivery:
in robust, stackable ABS plastic storage box

Drive		1/4 inch | 3/8 inch
Sockets with hexagon-head tip provided		4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 21 mm | 22 mm
Sockets with socket hexagon-head tip provided		3 mm | 4 mm | 5 mm | 6 mm | 8 mm
Sockets with cross-head tip provided		PH1 | PH2 | PH3 | PZ2
Sockets with slotted tip provided		0.5 x 3 mm | 0.6 x 3.5 mm | 0.8 x 4 mm | 1 x 5.5 mm | 1.2 x 6.5 mm | 1.6 x 8 mm
Ratchets provided		1/4-inch square | 3/8-inch square
Extensions provided		76 mm | 150 mm | 240 mm
Cross handles provided		115 mm
Cardan joints provided		38 mm | 50 mm
Bit holder provided		1/4 inch | 3/8 inch
External dimensions of box		405 x 178 x 45 mm
58024...	Ident. No.	**411** ●

Prod. Gr. 531

STAHLWILLE® socket set

1/4 inch and 1/2 inch square drive DIN 3120

Execution:
- HPQ steel, die-forged
- chrome-plated, polished
- hex and TX inserts
- 52 socket wrench inserts, 11 operating tools

Advantage:
- Excellent load capacity thanks to tough, hard HPQ steel alloy
- Cadmium-free, therefore also suitable for working on titanium-alloy parts and titanium connecting elements
- High force transmission to the edges of the bolts and nuts for optimum load distribution
- Longer bolt and nut service lives

Delivery:
in robust, stackable ABS plastic storage box

Drive		1/4 inch | 1/2 inch
Sockets with hexagon-head tip provided		4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 13 mm | 16 mm | 17 mm | 18 mm | 19 mm | 21 mm | 22 mm | 24 mm | 27 mm | 30 mm
Sockets with socket hexagon-head tip provided		3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm | 12 mm | 14 mm
Sockets with socket hexagon head or external TX tip provided		E4 | E5 | E6 | E7 | E8 | E10 | E11 | E12 | E14 | E16 | E18 | E20 | E22 | E24 | TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40 | TX45 | TX50 | TX55 | TX60
Ratchets provided		1/4-inch square | 1/2-inch square
Extensions provided		54 mm | 130 mm | 150 mm | 255 mm
Cross handles provided		115 mm | 300 mm
Cardan joints provided		38 mm | 70 mm
58024...	Ident. No.	**421** ●

Prod. Gr. 531

ATORN Reversible ratchets: Fine-tooth ratchet, telescopic ratchet, miniature bit ratchet

1/4 inch square drive 6.3

Application:
Ident. No. 010: Ratchet for manual socket wrench inserts and connection parts.
Ident. No. 050: ratchet for manual socket wrench bits and connectors.
Ident. No. 100: Ratchet for direct mounting of bits with 1/4 inch hexagon head.

Execution:
- **Ident. No. 010:**
  - Anti-clockwise and clockwise rotation possible using reversing lever with locking button
  - With suspension eyelet
- **Ident. No. 010, 100:** Finely toothed
- **Ident. No. 050:**
  - telescopic function: can be extended from 150 to 200 mm
  - ratcheting/clamping function
  - anti-clockwise and clockwise rotation possible using reversing lever with locking button
- **Ident. No. 100:**
  - Anti-clockwise/clockwise rotation can be switched using reversing lever
  - With thumb wheel

Advantage:
- **Ident. No. 100:** Thumb wheel for easier placement, screwing and unscrewing of bolts

Ident. No. 010

Ident. No. 050

Ident. No. 100

Tip size		1/4 inch	1/4 inch	1/4 inch
Length (mm)		150	200	100
Number of teeth (PCS)		72	72	72
Surface		Chrome plated	Chrome plated	Chrome plated
Material		Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel
Material of handle		2-component plastic	2-component plastic	Steel
58002...	Ident. No.	**010** ●	**050** ●	**100** ●

Prod. Gr. 582

Wera Ratchets

1/4 inch square drive 6.3

Execution:
- **Ident. No. 100:**
  - Freely swivellable ratchet head with 5 defined positions at 0°,15° and 90°, left and right
  - Pushbutton release
  - Anti-clockwise/clockwise rotation can be switched using knurling wheel
  - Multi-component power grip
- **Ident. No. 110:** Forged solid metal reversible ratchet with nut locking function
- **Ident. No. 120:** Forged all-metal push-through ratchet with nut locking function
- **Ident. No. 200:**
  - All-steel ratchet with bit direct mounting (ref. no. 200) or 1/4 inch square drive (ref. no. 210)
  - Anti-clockwise/clockwise rotation can be switched using reversing lever
  - Small and extremely handy with switching angle of only 6° - for narrow installation spaces

Advantage:
- **Ident. No. 100:**
  - In the 0° position, the ratchet becomes a standard screwdriver
  - Ergonomic power grip for fatigue-free work
  - Flywheel design and quick-action rotary sleeve for quicker screwdriving process
- **Ident. No. 110–120:** Extremely robust without limiting the torque

Ident. No. 100

Ident. No. 110

Ident. No. 120

Ident. No. 200

Model		Zyklop Speed	Zyklop metal	Zyklop metal	Zyklop Mini 1
Tip size		1/4 inch	1/4 inch	1/4 inch	1/4 inch
Length (mm)		152	141	141	87
Number of teeth (PCS)		72	72	38	60
Returning angle (Degree)		5	5	4.7	6
Surface		Chrome plated	Chrome plated	Chrome plated	Chrome plated
Material		Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel
58009...	Ident. No.	100 ●	110 ●	120 ●	200 ●

Prod. Gr. 542

GEDORE Ratchets (DIN 3122)

1/4 inch square drive 6.3

Execution:
- **Ident. No. 010:** Push-through square drive with ball lock
- **Ident. No. 020:** With metal disc reversing
- **Ident. No. 030:** Deeper-set reversing lever with catch for central position
- **Ident. No. 040:** Reversing lever and pushbutton release, extra-slim head

Advantage:
- Comfortable and good grip thanks to non-slip handle

Ident. No. 010

Ident. No. 020

Ident. No. 030

Ident. No. 040

Tip size		1/4 inch	1/4 inch	1/4 inch	1/4 inch
Length (mm)		127	127	127	127
Number of teeth (PCS)		40	72	24	40
Returning angle (Degree)		18	5	15	9
Surface		Chrome plated	Chrome plated	Chrome plated	Chrome plated
Material		Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel
Material of handle		2-component plastic	2-component plastic	2-component plastic	2-component plastic
58260...	Ident. No.	010 ●	020 ●	030 ●	040 ●

Prod. Gr. 530

HAZET Ratchets

1/4 inch square drive 6.3

Execution:
- **Ident. No. 010:**
  - Switchable between right and left
  - Robust design

Ident. No. 010

Ident. No. 070

Tip size		1/4 inch	1/4 inch
Length (mm)		115	117
Number of teeth (PCS)		20	90
Surface		Chrome plated	Chrome plated
Material		Chrome-vanadium steel	Chrome-vanadium steel
Material of handle		2-component plastic	-
58264...	Ident. No.	010 ●	070 ●

Prod. Gr. 569

STAHLWILLE® Ratchets (DIN 3122)

1/4 inch square drive 6.3

Execution:

- **Ident. No. 010:**
  - Reversible ratchet
  - Chrome-alloy steel
  - Drop-forged
- **Ident. No. 025:**
  - Mini ratchet for direct mounting of 1/4 inch bits
  - All-steel design, fine-toothed
  - Bit holder with pressure spring for secure hold of bits
- **Ident. No. 025–070:**
  - chrome-alloy steel
  - drop-forged
- **Ident. No. 035:**
  - Mini ratchet in all-steel design
  - Fine-toothed, with quick release safety lock
- **Ident. No. 060:**
  - fine-tooth ratchet with 80 teeth for particularly low working angle of just 4.5°
  - QuickRelease safety lock and reversing lever
- **Ident. No. 070:**
  - Fine tooth jointed-head ratchet with quick release safety lock
  - Head pivots upwards and downwards by approx. 90°, locks in straight position, at 30° and 60°

Ident. No. 025

Ident. No. 035

Ident. No. 060

Ident. No. 070

Ident. No. 010

Tip size		1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch
Length (mm)		117	89	90	118	170
Number of teeth (PCS)		22	80	80	80	80
Returning angle		15	-	-	4.5	4.5
Surface		Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated
Material		Steel, specially hardened	Steel, specially hardened	Steel, specially hardened	Steel, specially hardened	Steel, specially hardened
Material of handle		2-component plastic	Steel	Steel	2-component plastic	2-component plastic
58268...	Ident. No.	010 ●	025 ●	035 ●	060 ●	070 ●

Prod. Gr. 531

Ratchets (DIN 3122)

1/4 inch square drive 6.3

Execution:

- **Ident. No. 010:**
  - 360° rotary handle for ratchet and rotary grip actuation
  - Disc switching
  - Pushbutton locking
- **Ident. No. 020:**
  - Anti-clockwise/clockwise rotation using reversing lever
  - Dustproof ratchet head
- **Ident. No. 100:** Slim reversible ratchet, with pushbutton locking

Ident. No. 010

Ident. No. 020

Ident. No. 100

Tip size			1/4 inch	1/4 inch	1/4 inch
Length (mm)			120	121	120
Number of teeth (PCS)			60	72	72
Returning angle (Degree)			6	5	5
Surface			Chrome plated	Chrome plated	Chrome plated
Material			Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel
Material of handle			-	-	Aluminium
FACOM	58273...	Ident. No.	010 ●	020 ●	-
BAHCO	58273...	Ident. No.	-	-	100 ●

FACOM = Prod. Gr. 5JD
BAHCO = Prod. Gr. 519

ORION® ratchet (DIN 3122)

1/4" square drive 6.3, DIN 3120

Execution:

- 2-component handle
- Anti-clockwise and clockwise rotation possible using reversing lever with locking button

Tip size		1/4 inch
Length (mm)		157
Number of teeth (PCS)		72
Surface		Chrome plated
Material		Chrome-vanadium steel
58274...	Ident. No.	500 ●

Prod. Gr. 5LB

ATORN Actuating tools (DIN 3120)

1/4 inch square drive 6.3

No. 58003

No. 58006

Application:

No. 58003: Drive handle for manual socket wrench inserts and connection parts

No. 58006: drive handle for manual socket wrench inserts and connection parts

Execution:

- **No. 58003:** Screwdriver handle with 1/4" internal and external square
- **No. 58006:** 2-component screwdriver handle with 1/4-inch square drive

Tip size			1/4 inch
Surface			Chrome plated
Material			Chrome-vanadium steel
	Length (mm)		
58003...	150	Ident. No.	080 ●
58006...	205	Ident. No.	085 ●

Prod. Gr. 582

Actuating tools

1/4 inch square drive 6.3

No. 58185

Application:

T-handle for manual socket wrench inserts and connection parts

Execution:

- Movable sliding head
- **No. 58187:** With quick release safety lock

Tip size				1/4 inch
Surface				Chrome plated
Material				Chrome-vanadium steel
		Length (mm)		
ATORN	58185...	115	Ident. No.	010 ●
STAHLWILLE	58187...	165	Ident. No.	010 ●

STAHLWILLE = Prod. Gr. 531
ATORN = Prod. Gr. 582

ATORN Socket insert, short and long (DIN 3124)

Hexagon, 1/4-inch square drive 6.3 DIN 3120

No. 58030

No. 58042

Advantage:

- Optimum power transmission thanks to special profile
- Bolt and nut are not damaged
- Higher torques possible

Technical data:

- Drive: 1/4 inch
- Tip profile type: Special profile
- Surface: Chrome plated
- Material: Chrome-vanadium steel

		Standard version		Long version	
	Length (mm)	25		50	
Width across flats	Outer Ø (mm)	58030... Ident. No.		58042... Ident. No.	
4 mm	11	040	●	040	●
4.5 mm	11	045	●	045	●
5 mm	11	050	●	050	●
5.5 mm	11	055	●	055	●
6 mm	11	060	●	060	●
7 mm	11	070	●	070	●
8 mm	12	080	●	080	●
9 mm	13	090	●	090	●
10 mm	14	100	●	100	●
11 mm	16	110	●	110	●
12 mm	17	120	●	120	●
13 mm	18	130	●	130	●
14 mm	20	140	●	140	●

Prod. Gr. 582

HAZET Screwdriver bits (DIN 3120)

for Phillips screws

Advantage:
- CVD-TiN coating enables longer service lives, facilitates greater torque application and ensures resistance to corrosion
- Better grip in the bolt with Cam-Out effect kept to a minimum

Technical data:
- Drive: 1/4 inch
- Surface: TiN
- Material: Chrome-vanadium steel

No. 58090

Tip size		PH1	PH2	PH3	PH4	PZ1	PZ2	PZ3
58090...	Ident. No.	010 ●	020 ●	030 ●	040 ●	-	-	-
58106...	Ident. No.	-	-	-	-	010 ●	020 ●	030 ●

Prod. Gr. 569

ATORN Screwdriver bits (DIN 3120)

for Phillips screws

Execution:
- Burnished tips

Advantage:
- Improved corrosion resistance thanks to the black oxide finish

Technical data:
- Drive: 1/4 inch
- Surface: Chrome plated
- Material: Chrome-vanadium steel
- Length: 37 mm

Tip size		PH1	PH2	PH3	PZ1	PZ2	PZ3
58091...	Ident. No.	010 ●	020 ●	030 ●	-	-	-
58092...	Ident. No.	-	-	-	010 ●	020 ●	030 ●

Prod. Gr. 582

Screwdriver bits (DIN 3120)

for hexagon socket screws, 1/4 inch square drive 6.3 DIN 3120

Execution:
- **No. 58120 030–58120 080, 58126 030–58126 060:** Burnished tips
- **No. 58126 030–58126 060:** long version total length 55 mm, blade length 30 mm
- **No. 58126 130–58126 180:** bronzed tips

Advantage:
- **No. 58120:** Improved corrosion resistance thanks to the black oxide finish
- **No. 58122:** CVD-TiN coating enables longer service lives, facilitates greater torque application and ensures resistance to corrosion
- **No. 58126 030–58126 060:** Improved resistance to corrosion thanks to burnishing process

No. 58120

No. 58122

No. 58126 030–58126 060

			ATORN		HAZET		STAHLWILLE	
		Tip type	Hexagon		Hexagon		Hexagon	
		Surface	Chrome plated		TiN		Chrome plated	
		Material	Chrome-vanadium steel		Chrome-vanadium steel		Chrome-vanadium steel	
Drive	Width across flats	Length (mm)	58120... Ident. No.		58122... Ident. No.		58126... Ident. No.	
1/4 inch	3 mm	28	030	●	030	●	130	●
1/4 inch	4 mm	28	040	●	040	●	140	●
1/4 inch	5 mm	28	050	●	050	●	150	●
1/4 inch	6 mm	28	060	●	060	●	160	●
1/4 inch	8 mm	28	080	●	080	●	180	●
1/4 inch	3 mm	55	-	-	-	-	030	●
1/4 inch	4 mm	55	-	-	-	-	040	●
1/4 inch	5 mm	55	-	-	-	-	050	●
1/4 inch	6 mm	55	-	-	-	-	060	●

STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569
ATORN = Prod. Gr. 582

Screwdriver bits (DIN 3120)

For internal TX screws, 1/4 inch square drive 6.3 DIN 3120

Execution:
- **No. 58137:** Burnished tips
- **No. 58142:** Chrome alloy steel, forged from solid material

Advantage:
- **No. 58137:** Improved corrosion resistance thanks to the black oxide finish
- **No. 58138:** CVD-TiN coating enables longer service lives, facilitates greater torque application and ensures resistance to corrosion

Technical data:
- Drive: 1/4 inch
- Material: Chrome-vanadium steel

No. 58137

No. 58138

No. 58142 108

	ATORN		HAZET		STAHLWILLE	
Surface	Chrome plated		TiN		Chrome plated	
Tip size	58137... Ident. No.		58138... Ident. No.		58142... Ident. No.	
TX8	008	●	008	●	108	●
TX9	009	●	009	●	109	●
TX10	010	●	010	●	110	●
TX15	015	●	015	●	115	●
TX20	020	●	020	●	120	●
TX25	025	●	025	●	125	●
TX27	027	●	027	●	127	●
TX30	030	●	030	●	130	●
TX40	040	●	040	●	140	●

STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569
ATORN® = Prod. Gr. 582

Adapters with ball detent mechanism (DIN 3123)

1/4" square drive 6.3, DIN 3120

Application:
For adapting a 1/4" internal square drive to a 3/8" external square drive.

Execution:
- **No. 58149:** Ball stop
- **No. 58150–58158:** Ball lock

Advantage:
- **No. 58158:**
  - Excellent load capacity thanks to tough, hard HPQ steel alloy
  - Cadmium-free, therefore also suitable for working on titanium-alloy parts and titanium connecting elements

No. 58149

			ATORN		GEDORE		HAZET		STAHLWILLE	
		Material	Chrome-vanadium steel		Chrome-vanadium steel		Chrome-vanadium steel		Steel, specially hardened	
Drive	Tip size	Surface	58149... Ident. No.		58150... Ident. No.		58154... Ident. No.		58158... Ident. No.	
1/4 inch	3/8 inch	Chrome plated	010	●	010	●	010	●	010	●

GEDORE = Prod. Gr. 530
STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569
ATORN® = Prod. Gr. 582

GEDORE Adapter with ball detent mechanism (DIN 3123)

1/4" square drive 6.3, DIN 3120

Application:
For connecting two 1/4" internal squares.

Execution:
- Ground
- Ball lock

		Material	Chrome-vanadium steel	
Tip size	Surface		58150... Ident. No.	
1/4 inch	Chrome plated		005	●

Prod. Gr. 530

STAHLWILLE® Adapter with ball detent mechanism (DIN 3123)

1/4" square drive 6.3, DIN 3120

Application:
For adapting a 1/4" internal square drive to a 1/2" external square drive.

Execution:
- Polished
- Ball lock

Advantage:
- Excellent load capacity thanks to tough, hard HPQ steel alloy
- Cadmium-free, therefore also suitable for working on titanium-alloy parts and titanium connecting elements

		Material	Steel, specially hardened	
Drive	Tip size	Surface	58158... Ident. No.	
1/4 inch	1/2 inch	Chrome plated	020	●

Prod. Gr. 531

ATORN Bit adapter (DIN 3120)

1/4" square drive 6.3, DIN 3120

Application:
Screwdriver adaptation from 1/4" square drive to a 1/4" external square drive

Drive	Tip size	Surface	Material	58003... Ident. No.	
1/4 inch	1/4 inch	Plain	Chrome-vanadium steel	090	●

Prod. Gr. 582

STAHLWILLE® Bit holder

1/4" square drive 6.3, DIN 3120

Application:
Holder for 1/4" hexagonal bits with 1/4" square drive

Execution:
- Polished
- Hexagon socket with annular pressure spring

Advantage:
- Also suitable for hexagons as per DIN 3126-E 6.3 (ISO 1173) with wide groove

Drive	Bit holder	Surface	Material	58174... Ident. No.	
1/4 inch	1/4 inch hexagon	Chrome plated	Steel, specially hardened	010	●

Prod. Gr. 531

ATORN Extensions (DIN 3123)

1/4" square drive 6.3, DIN 3120

Application:
Extension for hand-operated socket wrench inserts with 1/4" square drive

Execution:
- Polished

Ident. No. 020

Drive	Tip size	Length (mm)	Outer Ø (mm)	Surface	Material	58227... Ident. No.	
1/4 inch	1/4 inch	50	11	Chrome plated	Chrome-vanadium steel	010	●
1/4 inch	1/4 inch	100	11	Chrome plated	Chrome-vanadium steel	020	●
1/4 inch	1/4 inch	150	11	Chrome plated	Chrome-vanadium steel	030	●

Prod. Gr. 582

STAHLWILLE® Extensions (DIN 3123)

1/4" square drive 6.3, DIN 3120

Application:
Extension for hand-operated socket wrench inserts with 1/4" square drive

Execution:
- With quick release safety lock
- polished

Ident. No. 021

Drive	Tip size	Length (mm)	Outer Ø (mm)	Surface	Material	58236... Ident. No.	
1/4 inch	1/4 inch	150	17	Chrome plated	Chrome-vanadium steel	021	●
1/4 inch	1/4 inch	356	17	Chrome plated	Chrome-vanadium steel	029	●

Prod. Gr. 531

Cardan joints (DIN 3123)

with internal detent 1/4 inch square drive 6.3 DIN 3120

Application:

No. 58247–58248: Cardan joint for screw connections with projecting edges and confined installation areas

No. 58250: cardan joint for screw connections with projecting edges and confined installation areas

Execution:

- **No. 58247–58248:**
  - Polished
  - With inner lock
- **No. 58250:** With quick release safety lock

Advantage:

- **No. 58247:** Flexible bending angle for difficult-to-reach installation spaces
- **No. 58248:** Flexible bending angle for difficult-to-reach installation areas

No. 58247

No. 58248

No. 58250

				ATORN		HAZET		STAHLWILLE	
Drive	Tip size	Surface	Material	58247... Ident. No.		58248... Ident. No.		58250... Ident. No.	
1/4 inch	1/4 inch	Chrome plated	Chrome-vanadium steel	010	●	010	●	011	●

STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569
ATORN® = Prod. Gr. 582

ATORN socket set

3/8" square drive 10, DIN 3120

Execution:

- Chrome-vanadium steel
- 17 inserts, 6 operating tools
- Hexagons with special profile

Advantage:

- Optimum power transmission thanks to special profile
- Bolt and nut are not damaged
- Higher torques possible
- Two-tone foam inlay ensures any missing tools are instantly detected

Delivery:

In sheet steel box, powder-coated, with 2-tone foam insert and removable recesses

Drive		3/8 inch
Number of pieces in assortment/set (PCS)		23
Sockets with hexagon-head tip provided		6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm
Ratchets provided		3/8-inch square
Extensions provided		50 mm | 75 mm | 150 mm
Cardan joints provided		55 mm
External dimensions of box		315 x 115 x 43 mm
58278...	Ident. No.	011 ●

Prod. Gr. 582

ORION® socket set

with hexagon sockets, 3/8 inch square drive 10 DIN 3120

Execution:
- Chrome-vanadium steel
- **Ident. No. 010:**
  - Matt chromium-plated
  - 17 inserts, 6 operating tools

Advantage:
- **Ident. No. 100:**
  - High-quality insertion tools to robust, long-lasting industry-standard specification
  - Reversible ratchet with two-component handle and locking button
  - Individual parts are securely stored and transported using clamping function

Drive		3/8 inch	3/8 inch
Number of pieces in assortment/set (PCS)		23	61
Sockets with hexagon-head tip provided		6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm	6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 24 mm
Long sockets with hexagon-head tip provided		-	8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 17 mm | 19 mm
Sockets with socket hexagon-head tip provided		-	3 mm | 4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 10 mm
Sockets with socket hexagon head or external TX tip provided		-	TX15 | TX20 | TX25 | TX27 | TX30 | TX40 | TX45 | TX50 | TX55
Sockets with cross-head tip provided		-	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3
Sockets with slotted tip provided		-	5.5 mm | 7 mm | 8 mm
Ratchets provided		3/8-inch square	3/8-inch square
Extensions provided		125 mm | 250 mm	75 mm | 250 mm
Cross handles provided		170 mm	170 mm
Cardan joints provided		46 mm	-
External dimensions of box		270 x 105 x 90 mm	-
58279...	Ident. No.	**010** ●	**100** ●

Prod. Gr. 5LB

Ident. No. 010

Ident. No. 100

STAHLWILLE® Socket sets

With hexagon or bi-hexagon sockets, 3/8 inch square drive 10 DIN 3120

Execution:
- Chrome-alloy steel
- **Ident. No. 081:**
  - 14 inserts, 5 operating tools
  - Operating tools with QuickRelease safety lock
- **Ident. No. 111:** 19 inserts, 5 operating tools

Delivery:
in robust, stackable ABS plastic storage box

Drive		3/8 inch	3/8 inch
Number of pieces in assortment/set (PCS)		19	24
Sockets with double hexagon-head tip provided		8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 21 mm | 22 mm	8 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm
Sockets with socket hexagon-head tip provided		-	3 mm | 4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 10 mm
Ratchets provided		3/8-inch square	3/8-inch square
Extensions provided		76 mm | 240 mm	76 mm | 240 mm
Cross handles provided		165 mm	165 mm
Cardan joints provided		46 mm	46 mm
External dimensions of box		315 x 115 x 45 mm	405 x 178 x 45 mm
58288...	Ident. No.	**081** ●	**111** ●

Prod. Gr. 531

Ident. No. 081

Ident. No. 111

Wera Zyklop Speed socket set

3/8” square drive 10, DIN 3120

Execution:
- Zyklop Speed ratchet with 3/8” square drive and freely swivelling head with 5 specific positions
- pushbutton release
- changes between anti-clockwise/clockwise
- finely toothed
- multi-component handle
- extensions with quick-action rotary sleeves and Flexible-Lock system
- all bits 50 mm in length
- with quick-change chuck

Advantage:
- wobble extension enables swivelling up to 15°
- quick change of bits using the quick-change chuck

Delivery:
in fabric case with Velcro closure

Technical data:
- Drive: 3/8 inch
- Number of pieces in assortment/set: 29 PCS
- Sockets with hexagon-head tip provided: 8 mm | 10 mm | 12 mm | 13 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm
- Sockets with socket hexagon-head tip provided: 4 mm | 5 mm | 6 mm | 8 mm
- Sockets with socket hexagon head or external TX tip provided: TX20 | TX25 | TX27 | TX30 | TX40
- Sockets with cross-head tip provided: PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3
- Sockets with slotted tip provided: 5.5 mm
- Ratchets provided: 3/8-inch square
- Extensions provided: 76 mm | 200 mm
- Bit holder provided: 1/4 inch

58276...	Ident. No.	025 ●

Prod. Gr. 542

ATORN ratchet

3/8” square drive 10, DIN 3120

Application:
Ratchet for manual socket wrench inserts and connection parts

Execution:
- Anti-clockwise and clockwise rotation possible using reversing lever with locking button
- Finely toothed
- With suspension eyelet

Tip size		3/8 inch
Length (mm)		190
Number of teeth (PCS)		72
Surface		Chrome plated
Material		Chrome-vanadium steel
Material of handle		2-component plastic
58275...	Ident. No.	010 ●

Prod. Gr. 582

Wera Zyklop Speed ratchet

3/8” square drive 10, DIN 3120

Execution:
- Freely swivellable ratchet head with defined positions at 0°,15° and 90°, left and right
- Flywheel design with quick-action rotary sleeve
- Pushbutton release
- Anti-clockwise/clockwise rotation can be switched using knurling wheel
- Multi-component power grip

Tip size		3/8 inch
Length (mm)		199
Number of teeth (PCS)		72
Returning angle (Degree)		5
Surface		Chrome plated
Material		Chrome-vanadium steel
58276...	Ident. No.	100 ●

Prod. Gr. 542

GEDORE Ratchets

3/8" square drive 10, DIN 3120

Execution:
- **Ident. No. 020:** With metal disc reversing
- **Ident. No. 030:** Deeper-set reversing lever with catch for central position
- **Ident. No. 040:** Reversing lever and pushbutton release, extra-slim head

Advantage:
- Comfortable and good grip thanks to non-slip handle

Ident. No. 020

Ident. No. 030

Ident. No. 040

Tip size		3/8 inch	3/8 inch	3/8 inch
Length (mm)		200	200	200
Number of teeth (PCS)		72	32	60
Returning angle (Degree)		5	11.25	6
Surface		Chrome plated	Chrome plated	Chrome plated
Material		Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel
Material of handle		2-component plastic	2-component plastic	2-component plastic
58560...	Ident. No.	020 ●	030 ●	040 ●

Prod. Gr. 530

HAZET ratchet

3/8" square drive 10, DIN 3120

Execution:
- Type C
- Anti-clockwise/clockwise rotation using reversing lever

Tip size		3/8 inch
Length (mm)		199
Number of teeth (PCS)		30
Surface		Chrome plated
Material		Chrome-vanadium steel
Material of handle		2-component plastic
58564...	Ident. No.	020 ●

Prod. Gr. 569

STAHLWILLE Ratchets

3/8" square drive 10, DIN 3120

Execution:
- **Ident. No. 010:** Anti-clockwise/clockwise rotation using reversing disc
- **Ident. No. 010–025:** Chrome-alloy steel
- **Ident. No. 020–025:** Anti-clockwise/clockwise rotation using reversing lever
- **Ident. No. 025–050:** QuickRelease safety lock
- **Ident. No. 040:** fine-tooth ratchet with 80 teeth for particularly low working angle of just 4.5°
- **Ident. No. 040–050:** chrome-alloy steel
- **Ident. No. 050:**
- Fine-toothed ratchet with 80 teeth for particularly low work angle of only 4.5°
- Head pivots upwards and downwards by approx. 90°, locks in straight position, at 30° and 60°

Ident. No. 040

Ident. No. 050

Ident. No. 010

Ident. No. 020

Ident. No. 025

Tip size		3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch
Length (mm)		194	193	195	192	300
Number of teeth (PCS)		60	30	30	80	80
Returning angle (Degree)		6	-	-	4.5	4.5
Surface		Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated
Material		Steel, specially hardened	Steel, specially hardened	Steel, specially hardened	Steel, specially hardened	Steel, specially hardened
Material of handle		2-component plastic	2-component plastic	2-component plastic	2-component plastic	2-component plastic
58568...	Ident. No.	010 ●	020 ●	025 ●	040 ●	050 ●

Prod. Gr. 531

Actuating tool (DIN 3122)

3/8" square drive 10, DIN 3120

No. 58479

No. 58484

Application:
T-handle for hand-operated socket wrench inserts and connection parts with 3/8" square drive.

Execution:
- Polished
- Movable sliding head

Technical data:
- Tip size: 3/8 inch
- Surface: Chrome plated

	ATORN		GEDORE		HAZET		STAHLWILLE	
Length (mm)	163		163		198		165	
Material	Chrome-vanadium steel		Chrome-vanadium steel		Chrome-vanadium steel		Steel, specially hardened	
	58479... Ident. No.		58480... Ident. No.		58484... Ident. No.		58488... Ident. No.	
	010	●	010	●	010	●	010	●

GEDORE = Prod. Gr. 530
STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569
ATORN = Prod. Gr. 582

ORION GRIPPER universal screwdriving tool (DIN 3120)

3/8" square drive 10, DIN 3120

Application:
Universal tool for nuts and bolts with external profile.

Execution:
- Alloyed steel housing
- 54 hardened steel pins
- Pins with spring and solid stop

- Torque transfer of up to 80 Nm
- Head height up to 8 mm

Advantage:
- Replaces nuts in the region of 7 to 19 mm
- Independent of imperial or metric sizes
- All geometries such as triangular, square, hexagonal or octagonal, slightly damaged screws, and hook and lug wrenches can be screwed in place

Drive		3/8 inch
Length (mm)		60
Surface		Chrome plated
58007...	Ident. No.	010 ●

Prod. Gr. 534

ATORN Socket insert (DIN 3124)

Hexagon, 3/8 inch square drive, 10, DIN 3120

Application:
Socket wrench insert with hexagon and 3/8" square drive

Execution:
- Polished

Technical data:
- Drive: 3/8 inch
- Tip profile type
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats	Length (mm)	Outer Ø (mm)	58299... Ident. No.	
6 mm	24	17	060	●
7 mm	24	17	070	●
8 mm	24	17	080	●
9 mm	24	17	090	●
10 mm	25	17	100	●
11 mm	26	18	110	●

Width across flats	Length (mm)	Outer Ø (mm)	58299... Ident. No.	
12 mm	27	18	120	●
13 mm	28	18	130	●
14 mm	28	20	140	●
15 mm	30	21	150	●
16 mm	30	22	160	●
17 mm	30	23	170	●

Width across flats	Length (mm)	Outer Ø (mm)	58299... Ident. No.	
18 mm	30	26	180	●
19 mm	30	26	190	●
20 mm	32	27	200	●
21 mm	32	28	210	●
22 mm	34	30	220	●

Prod. Gr. 582

ATORN Socket inserts (DIN 3120)

for external TX screws, 3/8 inch square drive 10 DIN 3120

Application:
socket spanner insert for external TX screws with 3/8 inch square drive.

Technical data:
- Drive: 3/8 inch
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Tip size		E5	E6	E7	E8	E10	E11	E12	E14
58356...	Ident. No.	050 ●	060 ●	070 ●	080 ●	100 ●	110 ●	120 ●	140 ●

Prod. Gr. 582

ATORN Screwdriver bit (DIN 3120)

for hexagon socket screws, 3/8-inch square drive, 10, DIN 3120

Application:
Screwdriver bit for hexagon socket screws with 3/8" square drive.

Technical data:
- Drive: 3/8 inch
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats		3 mm	4 mm	5 mm	6 mm	7 mm	8 mm	9 mm	10 mm	12 mm
Length (mm)		47	47	47	47	47	49	50	50	50
Outer Ø (mm)		17	17	17	17	17	17	18	19	20
58430...	Ident. No.	030 ●	040 ●	050 ●	060 ●	070 ●	080 ●	090 ●	100 ●	120 ●

Prod. Gr. 582

ATORN Screwdriver bits

for internal TX screws, 3/8 inch square drive 10 DIN 3120

Application:
screwdriver bit for internal TX screws with 3/8 inch square drive.

Execution:
- Special steel blades
- Steel grey

Technical data:
- Drive: 3/8 inch
- Outer diameter: 17 mm
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Tip size		TX20	TX25	TX27	TX30	TX40	TX45	TX50
Length (mm)		43.5	43.5	43.5	43.5	43.5	43.5	44.5
58450...	Ident. No.	020 ●	025 ●	027 ●	030 ●	040 ●	045 ●	050 ●

Prod. Gr. 582

STAHLWILLE Screwdriver bit set

for internal TX screws, 3/8 inch square drive 10 DIN 3120

Application:
set of the most common socket spanner inserts for internal TX screws with 3/8 inch square drive

Execution:
- 8-piece

Delivery:
In cardboard box with plastic inlay

Drive		3/8 inch
Sockets with socket hexagon head or external TX tip provided		TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40
Surface		Chrome plated
Material		Steel, specially hardened
58456...	Ident. No.	200 ●

Prod. Gr. 531

Adapters (DIN 3123)

3/8" square drive 10, DIN 3120

No. 58463 010 No. 58463 020

Application:
No. 58463: For adapting a 3/8 inch square socket to a 1/4 inch square drive
No. 58464 010, 58468 010, 58472 010: For adapting a 3/8" internal square drive to a 1/4" external square drive
No. 58464 020, 58468 020, 58472 020: For adapting a 3/8" internal square drive to a 1/2" external square drive

			ATORN		GEDORE		HAZET		STAHLWILLE	
		Material	Chrome-vanadium steel		Chrome-vanadium steel		Chrome-vanadium steel		Steel, specially hardened	
Drive	Tip size	Surface	58463... Ident. No.		58464... Ident. No.		58468... Ident. No.		58472... Ident. No.	
3/8 inch	1/4 inch	Chrome plated	010	●	010	●	010	●	010	●
3/8 inch	1/2 inch	Chrome plated	020	●	020	●	020	●	020	●

GEDORE = Prod. Gr. 530
STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569
ATORN = Prod. Gr. 582

GEDORE Adapter (DIN 3123)

3/8" square drive 10, DIN 3120

Application: For connecting two 3/8" internal squares

Tip size			3/8 inch
Surface			Chrome plated
	Material		
58464...	Chrome-vanadium steel	Ident. No.	005 ●

Prod. Gr. 530

STAHLWILLE Bit holder (ISO 1174)

3/8" square drive 10, DIN 3120

Application:
Holder for 1/4" hexagonal bits with 3/8" square drive

Execution:
- Hexagon socket with annular pressure spring

Advantage:
- Also suitable for hexagons as per DIN 3126-E 6.3 (ISO 1173) with wide groove

Drive		3/8 inch
Bit holder		1/4 inch hexagon
Surface		Chrome plated
Material		Chrome-vanadium steel
58474...	Ident. No.	010 ●

Prod. Gr. 531

ATORN Extensions (DIN 3123)

3/8" square drive 10, DIN 3120

Application:
Extension for hand-operated socket wrench inserts with 3/8" square drive

Execution:
- Polished
- Rigid version

Drive		3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch
Tip size		3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch
Length (mm)		50	75	125	150	250
Outer Ø (mm)		17	17	17	17	17
Surface		Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated
Material		Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel
58510...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 582

GEDORE Extension (DIN 3123)

3/8" square drive 10, DIN 3120

Application:
Extension for hand-operated socket wrench inserts with 3/8" square drive

Execution:
- Rigid version

Drive		3/8 inch	3/8 inch	3/8 inch	3/8 inch
Tip size		3/8 inch	3/8 inch	3/8 inch	3/8 inch
Length (mm)		76	125	180	250
Outer Ø (mm)		17	17	17	17
Surface		Chrome plated	Chrome plated	Chrome plated	Chrome plated
Material		Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel
58512...	Ident. No.	005 ●	020 ●	025 ●	030 ●

Prod. Gr. 530

HAZET Extensions

3/8" square drive 10, DIN 3120

Application:
Extension for hand-operated socket wrench inserts with 3/8" square drive

Execution:
- Polished
- **Ident. No. 005–070:** Rigid version
- **Ident. No. 100:**
  - Flexible version
  - Only suitable for clockwise tightening
  - Non-standard

Advantage:
- **Ident. No. 100:** Difficult-to-reach areas easier to reach with flexible version

Ident. No. 005–070

Ident. No. 100

Drive		3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch
Tip size		3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch
Length (mm)		74	126	150	202	210	254	304	508	711
Outer Ø (mm)		18	18	18	18	17.5	18	18	18	18
Surface		Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated
Material		Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel
58516...	Ident. No.	005 ●	010 ●	020 ●	030 ●	100 ●	040 ●	050 ●	060 ●	070 ●

Prod. Gr. 569

Cardan joints (DIN 3123)

3/8" square drive 10, DIN 3120

Application:
Cardan joint for screw connections with projecting edges and confined installation areas

Execution:
- Polished

Advantage:
- **No. 58530:** Flexible bending angle for difficult-to-reach installation spaces
- **No. 58532–58536:** Flexible bending angle for difficult-to-reach installation areas

No. 58530

No. 58532

			ATORN		HAZET		STAHLWILLE	
		Length (mm)	46		46.5		55	
		Material	Chrome-vanadium steel		Chrome-vanadium steel		Steel, specially hardened	
Drive	Tip size	Surface	58530... Ident. No.		58532... Ident. No.		58536... Ident. No.	
3/8 inch	3/8 inch	Chrome plated	010	●	010	●	010	●

STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569
ATORN = Prod. Gr. 582

ATORN Socket sets

with hexagon, hexagon socket and TX inserts, 1/2 inch square drive, 12.5, DIN 3120

Execution:
- Chrome-vanadium steel
- Hexagon with special profile
- 1/2" square drive

Advantage:
- Optimum power transmission thanks to special profile
- Bolt and nut are not damaged
- Higher torques possible
- Two-tone polyethylene foam inlay ensures any missing tools are instantly detected
- Oil and chemical-resistant foam inlay

Delivery:
In powder-coated sheet steel case with polyethylene foam insert

Ident. No. 011
19 pieces

Ident. No. 021
22 pieces

Ident. No. 031
35 pieces

Ident. No. 041
21 pieces

Drive		1/2 inch	1/2 inch	1/2 inch	1/2 inch
Number of pieces in assortment/set (PCS)		19	22	35	21
Sockets with hexagon-head tip provided		10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 23 mm | 24 mm | 27 mm | 30 mm | 32 mm	-
Sockets with socket hexagon-head tip provided		-	-	7 mm | 8 mm | 10 mm | 12 mm | 14 mm	-
Sockets with socket hexagon head or external TX tip provided		-	-	TX30 | TX40 | TX45 | TX55 | TX60	TX20 | TX25 | TX27 | TX30 | TX40 | TX45 | TX50 | TX55 | TX60 | E10 | E11 | E12 | E14 | E16 | E18 | E20 | E22 | E24
Sockets with cross-head tip provided		-	-	PH3 | PH4	-
Ratchets provided		1/2-inch square	1/2-inch square	1/2-inch square	1/2-inch square
Extensions provided		125 mm | 250 mm	125 mm | 250 mm	125 mm | 250 mm	125 mm | 250 mm
Cross handles provided		300 mm	-	-	-
Cardan joints provided		75 mm	75 mm	75 mm	-
58574...	Ident. No.	**011** ●	**021** ●	**031** ●	**041** ●

Prod. Gr. 582

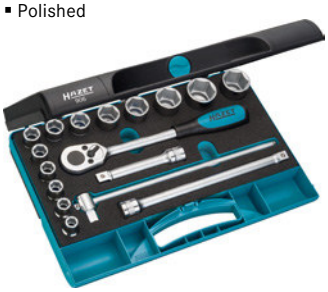
Socket sets

With hexagon or bi-hexagon sockets, 1/2 inch square drive 12.5 DIN 3120

Execution:
- Chrome-vanadium steel
- Chrome-plated
- Polished

- **Ident. No. 025:** 13 inserts, 4 operating tools
- **Ident. No. 035, 060:** 20 inserts, 5 operating tools
- **Ident. No. 045:** 38 inserts, 6 operating tools

Delivery:
In impact-resistant plastic case, black, with PUR soft foam inlay



Ident. No. 025

Ident. No. 035

Ident. No. 045

Ident. No. 060

Drive		1/2 inch	1/2 inch	1/2 inch	1/2 inch
Number of pieces in assortment/set (PCS)		17	25	44	25
Sockets with double hexagon-head tip provided		-	-	-	10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 23 mm | 24 mm | 26 mm | 27 mm | 28 mm | 30 mm | 32 mm
Sockets with hexagon-head tip provided		10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 17 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 23 mm | 24 mm | 26 mm | 27 mm | 28 mm | 30 mm | 32 mm	10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 17 mm | 19 mm | 20 mm | 21 mm | 22 mm | 23 mm | 24 mm | 26 mm | 27 mm | 28 mm | 30 mm | 32 mm	-
Sockets with socket hexagon-head tip provided		-	-	5 mm | 6 mm | 7 mm | 8 mm | 10 mm | 12 mm | 14 mm	-
Sockets with socket hexagon head or external TX tip provided		-	-	TX27 | TX30 | TX40 | TX45 | TX50	-
Sockets with cross-head tip provided		-	-	PH1 | PH2 | PH3 | PH4 | PZ1 | PZ2 | PZ3 | PZ4	-
Ratchets provided		1/2-inch square	1/2-inch square	1/2-inch square	1/2-inch square
Extensions provided		125 mm | 250 mm	125 mm | 250 mm	125 mm | 250 mm	125 mm | 250 mm
Cross handles provided		298 mm	298 mm	298 mm	298 mm
Cardan joints provided		-	70 mm	70 mm	70 mm
58584...	Ident. No.	**025** ●	**035** ●	**045** ●	**060** ●

Prod. Gr. 569

Zyklop Speed socket set

1/2” square drive 12.5 DIN 3120, 37 pieces

Execution:
- Zyklop Speed ratchet with 1/2” square drive and freely swivelling head with 5 specific positions
- Pushbutton release
- Changes between anti-clockwise/clockwise
- Multi-component handle
- Extensions with quick-action rotary sleeves and Flexible-Lock system

Advantage:
- Robust metal case with soft foam inlay and non-slip rubber stoppers on the base for secure storage
- Wobble extension enables swivelling up to 15°
- Quick to change bits using the quick-action chuck

Drive		1/2 inch
Sockets with hexagon-head tip provided		10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm
Sockets with socket hexagon-head tip provided		5 mm | 6 mm | 8 mm | 10 mm
Sockets with socket hexagon head or external TX tip provided		TX20 | TX25 | TX30 | TX40 | TX45 | TX50 | TX55
Sockets with cross-head tip provided		PH3 | PZ3
Ratchets provided		1/2-inch square
Extensions provided		52 mm | 69 mm | 125 mm | 250 mm
Cross handles provided		300 mm
Cardan joints provided		50 mm
Bit holder provided		5/16 inch
58577...	Ident. No.	020 ●

Prod. Gr. 542

Zyklop Speed socket set

1/2” square drive 12.5 DIN 3120, 37 pieces

Execution:
- Zyklop Speed ratchet with 1/2” square drive and freely swivelling head with 5 specific positions
- pushbutton release
- anti-clockwise/clockwise switch
- multi-component handle
- extensions with quick-action rotary sleeves and Flexible-Lock system

Advantage:
- wobble extension enables swivelling up to 15°
- quick change of bits using the quick-change chuck

Delivery:
in fabric pouch with Velcro fastener

Technical data:
- Drive: 1/2 inch
- Sockets with hexagon-head tip provided: 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm
- Sockets with socket hexagon-head tip provided: 5 mm | 6 mm | 8 mm | 10 mm
- Sockets with socket hexagon head or external TX tip provided: TX20 | TX25 | TX30 | TX40 | TX45 | TX50
- Sockets with cross-head tip provided: PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3
- Ratchets provided: 1/2-inch square
- Extensions provided: 52 mm | 250 mm
- Bit holder provided: 5/16 inch

58577...	Ident. No.	025 ●

Prod. Gr. 542

GEDORE Socket sets

With hexagon or bi-hexagon sockets, 1/2 inch square drive 12.5 DIN 3120

Execution:
- Chrome-vanadium steel 31CrV3

Delivery:
In metal case

Ident. No. 016

Ident. No. 026

Ident. No. 071

Ident. No. 120

Drive		1/2 inch	1/2 inch	1/2 inch	1/4 inch | 1/2 inch
Number of pieces in assortment/set (PCS)		23	13	28	50
Sockets with double hexagon-head tip provided		-	10 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 22 mm | 24 mm	-	-
Sockets with hexagon-head tip provided		8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 21 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	-	10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 21 mm | 22 mm | 23 mm | 24 mm | 26 mm | 27 mm | 28 mm | 30 mm | 32 mm | 33 mm | 34 mm | 36 mm	4 mm | 4.5 mm | 5 mm | 5.5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 17 mm | 19 mm | 22 mm | 24 mm | 27 mm | 30 mm
Sockets with socket hexagon-head tip provided		-	-	-	3 mm | 4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 10 mm | 12 mm | 14 mm
Sockets with cross-head tip provided		-	-	-	PH1 | PH2 | PH3
Sockets with slotted tip provided		-	-	-	4 mm | 5.5 mm | 6.5 mm | 8 mm | 10 mm
Ratchets provided		1/2-inch square	1/2-inch square	1/2-inch square	1/4-inch square | 1/2-inch square
Extensions provided		125 mm | 250 mm	125 mm	125 mm | 250 mm	55 mm | 97 mm | 125 mm | 250 mm
Cross handles provided		292 mm	-	292 mm	292 mm
Cardan joints provided		73 mm	-	73 mm	38 mm | 73 mm
External dimensions of box		320 x 210 x 55 mm	281 x 79 x 48 mm	433 x 180 x 48 mm	-
58580...	Ident. No.	016 ●	026 ●	071 ●	120 ●

Prod. Gr. 530

GEDORE socket set

With hexagon sockets, 1/2 inch square drive 12.5 DIN 3120

Execution:
- 2 actuating tools 22, screw inserts
- Fine-toothed lever ratchet 72 Z

Delivery:
In a sturdy plastic case with metal closure

Technical data:
- Drive: 1/2 inch
- Number of pieces in assortment/set: 24 PCS
- Sockets with hexagon-head tip provided: 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm

58580...	Ident. No.	300 ●

Prod. Gr. 586

STAHLWILLE® Socket sets

With hexagon sockets, 1/2 inch square drive 12.5 DIN 3120

Execution:
- HPQ heavy-duty steel
- Chrome-plated
- Polished
- **Ident. No. 302:** 12 inserts, 3 operating tools
- **Ident. No. 307:**
  - 16 inserts, 6 operating tools
  - With QuickRelease safety lock

Delivery:
in robust, stackable ABS plastic storage box

Ident. No. 302

Ident. No. 307

Drive		1/2 inch	1/2 inch
Sockets with hexagon-head tip provided		10 mm | 13 mm | 16 mm | 17 mm | 18 mm | 19 mm | 21 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 21 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm
Ratchets provided		1/2-inch square	1/2-inch square
Extensions provided		130 mm | 255 mm	75 mm | 130 mm | 255 mm
Cross handles provided		-	300 mm
Cardan joints provided		-	71 mm
External dimensions of box		405 x 178 x 54 mm	440 x 185 x 55 mm
58588...	Ident. No.	302 ●	307 ●

Prod. Gr. 531

STAHLWILLE® Socket sets

With bi-hexagon sockets, 1/2 inch-square drive 12.5 DIN 3120

Execution:
- **Ident. No. 316:** 22 inserts, 6 operating tools
- **Ident. No. 316–336, 350:**
  - HPQ heavy-duty steel
  - Chrome-plated
  - Polished
- **Ident. No. 336:** 25 inserts, 6 operating tools
- **Ident. No. 341:**
  - HPQ steel
  - chromium-plated
  - polished
  - 17 inserts in inch sizes, 6 actuating tools
- **Ident. No. 350:** 39 inserts, 6 operating tools

Delivery:
Ident. No. 316–336: in robust, stackable ABS plastic storage box

Ident. No. 316

Ident. No. 336

Ident. No. 350

Drive		1/2 inch	1/2 inch	1/2 inch	1/2 inch
Sockets with double hexagon-head tip provided		8 mm | 9 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 23 mm | 24 mm | 26 mm | 27 mm | 28 mm | 30 mm | 32 mm	8 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 21 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm	3/8 inch | 7/16 inch | 1/2 inch | 9/16 inch | 19/32 inch | 5/8 inch | 11/16 inch | 3/4 inch | 25/32 inch | 13/16 inch | 7/8 inch | 15/16 inch | 1 1/16 inch | 1 1/8 inch | 1 3/16 inch | 1 1/4 inch	10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 21 mm | 22 mm | 23 mm | 24 mm | 25 mm | 26 mm | 27 mm | 28 mm | 30 mm | 32 mm | 34 mm | 3/8 inch | 7/16 inch | 1/2 inch | 9/16 inch | 19/32 inch | 5/8 inch | 11/16 inch | 3/4 inch | 25/32 inch | 13/16 inch | 7/8 inch | 15/16 inch | 1 inch | 1 1/16 inch | 1 1/8 inch | 1 3/16 inch | 1 1/4 inch
Ratchets provided		1/2-inch square	1/2-inch square	1/2-inch square	1/2-inch square
Extensions provided		75 mm | 130 mm | 255 mm	75 mm | 130 mm | 255 mm	52 mm | 130 mm | 255 mm	75 mm | 130 mm | 255 mm
Cross handles provided		300 mm	300 mm	300 mm	300 mm
Cardan joints provided		71 mm	71 mm	71 mm	71 mm
External dimensions of box		446 x 205 x 54 mm	470 x 234 x 74 mm	-	530 x 265 x 50 mm
58588...	Ident. No.	316 ●	336 ●	341 ●	350 ●

Prod. Gr. 531

ORION® Socket sets

With hexagon sockets, 1/2 inch square drive 12.5 DIN 3120

Execution:
- Chrome-vanadium steel
- Matt chromium-plated
- **Ident. No. 010:** 11 inserts, 2 operating tools
- **Ident. No. 050:** 19 inserts, 5 operating tools

Delivery:
In painted metal case

Ident. No. 010

Ident. No. 050

Drive		1/2 inch	1/2 inch
Number of pieces in assortment/set (PCS)		13	24
Sockets with hexagon-head tip provided		8 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 19 mm | 22 mm	8 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 19 mm | 21 mm | 22 mm | 23 mm | 24 mm | 26 mm | 27 mm | 28 mm | 30 mm | 32 mm
Ratchets provided		1/2-inch square	1/2-inch square
Extensions provided		125 mm	125 mm | 250 mm
Cardan joints provided		-	70 mm
External dimensions of box		320 x 150 x 50 mm	450 x 200 x 50 mm
58575...	Ident. No.	010 ●	050 ●

Prod. Gr. 5LB

ORION® Socket sets

With hexagon sockets, 1/2 inch square drive 12.5 DIN 3120

Execution:
- Chrome-vanadium steel
- **Ident. No. 200:** Ratchet with 2-component handle and locking button
- **Ident. No. 300:**
  - Hexagon socket driver lengths: 55, 100, 140 and 200 mm
  - In length 55 mm: Width across flats 5, 6, 7, 8, 10, 12, 14, 17, 19 mm
  - In length 100 mm: Width across flats 5, 6, 7, 8, 10, 11, 12, 13 mm
  - In length 140 mm: Width across flats 5, 6, 7, 8, 10, 12, 14 mm
  - In length 200 mm: Width across flats 5, 6, 7, 8, 10, 12 mm

Advantage:
- High-quality insertion tools to robust, long-lasting industry-standard specification
- Individual parts are securely stored and transported using clamping function
- Any missing tools are instantly detected thanks to size-related tool recesses

Ident. No. 200

Ident. No. 300

Drive		1/2 inch	1/2 inch
Number of pieces in assortment/set (PCS)		25	30
Sockets with hexagon-head tip provided		10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm | 19 mm | 20 mm | 22 mm | 24 mm | 27 mm | 30 mm | 32 mm | 8 mm | 9 mm	-
Long sockets with hexagon-head tip provided		16 mm | 21 mm	-
Sockets with socket hexagon-head tip provided		-	5 mm | 6 mm | 7 mm | 8 mm | 10 mm | 11 mm | 12 mm | 13 mm | 14 mm | 17 mm | 19 mm
Ratchets provided		1/2-inch square	-
Extensions provided		125 mm | 250 mm	-
Cross handles provided		300 mm	-
Cardan joints provided		70 mm	-
58575...	Ident. No.	200 ●	300 ●

Prod. Gr. 5LB

ATORN Reversible ratchets: Fine-tooth ratchet and telescopic ratchet

reversible 1/2 inch square drive, 12.5, DIN 3120

Application:
Ident. No. 010, 070: Ratchet for hand-operated socket wrench inserts and connection parts with 1/2" square drive.
Ident. No. 060: ratchet for hand-operated socket wrench inserts and connection parts with 1/2" square drive.

Execution:
- Finely toothed
- **Ident. No. 010:** With suspension eyelet
- **Ident. No. 010, 070:** Anti-clockwise and clockwise rotation possible using reversing lever with locking button
- **Ident. No. 060:**
  - telescopic function: can be extended from 305 to 445 mm
  - ratcheting/clamping function
  - anti-clockwise and clockwise rotation possible using reversing lever with locking button
- **Ident. No. 070:**
  - Telescopic function: Can be extended from 457 to 600 mm
  - Ratcheting/clamping function

Ident. No. 010

Ident. No. 060

Ident. No. 070

Tip size		1/2 inch	1/2 inch	1/2 inch
Length (mm)		255	445	600
Number of teeth (PCS)		72	72	72
Surface		Chrome plated	Chrome plated	Chrome plated
Material		Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel
Material of handle		2-component plastic	2-component plastic	2-component plastic
58576...	Ident. No.	010 ●	060 ●	070 ●

Prod. Gr. 582

Zyklop Speed, Zyklop Hybrid and Zyklop Metal ratchets

1/2" square drive 12.5, DIN 3120

Execution:

- **Ident. No. 100:**
  - Freely swivellable ratchet head with 5 defined positions at 0°,15° and 90°, left and right
  - Flywheel design with quick-action rotary sleeve
  - Pushbutton release
  - Anti-clockwise/clockwise rotation can be switched using knurling wheel
- **Ident. No. 110–120:** Forged all-metal ratchet with safe nut locking function

Advantage:

- **Ident. No. 100:** Ergonomic power grip for fatigue-free work
- **Ident. No. 110:** Ratchet with reversing lever for easy change in direction
- **Ident. No. 110–120:** Extremely robust without limiting the torque
- **Ident. No. 120:** Ratchet with sliding square tang prevents accidental switching when screwdriving

Technical data:

- Tip size: 1/2 inch
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Ident. No. 100

Ident. No. 110

Ident. No. 120

Length (mm)		277	281	281
Number of teeth (PCS)		72	72	76
Returning angle (Degree)		5	5	4.7
58577...	Ident. No.	100 ●	110 ●	120 ●

Prod. Gr. 542

Ratchets

Reversible 1/2 inch square drive, 12.5, DIN 3120

Execution:

- **Ident. No. 010:** Push-through square drive with ball lock
- **Ident. No. 020:** With metal disc reversing
- **Ident. No. 040:** Deeper-set reversing lever and pushbutton release
- **Ident. No. 060:** Long reversible ratchet, with pushbutton release
- **Ident. No. 070:** Reversing lever and pushbutton release, extra-slim head

Advantage:

- Comfortable and good grip thanks to non-slip handle

Ident. No. 010

Ident. No. 020

Ident. No. 040

Ident. No. 060

Ident. No. 070

Tip size		1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch
Length (mm)		270	271	270	350	272
Number of teeth (PCS)		24	72	32	32	72
Returning angle (Degree)		7.5	-	-	-	-
Surface		Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated
Material		Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel
58886...	Ident. No.	010 ●	020 ●	040 ●	060 ●	070 ●

Prod. Gr. 530

HAZET Ratchets

reversible 1/2 inch square drive, 12.5, DIN 3120

Execution:
- **Ident. No. 030:** Reversible ratchet with deeper-set reversing lever
- **Ident. No. 050:** Short reversible ratchet with deeper-set reversing lever
- **Ident. No. 080:**
  - Reversible ratchet with swivel head
  - Can be swivelled through 180°
- **Ident. No. 100:**
  - High performance finely toothed ratchet 90 Z - actuation angle 4°
- Ergonomic 2-component handle
- Strict manufacturing tolerances guarantee protection against invasive contamination
- Possible peak load (static) up to 1000 Nm

Technical data:
- Tip size: 1/2 inch
- Surface: Chrome plated
- Material: Chrome-vanadium steel
- Material of handle: 2-component plastic

Length (mm)	Number of teeth (PCS)	Returning angle (Degree)	58890... Ident. No.	
275	32	11.25	030	●
199	32	11.25	050	●
270	32	11.25	080	●
614	90	-	090	●
275	90	4	100	●

Prod. Gr. 569

Ident. No. 030–050

Ident. No. 080

Ident. No. 090

Ident. No. 100

STAHLWILLE Ratchets

reversible 1/2 inch square drive, 12.5, DIN 3120

Execution:
- **Ident. No. 010:** With metal disc reversing
- **Ident. No. 010–061:** Chrome-alloy steel
- **Ident. No. 020–070:** Anti-clockwise/clockwise rotation using reversing lever
- **Ident. No. 030:** Long version
- **Ident. No. 061:** With QuickRelease safety lock
- **Ident. No. 070:**
  - chrome-alloy steel
- Quick release safety lock, fine-toothed
- Head pivots upwards and downwards by approx. 90°, locks in straight position, at 30° and 60°

Technical data:
- Tip size: 1/2 inch
- Surface: Chrome plated
- Material: Steel, specially hardened
- Material of handle: 2-component plastic

Length (mm)		265	266	380	265	416
Number of teeth (PCS)		60	36	36	80	80
Returning angle (Degree)		-	-	-	4.5	4.5
58894...	Ident. No.	010 ●	020 ●	030 ●	061 ●	070 ●

Prod. Gr. 531

Ident. No. 020

Ident. No. 061

Ident. No. 070

Ident. No. 010

ORION ratchet

reversible 1/2 inch square drive, 12.5, DIN 3120

Execution:
- Anti-clockwise and clockwise rotation possible using reversing lever with locking button

Tip size		1/2 inch
Length (mm)		260
Number of teeth (PCS)		72
Surface		Chrome plated
Material		Chrome-vanadium steel
Material of handle		2-component plastic
58899...	Ident. No.	500 ●

Prod. Gr. 5LB

Multi-angle ratchets (DIN 3122)

1/2" square drive 12.5, DIN 3120

Application:
Jointed handle for hand-operated socket wrench inserts and connection parts with 1/2" square drive.

Execution:
- Polished

- **No. 58840 030:** Made from chrome alloy steel

No. 58836 010

No. 58840 030

No. 58836 020

		HAZET				STAHLWILLE			
Length (mm)		396		472		397		469	
Material		Chrome-vanadium steel		Chrome-vanadium steel		Steel, specially hardened		Steel, specially hardened	
Tip size	Surface	58836... Ident. No.		58836... Ident. No.		58840... Ident. No.		58840... Ident. No.	
1/2 inch	Chrome plated	010	●	020	●	020	●	030	●

STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569

ATORN Socket insert (DIN 3124)

Hexagon, 1/2 inch square drive, 12.5, DIN 3120

Execution:
- Optimum power transmission thanks to special hexagonal profile
- Matt chrome-plated, non-slip surface
- Non-slip knurl and ball grooves inside the square head for securing nuts
- Additional lateral hole in the drive square, option of locking with pin

Technical data:
- Drive: 1/2 inch
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats	Length (mm)	Outer Ø (mm)	58590... Ident. No.	
8 mm	38	22	080	●
9 mm	38	22	090	●
10 mm	38	22	100	●
11 mm	38	22	110	●
12 mm	38	22	120	●
13 mm	38	22	130	●
14 mm	38	22	140	●
15 mm	38	23	150	●

Width across flats	Length (mm)	Outer Ø (mm)	58590... Ident. No.	
16 mm	38	24	160	●
17 mm	38	25	170	●
18 mm	38	25	180	●
19 mm	38	27	190	●
20 mm	38	28	200	●
21 mm	38	29	210	●
22 mm	42	30	220	●
23 mm	42	30	230	●

Width across flats	Length (mm)	Outer Ø (mm)	58590... Ident. No.	
24 mm	42	32	240	●
26 mm	42	34	260	●
27 mm	45	36	270	●
28 mm	45	38	280	●
30 mm	45	39	300	●
32 mm	47	42	320	●

Prod. Gr. 582

ATORN Socket insert (DIN 3124)

long version, bi-hexagon, 1/2 inch square drive, 12.5, DIN 3120

Application:
Socket wrench insert with bi-hexagon and 1/2" square drive

Execution:
- Long version

Technical data:
- Drive: 1/2 inch
- Tip profile type: ENERGY profile
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats	Length (mm)	Outer Ø (mm)	58627... Ident. No.	
10 mm	77	22.5	100	●
11 mm	77	22.5	110	●
12 mm	77	22.5	120	●
13 mm	77	22.5	130	●
14 mm	77	22.5	140	●
15 mm	77	22.5	150	●

Width across flats	Length (mm)	Outer Ø (mm)	58627... Ident. No.	
16 mm	77	24	160	●
17 mm	77	23	170	●
18 mm	82	24	180	●
19 mm	82	25	190	●
20 mm	82	30	200	●
21 mm	82	30	210	●

Width across flats	Length (mm)	Outer Ø (mm)	58627... Ident. No.	
22 mm	82	31	220	●
24 mm	82	32	240	●
26 mm	82	34	260	●
27 mm	82	37	270	●
30 mm	82	41	300	●
32 mm	82	42	320	●

Prod. Gr. 582

ATORN Socket insert

for external TX screws, 1/2 inch square drive, 12.5 DIN 3120

Application:
socket spanner insert for external TX screws with 1/2 inch square drive

Execution:
- Knurled

Advantage:
- Good grip thanks to knurling

Technical data:
- Drive: 1/2 inch
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Tip size		E10	E11	E12	E14	E16	E18	E20	E22	E24
Length (mm)		38	38	38	38	38	38	38	38	41
Outer Ø (mm)		22	22	22	22	22	27	27	27	28.5
58662...	Ident. No.	010 ●	011 ●	012 ●	014 ●	016 ●	018 ●	020 ●	022 ●	024 ●

Prod. Gr. 582

ATORN Screwdriver bit

for slotted screws, 1/2 inch square drive 12.5 DIN 3120

Execution:
- With ball catch groove
- Burnished tips

Advantage:
- Improved corrosion resistance thanks to the black oxide finish

Technical data:
- Drive: 1/2 inch
- Length: 60 mm
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Thickness of cutting edge (mm)		1.2	1.6	2.0	2.5
Width of cutting edge (mm)		8.0	10.0	12.0	14.0
58674...	Ident. No.	010 ●	015 ●	030 ●	040 ●

Prod. Gr. 582

ATORN Screwdriver bits

for Phillips screws

Ident. No. 020–040

Ident. No. 120–140

Execution:
- Black-oxide socket

Advantage:
- Improved corrosion resistance thanks to the black oxide finish

Technical data:
- Drive: 1/2 inch
- Length: 60 mm
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Tip size		PH2	PH3	PH4	PZ2	PZ3	PZ4
58678...	Ident. No.	020 ●	030 ●	040 ●	120 ●	130 ●	140 ●

Prod. Gr. 582

ATORN Screwdriver bit

for hexagon socket screws, 1/2 inch square drive 12.5 DIN 3120

Application:
Screwdriver bit for hexagon socket screws with 1/2" square drive

Execution:
- Short version
- Black-oxide socket

Advantage:
- Improved corrosion resistance thanks to the black oxide finish

Technical data:
- Drive: 1/2 inch
- Length: 55 mm
- Outer diameter: 25 mm
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats		4 mm	5 mm	6 mm	7 mm	8 mm	9 mm	10 mm	12 mm	14 mm	17 mm	19 mm
58682...	Ident. No.	040 ●	050 ●	060 ●	070 ●	080 ●	090 ●	100 ●	120 ●	140 ●	170 ●	190 ●

Prod. Gr. 582

GEDORE Screwdriver bits

for hexagon socket screws, 1/2 inch square drive 12.5 DIN 3120

Application:
Screwdriver bit for hexagon socket screws with 1/2" square drive

Execution:
- With pressed-in, manganese phosphate hexagon pin made from vanadium special steel 50CrV4
- Cross-knurling

Advantage:
- Longer service lives thanks to manganese phosphate plating
- High level of corrosion protection
- Good grip thanks to knurling

Technical data:
- Drive: 1/2 inch
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Ident. No. 040–090

Ident. No. 100–190

Ident. No. 250–340
Long version

Design	Width across flats	Length (mm)	Outer Ø (mm)	58688... Ident. No.	
Short	4 mm	60	22.5	040	●
Short	5 mm	60	22.5	050	●
Short	6 mm	60	22.5	060	●
Short	7 mm	60	22.5	070	●
Short	8 mm	60	22.5	080	●
Short	9 mm	60	22.5	090	●
Short	10 mm	60	22.5	100	●
Short	12 mm	60	23	120	●
Short	14 mm	60	24.7	140	●
Short	17 mm	60	28	170	●
Short	19 mm	60	27	190	●
Long	5 mm	180	22.5	250	●
Long	6 mm	90	22.5	260	●
Long	7 mm	100	22.5	270	●
Long	8 mm	90	22.5	275	●
Long	8 mm	120	22.5	280	●
Long	10 mm	140	22.5	300	●
Long	12 mm	140	23	320	●
Long	14 mm	140	24.7	340	●

Prod. Gr. 530

STAHLWILLE® Screwdriver bits

for hexagon socket screws, 1/2 inch square drive 12.5 DIN 3120

Application:
Screwdriver bit for hexagon socket screws with 1/2" square drive

Execution:
- Chrome-alloy steel

Technical data:
- Drive: 1/2 inch
- Surface: Chrome plated
- Material: Steel, specially hardened

Ident. No. 040–190

Ident. No. 250–280

Design	Width across flats	Length (mm)	Outer Ø (mm)	58696... Ident. No.	
Short	4 mm	60	22.7	040	●
Short	5 mm	60	22.7	050	●
Short	6 mm	60	22.7	060	●
Short	7 mm	60	22.7	070	●
Short	8 mm	60	22.7	080	●
Short	10 mm	60	22.7	100	●
Short	12 mm	60	23.7	120	●
Short	14 mm	60	23.7	140	●

Design	Width across flats	Length (mm)	Outer Ø (mm)	58696... Ident. No.	
Short	17 mm	60	27.5	170	●
Short	19 mm	60	31	190	●
Long	5 mm	180	22	250	●
Long	6 mm	220	22.7	262	●
Long	7 mm	100	22	270	●
Long	8 mm	80	22.7	273	●
Long	8 mm	140	22.7	280	●

Prod. Gr. 531

ATORN Screwdriver insert sets

for hexagon socket screws, 1/2 inch square drive 12.5 DIN 3120

Application:

Ident. No. 300: Selection of various screwdriver bits for hexagon socket screws with 1/2" square drive

Ident. No. 310: Selection of various screwdriver bits for hexagon socket screws and operating tools with 1/2" square drive

Execution:

- Chrome-vanadium steel
- Short version
- **Ident. No. 310:** With reversible ratchet and 1/2 inch extension

Delivery:

In metal case with soft foam insert

Drive		1/2 inch	1/2 inch
Number of pieces in assortment/set (PCS)		9	11
Sockets with socket hexagon-head tip provided		5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 12 mm | 14 mm | 17 mm	5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 12 mm | 14 mm | 17 mm
Ratchets provided		-	1/2-inch square
Extensions provided		-	250 mm
58682...	Ident. No.	300 ●	310 ●

Prod. Gr. 582

Ident. No. 300

Ident. No. 310

GEDORE Screwdriver insert sets

for hexagon socket screws, 1/2 inch square drive 12.5 DIN 3120

Application:

Ident. No. 600: Selection of various screwdriver bits for hexagon socket screws with 1/2" square drive

Ident. No. 610: Selection of various screwdriver bits for hexagon socket screws and operating tools with 1/2" square drive

Execution:

- Chrome-vanadium steel 31CrV3
- Short version
- **Ident. No. 610:** With reversible lever and 1/2" extension

Delivery:

In metal case

Drive		1/2 inch	1/2 inch
Number of pieces in assortment/set (PCS)		9	11
Sockets with socket hexagon-head tip provided		5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 12 mm | 14 mm | 17 mm	5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm | 12 mm | 14 mm | 17 mm
Ratchets provided		-	1/2-inch square
Extensions provided		-	175 mm
58688...	Ident. No.	600 ●	610 ●

Prod. Gr. 530

Ident. No. 600

Ident. No. 610

STAHLWILLE® Screwdriver bit set

for hexagon socket screws, 1/2 inch square drive 12.5 DIN 3120

Application:
Selection of various screwdriver bits for hexagon socket screws with 1/2" square drive

Execution:
- Chrome-alloy steel

Delivery:
in robust, stackable ABS plastic storage box

Drive		1/2 inch
Number of pieces in assortment/set (PCS)		10
Sockets with socket hexagon-head tip provided		4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 10 mm | 12 mm | 14 mm | 17 mm | 19 mm
58696...	Ident. No.	501 ●

Prod. Gr. 531

STAHLWILLE® Screwdriver bit

For hexagon socket screws with guide spigot RIBE-CS and according to DIN 6912 with 1/2" square drive 12.5 DIN 3120

Execution:
- Chrome-alloy steel
- Knurled

Technical data:
- Drive: 1/2 inch
- Length: 60 mm
- Surface: Chrome plated
- Material: Steel, specially hardened

Tip size		RIBE-CS 5	RIBE-CS 6	RIBE-CS 8	RIBE-CS 10	RIBE-CS 12	RIBE-CS 14
Outer Ø (mm)		22.7	22.7	22.7	22.7	23.7	23.7
58712...	Ident. No.	050 ●	060 ●	080 ●	100 ●	120 ●	140 ●

Prod. Gr. 531

STAHLWILLE® Screwdriver bit, short and long version

For internal spline socket screws XZN, 1/2" square drive, 12.5, DIN 3120

Ident. No. 050–160

Execution:
- Knurled
- **Ident. No. 050–160:**
  - Chrome-alloy steel
  - Short version 60 mm
- **Ident. No. 208–214:**
  - chrome-alloy steel
  - Long version 140 mm

Technical data:
- Drive: 1/2 inch
- Surface: Chrome plated
- Material: Steel, specially hardened

Tip size		XZN M5	XZN M6	XZN M8	XZN M10	XZN M12	XZN M14	XZN M16	XZN M8	XZN M10	XZN M12	XZN M14
Length (mm)		60	60	60	60	60	60	60	140	140	140	140
Outer Ø (mm)		22.7	22.7	22.7	22.7	23.7	23.7	27.5	22.7	22.7	22.7	23.7
58728...	Ident. No.	050 ●	060 ●	080 ●	100 ●	120 ●	140 ●	160 ●	208 ●	210 ●	212 ●	214 ●

Prod. Gr. 531

ATORN screwdriver bit

for internal TX screws, 1/2 inch square drive, 12.5 DIN 3120

No. 58754

No. 58755

Execution:
- **No. 58755:** Long version

Technical data:
- Drive: 1/2 inch
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Tip size				TX20	TX25	TX27	TX30	TX40	TX45	TX50	TX55	TX60
Outer Ø (mm)				22.7	22.7	22.7	22.7	22.7	22.7	22.7	23.7	23.7
		Length (mm)										
58754...	Short version	55	Ident. No.	020 ●	025 ●	027 ●	030 ●	040 ●	045 ●	050 ●	055 ●	060 ●
58755...	Long version	110	Ident. No.	020 ●	025 ●	027 ●	030 ●	040 ●	045 ●	050 ●	055 ●	060 ●

Prod. Gr. 582

Adapters (DIN 3123)

1/2" square drive 12.5, DIN 3120

Application:

No. 58782 010, 58784 010, 58788 010, 58792 010: For adapting a 1/2" internal square drive to a 3/8" outside square drive.

No. 58782 020, 58784 020, 58788 020, 58792 020: For adapting a 1/2" internal square drive to a 3/4" outside square drive.

No. 58784 005: For connecting two 1/2" internal squares.

Technical data:

- Drive: 1/2 inch
- Surface: Chrome plated

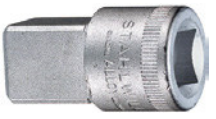
No. 58782 010

No. 58782 020

No. 58784 005

No. 58784 010

No. 58784 020



No. 58792 010

	ATORN		GEDORE		HAZET		STAHLWILLE	
Tip size	58782... Ident. No.		58784... Ident. No.		58788... Ident. No.		58792... Ident. No.	
3/8 inch	010	●	010	●	010	●	010	●
3/4 inch	020	●	020	●	020	●	020	●
1/2 inch	-	-	005	●	-	-	-	-

GEDORE = Prod. Gr. 530
STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569
ATORN = Prod. Gr. 582

ATORN Extensions (DIN 3123)

1/2" square drive 12.5, DIN 3120

Application:

Extension for hand-operated socket wrench inserts with 1/2" square drive.

Drive		1/2 inch	1/2 inch	1/2 inch
Tip size		1/2 inch	1/2 inch	1/2 inch
Length (mm)		75	125	250
Outer Ø (mm)		23	23	23
Surface		Chrome plated	Chrome plated	Chrome plated
Material		Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel
58842...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 582

GEDORE Extensions (DIN 3123)

1/2" square drive 12.5, DIN 3120

Application:

Extension for hand-operated socket wrench inserts with 1/2" square drive.

Execution:

- With ball lock

Drive		1/2 inch	1/2 inch	1/2 inch	1/2 inch
Tip size		1/2 inch	1/2 inch	1/2 inch	1/2 inch
Length (mm)		63	76	125	250
Outer Ø (mm)		23	23	23	23
Surface		Chrome plated	Chrome plated	Chrome plated	Chrome plated
Material		Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel
58848...	Ident. No.	006 ●	007 ●	010 ●	020 ●

Prod. Gr. 530

HAZET Extensions (DIN 3123)

1/2" square drive 12.5, DIN 3120

Application:

Extension for hand-operated socket wrench inserts with 1/2" square drive.

Ident. No. 020

Drive		1/2 inch	1/2 inch	1/2 inch	1/2 inch
Tip size		1/2 inch	1/2 inch	1/2 inch	1/2 inch
Length (mm)		76	123	248	575
Outer Ø (mm)		22.5	22.5	22.5	22.5
Surface		Chrome plated	Chrome plated	Chrome plated	Chrome plated
Material		Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel	Chrome-vanadium steel
58852...	Ident. No.	010 ●	020 ●	030 ●	040 ●

Prod. Gr. 569

STAHLWILLE Extensions with spring-loaded detent ball or additional quick-release safety latch (DIN 3123)

1/2" square drive 12.5, DIN 3120

Application:

Extension for hand-operated socket wrench inserts with 1/2" square drive.

Execution:

- **Ident. No. 010–020, 030:** Chrome-alloy steel
- **Ident. No. 025, 035:**
  - chrome-alloy steel
  - With quick release safety nut lock on the square drive side

Ident. No. 010–020, 030

Ident. No. 025

Drive		1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch
Tip size		1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch
Length (mm)		52	75	130	130	255	255
Outer Ø (mm)		23	23.2	23.2	23	23.2	23
Surface		Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated
Material		Steel, specially hardened	Steel, specially hardened	Steel, specially hardened	Steel, specially hardened	Steel, specially hardened	Steel, specially hardened
58856...	Ident. No.	010 ●	015 ●	020 ●	025 ●	030 ●	035 ●

Prod. Gr. 531

STAHLWILLE Extensions with conical square drive

1/2" square drive 12.5, DIN 3120

Application:

Extension for hand-operated socket wrench inserts with 1/2" square drive.

Execution:

- Chrome-alloy steel
- Conical outside square

Advantage:

- Conical outside square enables a swivelling angle of up to 15°

Drive		1/2 inch	1/2 inch	1/2 inch	1/2 inch
Tip size		1/2 inch	1/2 inch	1/2 inch	1/2 inch
Length (mm)		52	75	130	255
Outer Ø (mm)		23	23.2	23.2	23.2
Surface		Chrome plated	Chrome plated	Chrome plated	Chrome plated
Material		Steel, specially hardened	Steel, specially hardened	Steel, specially hardened	Steel, specially hardened
58857...	Ident. No.	010 ●	020 ●	030 ●	040 ●

Prod. Gr. 531

Cardan joints (DIN 3123)

1/2" square drive 12.5, DIN 3120

Application:

No. 58858 010, 58868 010–58872 010: Cardan joint for screw connections with projecting edges and confined installation areas.

No. 58858

				ATORN		GEDORE		HAZET		STAHLWILLE	
			Length (mm)	75		73.5		70		71	
Drive	Tip size	Surface	Material	58858... Ident. No.		58864... Ident. No.		58868... Ident. No.		58872... Ident. No.	
1/2 inch	1/2 inch	Chrome plated	Chrome-vanadium steel	010	●	010	●	010	●	010	●

GEDORE = Prod. Gr. 530
STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569
ATORN = Prod. Gr. 582

STAHLWILLE® Slip-on ratchet socket

1/2" square drive 12.5, DIN 3120

Application:
As ratchet or torque wrench attachment for hand-operated socket wrench inserts and connection parts with 1/2" square drive.

Execution:
- Chrome-alloy steel
- Can be reversed for anti-clockwise and clockwise rotation

Advantage:
- For flexible use with T-handles, jointed handles etc.
- Used in combination with torque wrenches for controlled tightening of bolts

Tip size		1/2 inch
Length (mm)		53
Number of teeth (PCS)		20
Returning angle (Degree)		18
Surface		Chrome plated
Material		Steel, specially hardened
58880...	Ident. No.	010 ●

Prod. Gr. 531

ATORN socket set

Hexagon, 3/4 inch square drive 20 DIN 3120

Execution:
- Chrome-vanadium steel
- Chrome-plated
- Hexagon inserts with knurling
- Reversible ratchet with maximum torque of 2000 Nm

Delivery:
In painted metal case

Drive		3/4 inch
Sockets with hexagon-head tip provided		22 mm | 24 mm | 27 mm | 30 mm | 32 mm | 36 mm | 38 mm | 41 mm | 46 mm | 50 mm | 55 mm | 60 mm
Ratchets provided		3/4-inch square
Extensions provided		200 mm | 400 mm
Cross handles provided		500 mm
58902...	Ident. No.	100 ●

Prod. Gr. 582

GEDORE Socket sets

With hexagon sockets, 3/4 inch square drive 20 DIN 3120

Execution:
- Chrome-vanadium steel 31CrV3
- Chrome-plated
- 12 inserts, 4 operating tools
- Jointed handle

Delivery:
In lacquered metal case

Drive		3/4 inch
Sockets with hexagon-head tip provided		22 mm | 24 mm | 27 mm | 30 mm | 32 mm | 36 mm | 38 mm | 41 mm | 46 mm | 50 mm | 55 mm | 60 mm
Ratchets provided		3/4-inch square
Extensions provided		200 mm | 400 mm
Cross handles provided		500 mm
Hinged handles provided		547 mm
Cardan joints provided		110 mm
58903...	Ident. No.	120 ●

Prod. Gr. 530

STAHLWILLE® Socket sets

With hexagon or bi-hexagon sockets, 3/4 inch square drive 20 DIN 3120

Ident. No. 100

Execution:
- Chrome-alloy steel
- Chrome-plated
- Polished
- Jointed handle
- **Ident. No. 100:**
  - 10 inserts, 6 operating tools
  - Hexagonal profile
- **Ident. No. 120:**
  - 9 inserts, 6 operating tools
  - Double hexagonal profile

Delivery:
In lacquered metal case

Drive		3/4 inch	3/4 inch
Sockets with hexagon-head tip provided		22 mm | 24 mm | 27 mm | 30 mm | 32 mm | 34 mm | 36 mm | 41 mm | 46 mm | 50 mm	32 mm | 34 mm | 36 mm | 38 mm | 41 mm | 46 mm | 50 mm | 55 mm | 60 mm
Ratchets provided		3/4-inch square	3/4-inch square
Extensions provided		200 mm | 400 mm	200 mm | 400 mm
Cross handles provided		500 mm	500 mm
Hinged handles provided		550 mm	550 mm
Cardan joints provided		109 mm	109 mm
58909...	Ident. No.	100 ●	120 ●

Prod. Gr. 531

GEDORE Ratchets

3/4" square drive 20, DIN 3120

Ident. No. 010

Ident. No. 020

Ident. No. 030

Execution:
- With pin detent
- **Ident. No. 010:** With push-through square drive and internal teeth
- **Ident. No. 020:** With metal reversing disc and internal teeth
- **Ident. No. 030:**
  - Removable socket pipe
  - Anti-clockwise/clockwise rotation using reversing lever
  - Stop catch in the central position

Technical data:
- Tip size: 3/4 inch
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Length (mm)		510	510	620
Number of teeth (PCS)		36	50	32
Returning angle (Degree)		10	7.2	11.25
58960...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 530

STAHLWILLE® Ratchet head and attachment handle

3/4" square drive 20, DIN 3120

Execution:
- Chrome-alloy steel
- Anti-clockwise/clockwise rotation using reversing lever
- With QuickRelease safety lock
- Without plug-in handle

Tip size		3/4 inch
Length (mm)		165
Number of teeth (PCS)		36
Returning angle (Degree)		10
Surface		Chrome plated
Material		Steel | specially hardened
58963...	Ident. No.	020 ●

Prod. Gr. 531

GEDORE Socket insert (DIN 3124)

3/4" square drive 20, DIN 3120

Execution:
- Ground

Technical data:
- Drive: 3/4 inch
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats	Length (mm)	Outer Ø (mm)	58915... Ident. No.	
19 mm	52	36	190	●
21 mm	52	36	210	○
22 mm	52	36	220	●
24 mm	52	38	240	●
27 mm	55	39.5	270	●
30 mm	58	42.3	300	●
32 mm	58	45.8	320	●
34 mm	58	48.3	340	●

Width across flats	Length (mm)	Outer Ø (mm)	58915... Ident. No.	
36 mm	60	50.8	360	●
38 mm	60	53.5	380	●
41 mm	63	57.1	410	●
46 mm	65	63.3	460	●
50 mm	69	68.3	500	●
55 mm	69	74.6	550	●
60 mm	69	80.8	600	●

Prod. Gr. 530

STAHLWILLE Socket insert (DIN 3124)

3/4" square drive 20, DIN 3120

Execution:
- Made from HPQ heavy-duty steel

Technical data:
- Drive: 3/4 inch
- Tip profile type: AS drive profile
- Surface: Chrome plated
- Material: Steel, specially hardened

Width across flats	Length (mm)	Outer Ø (mm)	58918... Ident. No.	
19 mm	50	34.7	190	●
21 mm	50	34.7	210	●
22 mm	51	34.7	220	●
24 mm	51	34.7	240	●
27 mm	54	38.5	270	●
30 mm	58	42	300	●
32 mm	58	44.5	320	●
34 mm	60	47	340	●

Width across flats	Length (mm)	Outer Ø (mm)	58918... Ident. No.	
36 mm	60	49.5	360	●
38 mm	64	52	380	●
41 mm	67	55.5	410	●
46 mm	73	61	460	●
50 mm	80	66	500	●
55 mm	80	72	550	●
60 mm	80	78	600	●

Prod. Gr. 531

STAHLWILLE Socket insert, long (DIN 3124)

3/4" square drive 20, DIN 3120

Execution:
- Made from HPQ heavy-duty steel
- Long version

Technical data:
- Drive: 3/4 inch
- Tip profile type: AS drive profile
- Length: 90 mm
- Surface: Chrome plated
- Material: Steel, specially hardened

Width across flats		22 mm	24 mm	27 mm	30 mm	32 mm	34 mm	36 mm	41 mm
Outer Ø (mm)		34.7	35	38.5	42	44.5	47	49.5	55.5
58921...	Ident. No.	220 ●	240 ●	270 ●	300 ●	320 ●	340 ●	360 ●	410 ●

Prod. Gr. 531

STAHLWILLE® Screwdriver bit

For hexagon socket screws, 3/4" square drive, 20, DIN 3120

Application:
Screwdriver bit for hexagon socket screws with 3/4" square drive

Execution:
- Chrome-alloy steel

Technical data:
- Drive: 3/4 inch
- Length: 80 mm
- Surface: Chrome plated
- Material: Steel, specially hardened

Width across flats		14 mm	17 mm	19 mm	22 mm
Outer Ø (mm)		34.7	34.7	34.7	40
58927...	Ident. No.	140 ●	170 ●	190 ●	220 ●

Prod. Gr. 531

Adapters (DIN 3123)

3/4" square drive 20, DIN 3120

Application:
No. 58930 005: For connecting two 3/4" internal squares
No. 58930 010, 58933 010: For adapting a 3/4" internal square drive to a 1/2" outside square drive
No. 58930 020: For adapting a 3/4" internal square drive to a 1" outside square drive
No. 58933 020: For adapting a 3/4" internal square drive to a 1" external square drive

Technical data:
- Drive: 3/4 inch
- Surface: Chrome plated

No. 58930 005

No. 58930 020

No. 58933 020

		GEDORE		STAHLWILLE	
Material		Chrome-vanadium steel		Steel, specially hardened	
Tip size		58930... Ident. No.		58933... Ident. No.	
3/4 inch		005	●	-	-
1/2 inch		010	●	010	●
1 inch		020	●	020	●

GEDORE = Prod. Gr. 530
STAHLWILLE = Prod. Gr. 531

Extensions (DIN 3123)

3/4" square drive 20, DIN 3120

Application:
Extension for hand-operated socket wrench inserts with 3/4" square drive

Execution:
- **No. 58948:** With pin detent
- **No. 58951:** Chrome-alloy steel

No. 58948

No. 58951

				GEDORE		STAHLWILLE	
			Outer Ø (mm)	33		35	
			Material	Chrome-vanadium steel		Steel, specially hardened	
Drive	Tip size	Length (mm)	Surface	58948... Ident. No.		58951... Ident. No.	
3/4 inch	3/4 inch	200	Chrome plated	010	●	010	●
3/4 inch	3/4 inch	400	Chrome plated	020	●	020	●

GEDORE = Prod. Gr. 530
STAHLWILLE = Prod. Gr. 531

STAHLWILLE® Cardan joint (DIN 3123)

3/4" square drive 20, DIN 3120

Application:
Cardan joint for screw connections with projecting edges and confined installation areas

Advantage:
- Flexible bending angle for difficult-to-reach installation areas

Execution:
- Chrome-alloy steel

Drive		3/4 inch
Tip size		3/4 inch
Length (mm)		109
Outer Ø (mm)		40
Surface		Chrome plated
Material		Steel, specially hardened
58957...	Ident. No.	010 ●

Prod. Gr. 531

GEDORE ratchet

1 inch square drive 25 DIN 3120

Application:
Ratchet for hand-operated socket wrench inserts and connection parts with 1" square drive

Execution:
- With plug-in handle rod
- Anti-clockwise/clockwise rotation using deeper-set reversing lever
- Stop catch in the central position
- With pin detent

Advantage:
- Deeper-set reversing lever prevents accidental reversing

Tip size		1 inch
Length (mm)		810
Number of teeth (PCS)		32
Returning angle (Degree)		11.25
Surface		Chrome plated
Material		Chrome-vanadium steel
58990...	Ident. No.	010 ●

Prod. Gr. 530

STAHLWILLE® Ratchet head and attachment handle

1 inch square drive 25 DIN 3120

Application:
Ratchet head for hand-operated socket wrench inserts and connection parts with 1" square drive

Execution:
- Chrome-alloy steel
- Anti-clockwise/clockwise rotation using reversing lever
- With QuickRelease safety lock
- Without handle - this must be ordered separately under art. no. 58993100.

Tip size		1 inch
Length (mm)		185
Number of teeth (PCS)		36
Returning angle (Degree)		10
Surface		Chrome plated
Material		Steel | specially hardened
58993...	Ident. No.	010 ●

Prod. Gr. 531

STAHLWILLE® Socket insert (DIN 3124)

1 inch square drive 25 DIN 3120

Execution:
- HPQ heavy-duty steel
- Cross-knurling

Technical data:
- Drive: 1 inch
- Tip profile type: AS drive profile
- Surface: Chrome plated
- Material: Steel, specially hardened

Width across flats		30 mm	32 mm	36 mm	41 mm	46 mm	50 mm	55 mm
Length (mm)		65	67	67	70	75	80	85
Outer Ø (mm)		43	45	49.5	55.5	61	66	72
58975...	Ident. No.	030 ●	032 ●	036 ●	041 ●	046 ●	050 ●	055 ●

Prod. Gr. 531

STAHLWILLE® Adapter (DIN 3123)

1 inch square drive 25 DIN 3120

Application:
For adapting a 1" internal square drive to a 3/4" external square drive.

Execution:
- Made from HPQ heavy-duty steel
- Maximum load: 1412 Nm

Drive		1 inch
Tip size		3/4 inch
Surface		Chrome plated
Material		Steel, specially hardened
58978...	Ident. No.	010 ●

Prod. Gr. 531

STAHLWILLE® Screwdriver bit

For hexagon socket screws, 1" square drive, 25, DIN 3120

Execution:
- Chrome-alloy steel
- Knurled

Advantage:
- Good grip thanks to knurling

Technical data:
- Drive: 1 inch
- Surface: Chrome plated
- Material: Steel, specially hardened

Width across flats		14 mm	17 mm	19 mm	22 mm	24 mm	27 mm
Length (mm)		85	85	85	90	90	90
Outer Ø (mm)		43	43	43	48	48	49
58981...	Ident. No.	140 ●	170 ●	190 ●	220 ●	240 ●	270 ●

Prod. Gr. 531

STAHLWILLE® Extensions (DIN 3123)

1" square drive, 25, DIN 3120

Application:
Extension for hand-operated socket wrench inserts with 1" square drive

Execution:
- Chrome-alloy steel

Drive		1 inch	1 inch
Length (mm)		200	410
Outer Ø (mm)		43	43
Surface		Chrome plated	Chrome plated
Material		Steel, specially hardened	Steel, specially hardened
58987...	Ident. No.	010 ●	020 ●

Prod. Gr. 531

ASW Socket inserts with 1/4" hexagon drive

Hexagon head

Execution:
- External hexagon drive according to DIN 3126, type E 6.3
- Hexagon socket drive according to DIN 475/2

Advantage:
- **No. 52401:** Magnet holds the bolt or nut securely in place until screwdriving is complete

Drive			1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch
Width across flats			5.5 mm	6 mm	7 mm	8 mm	9 mm	10 mm	11 mm	12 mm	13 mm
Length (mm)			50	50	50	50	50	50	50	50	50
Outer Ø (mm)			10	12	12	14	14	16	16	16	19
52400...	Excluding permanent magnet	Ident. No.	055 ●	060 ●	070 ●	080 ●	090 ●	100 ●	110 ●	120 ●	130 ●
52401...	With permanent magnet	Ident. No.	055 ●	060 ●	070 ●	080 ●	090 ●	100 ●	110 ●	120 ●	130 ●

Prod. Gr. 540

ASW Socket insert long, hexagon head

1/4" square drive and spring element

Execution:
- Square drive according to DIN 3121 type G
- Hexagon head output according to DIN 3129
- With spring-loaded permanent magnets

Advantage:
- When tightening a screw nut, there is sufficient space for the threaded bolt to extend into the tool. The spring-mounted magnet is pressed further into the tool by the bolt without pushing the nut out of the tool.
- Screw/nut is in a secure position and is easy to remove

Drive		1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch
Width across flats		7 mm	8 mm	9 mm	10 mm	12 mm	13 mm	14 mm
Length (mm)		45	45	50	45	50	45	50
Outer Ø (mm)		11.4	12.7	12.1	15.3	18	19	20
52413...	Ident. No.	070 ●	080 ●	090 ○	100 ●	120 ●	130 ●	140 ●

Prod. Gr. 540

Socket insert, hexagon head

3/8 inch square drive and magnetic element

Execution:
- Square drive according to DIN 3121 type G
- Hexagon head output to DIN 475/2
- With spring-loaded permanent magnets

Advantage:
- When tightening a screw nut, there is sufficient space for the threaded bolt to extend into the tool. The spring-mounted magnet is pressed further into the tool by the bolt without pushing the nut out of the tool.
- Screw/nut is in a secure position and is easy to remove

Drive		3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch
Width across flats		8 mm	10 mm	12 mm	13 mm	14 mm	16 mm	17 mm
Length (mm)		50	50	55	50	55	55	55
Outer Ø (mm)		13.5	16.4	19	20.2	21	21.6	25.2
52423...	Ident. No.	080 ●	100 ●	120 ○	130 ●	140 ●	160 ●	170 ●

Prod. Gr. 540

Socket insert, hexagon socket

3/8"-square drive

Execution:
- Square drive according to DIN 3121 type G
- Hexagon head drive according to DIN ISO 2963

Drive		3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch	3/8 inch
Width across flats		5 mm	6 mm	8 mm	10 mm	12 mm	14 mm
Length (mm)		50	50	50	50	50	50
Outer Ø (mm)		22	22	22	22	22	22
52428...	Ident. No.	050 ●	060 ●	080 ●	100 ●	120 ●	140 ●

Prod. Gr. 540

Hexagon socket sets with 1/2" square drive

Hexagon head, hexagon socket and TX

Application:
Ident. No. 100: Wheel nut inserts for gentle rim assembly

Execution:
- **Ident. No. 100:** Plastic-coated
- **Ident. No. 120:** 10 inserts, 2 operating tools

Advantage:
- **Ident. No. 100:** Gentle bolting thanks to plastic coating for optimum rim protection

Delivery:
Ident. No. 120–165: In stable plastic box with soft foam inlay

Ident. No. 100

Ident. No. 120

Ident. No. 155

Ident. No. 165

Drive		1/2 inch	1/2 inch	1/2 inch	1/2 inch
Sockets with hexagon-head tip provided		-	9 mm | 10 mm | 11 mm | 13 mm | 14 mm | 17 mm | 19 mm | 22 mm | 24 mm | 27 mm	-	-
Long sockets with hexagon-head tip provided		17 mm | 19 mm | 21 mm	-	-	-
Sockets with socket hexagon-head tip provided		-	-	4 mm | 5 mm | 6 mm | 8 mm | 10 mm | 12 mm | 14 mm | 17 mm | 19 mm	-
Sockets with socket hexagon head or external TX tip provided		-	-	-	TX40 | TX45 | TX47 | TX50 | TX55 | TX60 | TX70 | E10 | E11 | E12 | E14 | E16 | E18 | E20 | E22 | E24
Extensions provided		-	175 mm	-	-
Cardan joints provided		-	75 mm	-	-
Number of pieces in assortment/set (PCS)		3	12	9	16
52458...	Ident. No.	**100** ●	**120** ●	**155** ●	**165** ●

Prod. Gr. 540

Socket insert, hexagon head

1/2"-square drive

Execution:
- Square drive according to DIN 3121 type G
- Hexagon head output to DIN 475/2

Drive	Width across flats	Length (mm)	Outer Ø (mm)	**52430...** Ident. No.	
1/2 inch	10 mm	38	17.6	**100**	●
1/2 inch	11 mm	38	18.9	**110**	●
1/2 inch	12 mm	38	20.2	**120**	●
1/2 inch	13 mm	38	21.4	**130**	●
1/2 inch	14 mm	38	22.7	**140**	●
1/2 inch	15 mm	38	23.9	**150**	●
1/2 inch	16 mm	38	25.3	**160**	●
1/2 inch	17 mm	38	26.6	**170**	●

Drive	Width across flats	Length (mm)	Outer Ø (mm)	**52430...** Ident. No.	
1/2 inch	18 mm	38	27.9	**180**	●
1/2 inch	19 mm	38	29.1	**190**	●
1/2 inch	20 mm	38	30.5	**200**	●
1/2 inch	21 mm	38	32	**210**	●
1/2 inch	22 mm	38	32.9	**220**	●
1/2 inch	24 mm	45	35.4	**240**	●
1/2 inch	27 mm	50	39.3	**270**	●
1/2 inch	30 mm	50	43	**300**	●

Prod. Gr. 540

Socket insert long, hexagon head

1/2"-square drive

Execution:
- Square drive according to DIN 3121 type G
- Hexagon head output to DIN 475/2
- Long version

Drive		1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch
Width across flats		10 mm	13 mm	14 mm	16 mm	17 mm	18 mm	19 mm	21 mm	22 mm	24 mm	27 mm
Length (mm)		78	78	78	78	78	78	78	78	78	78	78
Outer Ø (mm)		17.6	21.4	22.7	25.4	26.6	27.7	29.1	31.4	32.8	35.3	39
52431...	Ident. No.	**100** ●	**130** ●	**140** ●	**160** ●	**170** ●	**180** ●	**190** ●	**210** ●	**220** ●	**240** ●	**270** ●

Prod. Gr. 540

Socket insert, internal TX

1/2”-square drive

Execution:
- Square drive according to DIN 3121 type G
- TX output for internal TX screws

Drive		1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch
Tip size		TX30	TX40	TX50	TX55	TX60
Length (mm)		55	55	55	55	55
Outer Ø (mm)		30	30	30	30	30
52436...	Ident. No.	030 ●	040 ●	050 ●	055 ●	060 ●

Prod. Gr. 540

Socket insert

For hexagon socket screws according to DIN 7462, with 1/2” square drive

Execution:
- Square drive according to DIN 3121 type G
- Hexagon head drive according to DIN ISO 2963

Drive		1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch
Width across flats		5 mm	6 mm	8 mm	10 mm	12 mm	14 mm	17 mm
Length (mm)		55	55	55	55	55	55	55
52437...	Ident. No.	050 ●	060 ●	080 ●	100 ●	120 ●	140 ●	170 ●

Prod. Gr. 540

Socket insert, hexagon head

3/4 inch square drive

Execution:
- Square drive according to DIN 3121 type H
- Hexagon head output to DIN 475/2

Drive		3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch
Width across flats		17 mm	19 mm	22 mm	24 mm	27 mm	30 mm	32 mm	36 mm	41 mm	46 mm
Length (mm)		50	50	50	50	54	54	56	56	58	63
Outer Ø (mm)		30	32.5	36.5	44	42.5	46.5	48.8	53.8	60	66.5
52440...	Ident. No.	170 ●	190 ●	220 ●	240 ●	270 ●	300 ●	320 ●	360 ●	410 ●	460 ●

Prod. Gr. 540

Socket insert, hexagon bit socket

3/4”-square drive

Execution:
- Square drive according to DIN 3121 type G
- Hexagon head drive according to DIN ISO 2963

Drive		3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch
Width across flats		14 mm	17 mm	19 mm	22 mm	24 mm	27 mm
Length (mm)		62	62	62	62	62	62
Outer Ø (mm)		44	44	44	44	44	44
52442...	Ident. No.	140 ●	170 ●	190 ●	220 ●	240 ●	270 ●

Prod. Gr. 540

Socket insert long, hexagon head

3/4"-square drive

Execution:
- Square drive according to DIN 3121 type H
- Hexagon head output to DIN 475/2
- Long version

Drive		3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch	3/4 inch
Width across flats		17 mm	19 mm	22 mm	24 mm	27 mm	30 mm	32 mm	36 mm	41 mm	46 mm
Length (mm)		95	95	95	95	95	95	95	95	95	100
Outer Ø (mm)		30	32.5	36.5	38.9	42.5	46.5	48.8	53.8	60	66.5
52441...	Ident. No.	170 ●	190 ●	220 ●	240 ●	270 ●	300 ●	320 ●	360 ●	410 ●	460 ●

Prod. Gr. 540

Connector with male/female square drive and quick-change holder

Execution:
- Square drive according to DIN 3121
- External square drive according to DIN 3120 type A with ball lock

Drive		1/4 inch	3/8 inch	1/2 inch	3/4 inch
Tip size		1/4 inch	3/8 inch	1/2 inch	3/4 inch
Length (mm)		35	45	55	78
Outer Ø (mm)		13	20	25	44
52445...	Ident. No.	010 ○	110 ●	210 ●	310 ●

Prod. Gr. 540

Tool shank/connector

For socket inserts no. 52410-52441

Ident. No. 420

Application:
for machine-operated socket wrench inserts.

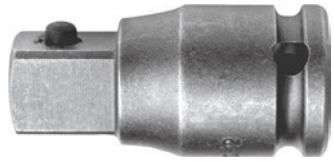
Execution:
- hexagonal drive, square output
- With spring-loaded pin for securing tools

Drive		1/4 inch	1/4 inch	1/4 inch	1/4 inch	1/4 inch
Tip size		3/8 inch	1/4 inch	1/4 inch	3/8 inch	1/2 inch
Length (mm)		30	50	100	50	50
52450...	Ident. No.	410 ●	420 ●	430 ●	440 ●	450 ●

Prod. Gr. 540

Adapters for machine-operated screwdriving tools

For socket inserts no. 52410-52441



Application:
Adaptation from internal square to external square

Execution:
- **Ident. No. 135–245, 370:** square drive with spring-loaded pin
- **Ident. No. 250:** 3/4 in square drive with through-bore (no locking pin or ball)
- **Ident. No. 250, 470:** square drive with end-to-end pin hole

Drive		3/8 inch	3/8 inch	1/2 inch	1/2 inch	3/4 inch	1 inch
Tip size		1/4 inch	1/2 inch	3/8 inch	3/4 inch	1/2 inch	3/4 inch
Length (mm)		32	36	38	48	58	70
52451...	Ident. No.	135 ●	145 ●	245 ●	250 ●	370 ●	470 ●

Prod. Gr. 540

Extensions for machine-operated screwdriving tools

For socket inserts no. 52410-52441

Execution:
- **Ident. No. 005–225:** With spring-loaded pin
- **Ident. No. 317–333:** With end-to-end pin hole

Ident. No. 015, 115, 212–333

Drive		1/4 inch	1/4 inch	3/8 inch	3/8 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch	3/4 inch	3/4 inch	3/4 inch
Tip size		1/4 inch	1/4 inch	3/8 inch	3/8 inch	1/2 inch	1/2 inch	1/2 inch	1/2 inch	3/4 inch	3/4 inch	3/4 inch
Length (mm)		50	150	75	150	50	75	125	250	175	250	330
52453...	Ident. No.	005 ●	015 ●	107 ●	115 ●	205 ●	207 ●	212 ●	225 ●	317 ●	325 ●	333 ●

Prod. Gr. 540

Hook wrenches

With lug

Execution:
- Special steel
- Rounded edges
- With suspension hole
- Surface annealed in burnished finish

Advantage:
- Excellent material strength with low-tension microstructure
- Better resistance to corrosion
- Comfortable to use

Technical data:
- Suitable for nut type: Slotted nut DIN 1804 | Bearing nut DIN 981

Suitable for min./ max. nut male thread size	Length (mm)	Thickness (mm)	52100... Ident. No.	
12-14 mm	110	3	010	●
16-20 mm	110	3	020	●
25-28 mm	136	4	030	●
30-32 mm	136	4	040	●
34-36 mm	170	5	050	●
38-45 mm	170	5	055	●
40-42 mm	170	5	060	●
45-50 mm	206	6	070	●
52-55 mm	206	6	080	●
58-62 mm	240	7	090	●
65-70 mm	240	7	095	●
68-75 mm	240	7	100	●
80-90 mm	280	8	110	●

Suitable for min./ max. nut male thread size	Length (mm)	Thickness (mm)	52100... Ident. No.	
85-92 mm	280	8	115	●
95-100 mm	280	8	120	●
98-105 mm	290	8	125	●
110-115 mm	335	10	130	●
120-130 mm	335	10	140	●
135-145 mm	385	10	150	●
155-165 mm	385	10	160	●
180-195 mm	470	10	170	●
208-220 mm	470	10	180	●
230-245 mm	568	10	190	●
260-270 mm	568	10	200	●
280-300 mm	680	15	210	●

Prod. Gr. 532

Hook wrenches

With pin

Execution:
- Special steel
- Rounded edges
- With suspension hole
- Surface annealed in burnished finish

Advantage:
- Excellent material strength with low-tension microstructure
- Increased resistance to corrosion
- More comfortable handling

Technical data:
- Suitable for nut type: Round nut with set pin holes DIN 1816

Suitable for min./ max. nut male thread size	Ø of tenon (mm)	Length (mm)	52102... Ident. No.	
12-14 mm	2	110	010	●
16-18 mm	2.5	110	020	●
20-22 mm	2.5	110	030	●
25-28 mm	3	136	040	●
30-32 mm	4	136	050	●
34-36 mm	4	170	060	●
40-42 mm	4	170	070	●
45-50 mm	5	206	080	●
52-55 mm	5	206	090	●
58-62 mm	5	240	100	●

Suitable for min./ max. nut male thread size	Ø of tenon (mm)	Length (mm)	52102... Ident. No.	
68-75 mm	6	240	110	●
80-90 mm	6	280	120	●
95-100 mm	8	280	130	●
110-115 mm	8	335	140	●
120-130 mm	8	335	150	●
135-145 mm	8	380	160	●
155-165 mm	8	380	170	●
180-195 mm	10	470	180	●
205-220 mm	10	470	190	●
230-245 mm	10	568	200	●

Prod. Gr. 532

Articulated hook wrench, industrial version

For DIN 1804 slotted nuts and DIN 981 roller bearing nuts

Execution:
- Special steel
- Rounded edges
- With suspension hole
- Extended hook and shank
- Reinforced rivet
- With spring washer
- Surface annealed in burnished finish

Advantage:
- Longer shank for greater transferable torque
- Reinforced rivet for longer service life with greater force transmission
- Even movement with additional spring washer
- One-hand operation possible
- Excellent material strength with low-tension microstructure

Technical data:
- Suitable for nut type: Slotted nut DIN 1804 | Bearing nut DIN 981

Suitable for min./max. nut male thread size		20-35 mm	35-60 mm	60-90 mm	90-155 mm	155-230 mm
Thickness (mm)		4	5	6	7	8
Length (mm)		165	210	280	335	460
52104...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 532

Articulated hook wrench with pin, industrial version

For DIN 1816 capstan nuts

Execution:
- Special steel
- Rounded edges
- With suspension hole
- Extended hook and shank
- Reinforced rivet
- Surface annealed in burnished finish

Advantage:
- Longer shank for greater transferable torque
- Reinforced rivet for longer service life with greater force transmission
- Even movement with additional spring washer
- One-hand operation possible
- Excellent material strength with low-tension microstructure

Technical data:
- Suitable for nut type: Round nut with set pin holes DIN 1816

Suitable for min./max. nut male thread size		16-22 mm	22-35 mm	35-60 mm	60-90 mm	95-155 mm	165-230 mm
Ø of tenon (mm)		2.5	3	4	6	6	10
Length (mm)		135	165	205	280	335	460
52106...	Ident. No.	016 ●	022 ●	035 ●	060 ●	095 ●	165 ●

Prod. Gr. 532

Adjustable face wrench

adjustable

Execution:
- Special steel
- Surface annealed in burnished finish

Technical data:
- Suitable for nut type: Round nuts with drilled holes in one face

Min./max. half-dog point spacing	Ø of tenon (mm)	Width of side (mm)	Length (mm)	52110... Ident. No.	
7-40 mm	1.5	3	115	010	●
7-40 mm	2	3	115	020	●
7-40 mm	2.5	3	115	030	●
11-60 mm	3	4	160	040	●
11-60 mm	4	4	160	050	●
11-60 mm	5	4	160	060	●
14-100 mm	5	6	215	070	●
14-100 mm	6	6	215	080	●
14-100 mm	8	6	215	090	●
22-125 mm	8	6	260	100	●
22-125 mm	10	6	260	110	●

Prod. Gr. 532

Articulated adjustable face wrench

For two-hole nuts

Execution:
- Special steel
- With welded-on pin
- With suspension hole
- Surface annealed in burnished finish

Technical data:
- Suitable for nut type: Round nuts with drilled holes in one face

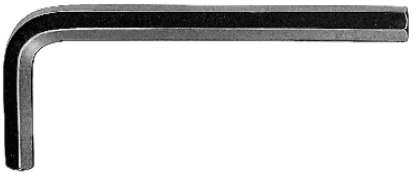
Min./max. half-dog point spacing	Ø of tenon (mm)	Width of side (mm)	Length (mm)	52112... Ident. No.	
18-40 mm	3	5	150	010	●
18-40 mm	4	5	150	020	●
40-80 mm	4	6	220	030	●

Min./max. half-dog point spacing	Ø of tenon (mm)	Width of side (mm)	Length (mm)	52112... Ident. No.	
40-80 mm	5	6	220	040	●
40-80 mm	6	6	220	050	●
80-125 mm	6	8	295	060	●
80-125 mm	7	8	295	070	●
80-125 mm	8	8	295	080	●
125-200 mm	8	10	405	090	●
125-200 mm	10	10	405	100	●

Prod. Gr. 532

ATORN L-shaped hex key, short version (ISO 2936)

(L-shaped)



Application:
Screwing hexagon socket screws

Advantage:
- Increased corrosion resistance

Execution:
- Chrome-vanadium steel

Width across flats	Limb length x limb length 2	Design / Short 52114... Ident. No.	
0.7 mm	33 x 7 mm	470	●
0.9 mm	33 x 11 mm	480	●
1.3 mm	41 x 13 mm	490	●
1.5 mm	46.5 x 15.5 mm	500	●
2 mm	52 x 18 mm	510	●
2.5 mm	58.5 x 20.5 mm	520	●
3 mm	66 x 23 mm	530	●
4 mm	74 x 29 mm	540	●
5 mm	85 x 33 mm	550	●
6 mm	96 x 38 mm	560	●
7 mm	102 x 41 mm	570	●
8 mm	108 x 44 mm	580	●
9 mm	114 x 47 mm	590	●

Width across flats	Limb length x limb length 2	Design / Short 52114... Ident. No.	
10 mm	122 x 50 mm	600	●
11 mm	129 x 53 mm	610	●
12 mm	137 x 57 mm	620	●
14 mm	154 x 70 mm	630	●
17 mm	177 x 80 mm	640	●
19 mm	199 x 89 mm	650	●
22 mm	222 x 102 mm	660	●
24 mm	248 x 114 mm	665	●
27 mm	277 x 127 mm	670	●
30 mm	315 x 142 mm	675	●
32 mm	347 x 157 mm	680	●
36 mm	391 x 176 mm	685	●

Prod. Gr. 5HG

ATORN L-shaped hex key, long version (ISO 2936)

(L-shaped)

Application:
Screwing hexagon socket screws

Advantage:
- Enhanced material strength
- Increased corrosion resistance

Execution:
- Chrome-vanadium steel

Width across flats	Limb length x limb length 2	Design / Long 52116... Ident. No.	
1.5 mm	91.5 x 15.5 mm	500	●
2 mm	102 x 18 mm	510	●
2.5 mm	114.5 x 20.5 mm	520	●
3 mm	129 x 23 mm	530	●
4 mm	144 x 29 mm	540	●
5 mm	165 x 33 mm	550	●
6 mm	186 x 38 mm	560	●
7 mm	197 x 41 mm	570	●
8 mm	208 x 44 mm	580	●

Width across flats	Limb length x limb length 2	Design / Long 52116... Ident. No.	
9 mm	219 x 47 mm	590	●
10 mm	234 x 50 mm	600	●
11 mm	247 x 53 mm	610	●
12 mm	262 x 57 mm	620	●
14 mm	294 x 70 mm	630	●
17 mm	337 x 80 mm	640	●
19 mm	379 x 89 mm	650	●
22 mm	422 x 102 mm	660	●

Prod. Gr. 5HG

ATORN L-shaped hex key sets
(L-shaped)

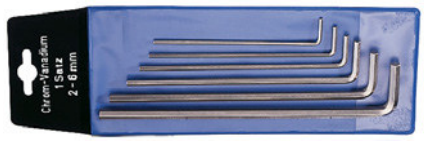
Execution:
- Chrome-vanadium steel

Advantage:
- Enhanced material strength
- Increased corrosion resistance

Technical data:
- Surface: Nickel plated

No. 52114 705–52114 725

No. 52114 800, 52116 805



No. 52116 705–52116 715

Width across flats				2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm	2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm	2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm | 12 mm | 14 mm
Number of pieces in assortment/set (PCS)				6	8	10
		Design				
52114...	In plastic bag	Short	Ident. No.	705 ●	715 ●	725 ●
52114...	In long version bag	Short	Ident. No.	-	800 ●	-
52116...	In plastic bag	Long	Ident. No.	705 ●	715 ●	-
52116...	In long version bag	Long	Ident. No.	-	805 ●	-

Prod. Gr. 5HG

wiha L-shaped hex key sets
(L-shaped)

Execution:
- **Ident. No. 021:** Chrome vanadium steel, hardened throughout, bronzed
- **Ident. No. 115:** Chrome-vanadium steel

Advantage:
- Compact holder
- **Ident. No. 021:** Increased resistance to corrosion
- **Ident. No. 115:** Better resistance to corrosion

Width across flats				1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm	1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 9 mm | 10 mm
Surface				Burnished	Nickel plated
Number of pieces in assortment/set				9	11
		Design			
52120...	In classic holder	Short	Ident. No.	021 ●	-
52120...	In compact holder	Long	Ident. No.	-	115 ●

Prod. Gr. 533

Ident. No. 021

Ident. No. 115

ATORN Hex key sets

In foldaway handheld case

Application:
Ident. No. 100–110: For hexagon socket screws.
Ident. No. 120: for internal TX screws.

Execution:
- Screwdriver blades made from chrome-vanadium steel
- Two-component foldaway holder with lifting device
- **Ident. No. 120:** Steel grey

Advantage:
- Increased corrosion resistance

Ident. No. 100

Ident. No. 110

Ident. No. 120

Number of pieces in assortment/set		7	7	8
Tip size		-	-	TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40
Width across flats		1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm	2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm	-
Surface		Nickel plated	Nickel plated	-
52130...	Ident. No.	100 ●	110 ●	120 ●

Prod. Gr. 5HG

wiha Hex key sets

In PocketStar®

Application:
Ident. No. 300–340: For hexagon socket screws.
Ident. No. 380: for internal TX screws.
Ident. No. 400: For a range of screw profiles.

Execution:
- Screwdriver blades made from chrome-vanadium steel
- **Ident. No. 340:** With ball end and spring steel ring

Advantage:
- Easy to choose the blade using lifting button
- Higher torques possible thanks to glass-fibre-reinforced polyamide housing

Ident. No. 300

Ident. No. 340

Ident. No. 380

Ident. No. 400

Tip size		-	-	TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40	PH2 | TX10 | TX15 | TX20
Width across flats		2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm	2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm	-	3 mm | 4 mm | 5 mm | 6 mm
Slot width (mm)		-	-	-	4.5
Surface		Chrome plated	Nickel plated	Chrome plated	Plain
Number of pieces in assortment/set		7	7	8	9
52135...	Ident. No.	300 ●	340 ●	380 ●	400 ●

Prod. Gr. 533

ATORN T-handle hex key
with 2-component handle

Execution:
- Easy-grip soft coating for optimum power transmission
- Hard core for lasting blade/handle connection even under the highest loads
- Blade made of CrV and CrMV (special alloy)

- Optimum performance data up to 100% above the DIN values
- Matt chrome-plated blade with black tip

Technical data:
- Surface: Chrome plated

Ident. No. 724

Width across flats	Blade length (mm)	52139... Ident. No.	
2 mm	100	700	●
2.5 mm	100	710	●
3 mm	100	722	●
3 mm	150	724	●
3 mm	200	726	●
4 mm	100	730	●

Width across flats	Blade length (mm)	52139... Ident. No.	
4 mm	150	732	●
4 mm	200	734	●
5 mm	100	740	●
5 mm	150	742	●
5 mm	200	744	●
6 mm	150	752	●

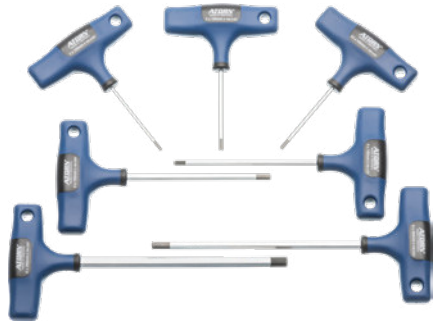
Width across flats	Blade length (mm)	52139... Ident. No.	
6 mm	200	754	●
8 mm	150	762	●
8 mm	200	764	●
10 mm	200	772	●

Prod. Gr. 5HG

ATORN T-handle hex key set
with 2-component handle

Execution:
- Comfortable non-slip soft coating provides for optimal power transmission
- Hard core for lasting blade/handle connection even under the highest loads
- Blade made of special CrV and CrMV alloy

- Optimal performance data up to 100% above DIN values
- Matt chrome-plated blade with Black-Tip
- Blade lengths: 2x100 mm/2.5x100mm/3x100 mm/4x150 mm/5x150 mm/6x200 mm/8x200 mm



52139...	Ident. No.	810 ●

Prod. Gr. 5HG

ATORN T-handle screwdriving set in workshop stand
Hex keys and sockets

Application:
For installation on a workbench or tool trolley

Execution:
- Robust and stable plastic workshop stand
- Equipped with 7 tools with the most common widths across flats
- Ergonomically shaped two-component T-handles
- 4x hexagon socket 3, 4, 5 and 6 mm/3x hexagon drive 8, 10, 13 mm

Delivery:
- 1 each of T-handle hexagon socket screwdriver in sizes 3, 4, 5 and 6 mm, each with 150 mm blade length - 1 each of T-handle hexagon screwdriver in sizes 8, 10 and 13 mm, each with 230 mm blade length

Technical data:
- Number of pieces in assortment/set: 7 PCS
- Width across flats: 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm | 13 mm
- Surface: Chrome plated

52139...	Ident. No.	905 ●

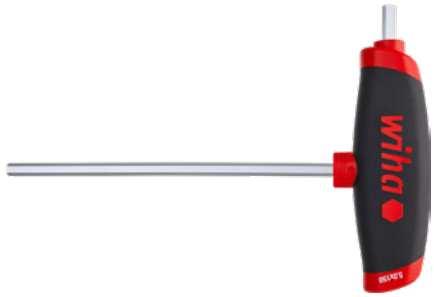
Prod. Gr. 5HG

wiha Hex key
3-C T-handle

Execution:
- Blade made of chrome-vanadium steel
- Continuously hardened
- Continuous blade for additional lateral drive

Advantage:
- Blades for lateral drive for easy opening and tightening, in particular of rusted in, bonded or self-tapping screws
- Handle geometry made from high-quality plastics with soft gripping areas for excellent comfort with high torque transmission

Technical data:
- Surface: Chrome plated



Width across flats	Blade length (mm)	Length (mm)	52137... Ident. No.	
2 mm	100	126	100	●
2.5 mm	100	126	110	●
3 mm	100	126	120	●
4 mm	150	126	130	●

Width across flats	Blade length (mm)	Length (mm)	52137... Ident. No.	
5 mm	150	132	140	●
6 mm	150	132	150	●
8 mm	200	132	160	●
10 mm	200	138	170	●

Prod. Gr. 533

ATORN Hex key
straight

Execution:
- Blade made of chrome-vanadium steel
- Fully hardened
- Rounded front edges
- With suspension eyelet

Advantage:
- Ergonomic handle for comfortable handling
- Makes it easier to insert the blade thanks to the rounded front edges
- Increased corrosion resistance

Technical data:
- Surface: Nickel plated

Width across flats	Blade length (mm)	Length (mm)	52139... Ident. No.	
2 mm	100	125	500	●
2.5 mm	100	125	510	●
3 mm	100	125	520	●
3 mm	150	175	530	●
3 mm	200	225	535	●
4 mm	100	125	540	●
4 mm	150	175	550	●
4 mm	200	225	555	●
5 mm	100	132	560	●
5 mm	150	182	570	●

Width across flats	Blade length (mm)	Length (mm)	52139... Ident. No.	
5 mm	200	232	575	●
6 mm	100	132	580	●
6 mm	150	182	590	●
6 mm	200	232	595	●
8 mm	100	132	600	●
8 mm	150	182	610	●
8 mm	200	232	615	●
10 mm	100	139	620	●
10 mm	200	239	625	●

Prod. Gr. 5HG

ATORN Hex key set
straight, with ergonomic T-handle

Execution:
- Blade made of chrome-vanadium steel
- Fully hardened
- Rounded front edges
- With suspension eyelet
- Blade lengths: 2x100 mm/2.5x100mm/3x100 mm/4x150 mm/5x150 mm/6x200 mm/8x200 mm

Advantage:
- Ergonomic handle for comfortable handling
- Makes it easier to insert the blade thanks to the rounded front edges
- Increased corrosion resistance

Width across flats		2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm
Surface		Nickel plated
52139...	Ident. No.	800 ●

Prod. Gr. 5HG

Hex key
Straight, with T-handle

Application:
Ident. No. 080–165: For hexagon socket screws.
Ident. No. 340–380: For working on live components.
Ident. No. 400–430: For high torques with small screw sizes.

Execution:
- Hardened
- With hanging eyelet
- **Ident. No. 340–380:** VDE version with protection-insulated blade, according to EN/IEC 60900:2004
- **Ident. No. 400–430:** With quick-action rotary handle, burnished blade

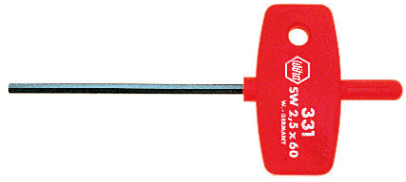
Advantage:
- Better resistance to corrosion

Width across flats	Blade length (mm)	Length (mm)	Surface	VDE certified	52138... Ident. No.	
2 mm	100	126	Nickel plated	-	080	●
2.5 mm	100	126	Nickel plated	-	090	●
2.5 mm	200	226	Nickel plated	-	095	●
3 mm	100	126	Nickel plated	-	100	●
3 mm	150	176	Nickel plated	-	110	●
3 mm	200	226	Nickel plated	-	112	●
4 mm	100	126	Nickel plated	-	115	●
4 mm	150	175	Nickel plated	-	120	●
4 mm	200	226	Nickel plated	-	122	●
5 mm	100	132	Nickel plated	-	125	●
5 mm	150	182	Nickel plated	-	128	●
5 mm	200	232	Nickel plated	-	129	●
6 mm	100	132	Nickel plated	-	130	●
6 mm	150	182	Nickel plated	-	135	●
6 mm	200	232	Nickel plated	-	137	●
8 mm	100	132	Nickel plated	-	140	●
8 mm	150	182	Nickel plated	-	145	●
8 mm	200	232	Nickel plated	-	147	●
10 mm	100	138	Nickel plated	-	150	●
10 mm	200	238	Nickel plated	-	155	●
12 mm	200	238	Nickel plated	-	165	●
4 mm	150	176	VDE insulated	Yes	340	●
5 mm	150	182	VDE insulated	Yes	350	●
6 mm	150	182	VDE insulated	Yes	360	●
8 mm	150	182	VDE insulated	Yes	380	●
1.5 mm	60	95	Burnished	-	400	●
2 mm	60	95	Burnished	-	410	●
2.5 mm	60	95	Burnished	-	420	●
3 mm	60	95	Burnished	-	430	●

Prod. Gr. 533

Ident. No. 080–165

Ident. No. 340–380



Ident. No. 400–430

Hex key sets
Straight with T-handle

Execution:
- With T-handle
- Blade made of chrome-vanadium steel
- Continuously hardened
- Bright nickel-plated
- **Ident. No. 190:** Blade lengths: 2 x 100, 2.5 x 100, 3 x 100, 3 x 150, 4 x 100, 4 x 150, 5 x 100, 5 x 150, 6 x 100, 6 x 200, 8 x 150 mm
- **Ident. No. 199:** Blade lengths: 2 x 100, 2.5 x 100, 3 x 100, 4 x 150, 5 x 150, 6 x 200, 8 x 200 mm

Advantage:
- **Ident. No. 199:** Workshop stand to hang up or place in upright position

Delivery:
Ident. No. 190: In cardboard box
Ident. No. 199: With workshop stand

Width across flats		2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm	2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm
Surface		Chrome plated	Chrome plated
Number of pieces in assortment/set		11	7
52138...	Ident. No.	190 ●	199 ●

Prod. Gr. 533

Ident. No. 190

wiha Hex key with Magic-Ring®

Straight with ergonomic T-handle

Execution:
- With T-handle
- Blade made of chrome-vanadium steel

Advantage:
- Excellent retention force thanks to robust, wear-proof spring steel ring
- Makes it easier to remove countersunk screws and to insert screws into slanted or deep blind holes
- Suitable for stainless steel, brass or other non-magnetic screws

Technical data:
- Surface: Nickel plated

Width across flats		3 mm	4 mm	5 mm	6 mm
Blade length (mm)		100	150	150	150
Length (mm)		126	176	182	182
52138...	Ident. No.	530 ●	540 ●	550 ●	560 ●

Prod. Gr. 533

ATORN L-shaped hex key

long version, short arms

Execution:
- Hexagonal ball end on the long wrench side
- Shorter arm angled by 100°
- Chrome-vanadium steel
- Hardened
- Chrome-plated

Advantage:
- Ball end enables screws to be tightened at angles of up to 25°
- Angled arm provides better accessibility
- Wrench is easy to remove

Delivery:
In functional plastic holder

Width across flats			1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm
Surface			Nickel plated
	Design		
52137...	Long | Offset at 100 degrees	Ident. No.	200 ●

Prod. Gr. 5HG

ATORN L-shaped hex key set

long version, colour-coded

Execution:
- Hexagonal ball end on the long wrench side
- Coated with wear-resistant powder paint
- Chrome-vanadium steel
- Hardened

Advantage:
- Ball end enables screws to be tightened at angles of up to 25°
- Colour coating ensures instant identification of the key size
- Wrench is easy to remove

Delivery:
In functional plastic holder

Width across flats			1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm
Surface			Lacquered
	Design		
52139...	Long	Ident. No.	001 ●

Prod. Gr. 5HG

ATORN L-shaped hex key
Long version

Application:
Screwing hexagon socket screws

Execution:
- Hexagonal ball end on the long wrench side
- Chrome-vanadium steel
- Hardened

Advantage:
- Ball end enables screws to be tightened at angles of up to 25°
- Increased corrosion resistance

Design		Long	
Width across flats	Limb length x limb length 2	52139... Ident. No.	
1.5 mm	91.5 x 15.5 mm	015	●
2 mm	102 x 18 mm	020	●
2.5 mm	114.5 x 20.5 mm	025	●
3 mm	129 x 23 mm	030	●
4 mm	144 x 29 mm	040	●

Design		Long	
Width across flats	Limb length x limb length 2	52139... Ident. No.	
5 mm	165 x 33 mm	050	●
6 mm	186 x 38 mm	060	●
8 mm	208 x 44 mm	080	●
10 mm	234 x 50 mm	100	●
12 mm	262 x 57 mm	120	●

Prod. Gr. 5HG

ATORN L-shaped hex key set
long version

Application:
For tightening and loosening hexagon-socket screws

Execution:
- Hexagonal ball end on the long wrench side
- Chrome-vanadium steel
- Hardened

Advantage:
- Ball end enables screws to be tightened at angles of up to 25°
- Increased corrosion resistance
- Wrench is easy to remove

Delivery:
In functional plastic holder

Width across flats			1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm
Surface			Nickel plated
	Design		
52139...	Long	Ident. No.	900 ●

Prod. Gr. 5HG

ATORN L-shaped hex key set
With hold function

Execution:
- Pro-Hold ball holds screws securely and is not magnetic
- Does not wear off or cause corrosion in the screw head
- Milled ball head ensures maximum stability and precise width across flats
- Specially hardened Protanium steel for very high torques
- Environmentally friendly, extremely corrosion-resistant Tuff-Kote surface,
- In a matt, glare-free, steel grey finish
- Handy and solvent-resistant
- Easy key removal thanks to practical, hinged plastic holder

Technical data:
- Width across flats: 1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm
- Surface: Chrome plated

52138...	Ball head, hold function	Ident. No.	900 ●

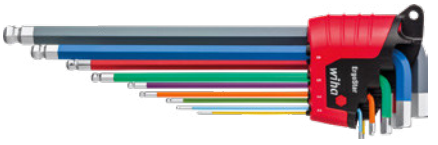
Prod. Gr. 5HG

ErgoStar L-shaped hex key set

long version, colour-coded

Execution:
- Hexagon ball head on the long wrench side
- Chromium-vanadium steel
- fully hardened
- Ergo-Star holder Incredibly easy removal and defined insertion
- Fluorescent, luminous coating ensures that individual wrenches are still easy to locate in dark areas

Advantage:
- ball head enables screws to be tightened at angles of up to 25°
- Colour paint ensures instant identification of the wrench size



Width across flats			1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm
52140...	ErgoStar/coloured coatings	Ident. No.	690 ●

Prod. Gr. 533

L-shaped hex key sets

Long version with ball head

Execution:
- Chrome-vanadium steel
- **Ident. No. 710:** Hexagonal ball end with spring steel ring on the long wrench side
- **Ident. No. 750:** shorter arm bent by 100°

Advantage:
- **Ident. No. 710:**
  - Save-spacing ErgoStar holder
  - Ball end enables screws to be tightened at angles of up to 30°
  - MagicRing: excellent retention force thanks to robust, wear-resistant spring steel ring
- Makes it easier to remove countersunk screws and to insert screws into slanted or deep blind holes
- Suitable for stainless steel, brass or other non-magnetic screws
- **Ident. No. 750:**
  - ball head enables screws to be tightened at angles of up to 25°
  - bent arm provides better accessibility
  - wrench is easy to remove

Delivery:
Ident. No. 710: In ErgoStar holder
Ident. No. 750: In Pro-Star holder

Ident. No. 710

Ident. No. 750

Width across flats				1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm	1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm
Surface				-	Chrome plated
		Design			
52140...	ErgoStar/Magic Ring		Ident. No.	710 ●	-
52140...	Short arm, bent 100°	Long	Ident. No.	-	750 ●

Prod. Gr. 533

L-shaped hex key

Long version with ball head

Execution:
- Hexagonal ball end on the long wrench side
- Chrome-vanadium steel
- hardened and blackened

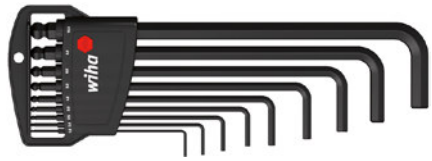
Advantage:
- High level of corrosion protection

	Design	Long	
Width across flats	Limb length x limb length 2	52140... Ident. No.	
1.5 mm	91 x 15 mm	015	●
2 mm	101 x 18 mm	020	●
2.5 mm	113 x 20 mm	025	●
3 mm	128 x 23 mm	030	●
4 mm	142 x 29 mm	040	●

	Design	Long	
Width across flats	Limb length x limb length 2	52140... Ident. No.	
5 mm	163 x 33 mm	050	●
6 mm	184 x 38 mm	060	●
8 mm	206 x 44 mm	080	●
10 mm	231 x 50 mm	100	●
12 mm	259 x 57 mm	120	●

Prod. Gr. 533

L-shaped hex key sets
Long version



Execution:
- Hexagonal ball end on the long wrench side
- Chrome-vanadium steel
- hardened, blackened

Advantage:
- High level of corrosion protection

Width across flats			1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm
Surface			Phosphated
Number of pieces in assortment/set			9
	Design		
52140...	Long	Ident. No.	210 ●

Prod. Gr. 533

L-shaped hex key
Long version, with Magic-Ring® ball head

Execution:
- Hexagonal ball end with spring steel ring on the long wrench side
- Chrome-vanadium steel

Advantage:
- Ball end enables screws to be tightened at angles of up to 25°
- Excellent retention force thanks to robust, wear-proof spring steel ring
- Makes it easier to remove countersunk screws and to insert screws into slanted or deep blind holes
- Suitable for stainless steel, brass or other non-magnetic screws

Technical data:
- Surface: Chrome plated

Width across flats			3 mm	4 mm	5 mm	6 mm	8 mm	10 mm
Limb length x limb length 2			129 x 23 mm	142 x 29 mm	163 x 33 mm	184 x 38 mm	206 x 44 mm	231 x 50 mm
	Design							
52140...	Long	Ident. No.	430 ●	440 ●	450 ●	460 ●	480 ●	500 ●

Prod. Gr. 533

L-shaped hex key sets
Long version, WERA Hex-Plus profile

Execution:
- **Ident. No. 370, 390:**
  - Hexagonal ball end on the long wrench side
  - Continuous hexagon
- **Ident. No. 375:**
  - Long version without ball head
  - With ball head on the long arm from size 3 mm and holding function
- **Ident. No. 390:** Short arms bent by 100°
- **Ident. No. 400:** Made completely from stainless steel
- **Ident. No. 400, 410:** Hexagonal ball head on the long wrench side
- **Ident. No. 405:** Made entirely of stainless steel, rubber sheathing in various colours
- **Ident. No. 405, 420:** Long version with ball head on the long arm of the key
- **Ident. No. 410:** Colour plastic coating
- **Ident. No. 420:**
  - With mechanical holding function on the long side from size 3 mm through spring-loaded ball
  - BlackLaser surface, rubber sheathing in various colours

Advantage:
- Hex-Plus profile provides a larger contact surface with reduced notch effect. Damage to the screw head is prevented while simultaneously achieving up to 20% higher transmittable torque.
- Ball end profile also enables slightly slanted screw connections in hard-to-reach areas

Delivery:
In lockable plastic holder

Technical data:
- Width across flats: 1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm

Ident. No. 370

Ident. No. 375

Ident. No. 390

Ident. No. 400

Ident. No. 405

Ident. No. 410

Ident. No. 420

Surface				Chrome plated	Plain
		Design			
52139...	Ball head	Long	Ident. No.	370 ●	-
52139...	Straight, with holder function	Long	Ident. No.	375 ●	-
52139...	Ball head, short leg	Long	Ident. No.	390 ●	-
52139...	Ball head, stainless	Long	Ident. No.	-	400 ●
52139...	Ball head, stainless, colourful	Long	Ident. No.	-	405 ●
52139...	Ball head, colourful	Long	Ident. No.	410 ●	-
52139...	Ball head, hold function	Long	Ident. No.	420 ●	-

Prod. Gr. 542

ATORN Hex key with ball head
straight

Execution:
- Hexagon ball end
- Blade made of chrome-vanadium steel
- Hardened
- 3-component power grip, with large soft area

Advantage:
- Ball end enables screws to be tightened at angles of up to 30°
- 3-component power grip with large soft area for comfortable use and fatigue-free working

Technical data:
- Design: Straight
- Surface: Chrome plated

Width across flats		2 mm	2.5 mm	3 mm	4 mm	5 mm	6 mm	8 mm	10 mm
Blade length (mm)		75	100	100	100	100	125	150	150
Length (mm)		157	182	192	192	202	227	263	263
52134...	Ident. No.	021 ●	026 ●	031 ●	041 ●	051 ●	061 ●	081 ●	101 ●

Prod. Gr. 5HG

ATORN Hex key set with ball head
straight

Execution:
- Hexagon ball head
- Blade made of chrome-vanadium steel
- Hardened

Advantage:
- Ball end enables screws to be tightened at angles of up to 30°
- 3-component power grip with large soft area for comfortable use and fatigue-free working

Number of pieces in assortment/set (PCS)		5
Width across flats		3 mm | 4 mm | 5 mm | 6 mm | 8 mm
Surface		Chrome plated
52134...	Ident. No.	201 ●

Prod. Gr. 5HG

wiha Hex key set
straight

Execution:
- Hexagon ball head
- Blade made of chrome-vanadium steel
- Hardened
- SoftFinish® handle
- Wiha-Chromtop® tip

Advantage:
- Ball end enables screws to be tightened at angles of up to 30°
- SoftFinish® handle for comfortable handling

Width across flats		2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm
Surface		Chrome plated
52141...	Ident. No.	400 ●

Prod. Gr. 533

ATORN L-shaped TX key set
for internal TX screws, colour-coded

Application:
Screwing TX screws

Execution:
- TX ball head on the long wrench side
- Chrome-vanadium steel
- Coated with wearproof powder paint
- Hardened

Advantage:
- Colour powder coating ensures instant identification of key sizes
- Ball end also enables slightly slanted screw connections in hard-to-reach areas

Delivery:
In functional plastic holder

Tip size		TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40
Surface		Lacquered
Number of pieces in assortment/set		8
52146...	Ident. No.	**150** ●

Prod. Gr. 5HG

ATORN L-shaped TX key set
for internal TX screws

Application:
Screwing TX screws

Execution:
- Chrome-vanadium steel

- Hardened
- Steel grey

Delivery:
In plastic slide-out box

Tip size		TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40
Number of pieces in assortment/set		8
52146...	Ident. No.	**200** ●

Prod. Gr. 5HG

ATORN L-shaped TX key set
for internal TX screws, extra-long version

Application:
Screwing TX screws

Execution:
- Chrome-vanadium steel

- Hardened
- Steel grey

Delivery:
In plastic clip

Tip size		TX5 | TX6 | TX7 | TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40 | TX50
Number of pieces in assortment/set		13
52146...	Ident. No.	**300** ●

Prod. Gr. 5HG

ATORN L-shaped TX key set
for internal TX screws, with borehole in the drive tip

Application:
Screwing TX screws

Execution:
- Chrome-vanadium steel
- Hardened

- Steel grey
- For TX safety screws

Delivery:
In plastic clip

Tip size		TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40
Number of pieces in assortment/set		8
52146...	Ident. No.	**400** ●

Prod. Gr. 5HG

ATORN L-shaped TX key

for internal TX screws, with ball head

Execution:
- Chrome-vanadium steel
- Hardened
- Steel grey

Tip size		TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40
Limb length x limb length 2		67 x 19 mm	76 x 20 mm	86 x 20 mm	98 x 22 mm	100 x 22 mm	111 x 25 mm	125 x 30 mm	139 x 33 mm
52146...	Ident. No.	509 ●	510 ●	515 ●	520 ●	525 ●	527 ●	530 ●	540 ●

Prod. Gr. 5HG

ATORN L-shaped TX key set

for internal TX screws, with ball head

Application:
Screwing TX screws

Execution:
- Chrome-vanadium steel
- Hardened
- Steel grey
- TX ball head on the long wrench side

Delivery:
In plastic clip

Notes:
For TX® profile gauge, see art. no. 1037930.

Tip size		TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40
Number of pieces in assortment/set		8
52146...	Ident. No.	500 ●

Prod. Gr. 5HG

wiha L-shaped TX key sets

For TX screws, long version

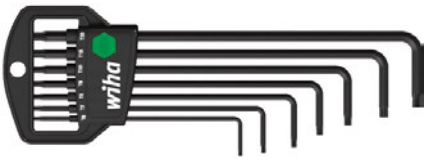
Execution:
- Chrome-vanadium steel
- hardened and blackened throughout
- **Ident. No. 441:** Standard finish
- **Ident. No. 445:** Magic-Spring retaining spring with covering disc welded by laser on the blade tip
- **Ident. No. 447:** Retaining spring with covering disc welded by laser on the blade tip

Advantage:
- **Ident. No. 441:** High level of corrosion protection
- **Ident. No. 445–447:** Clamping function between spring and screw prevents the screw from being lost

Delivery:
Ident. No. 441: In ProStar sliding holder
Ident. No. 445: Clamp holder with suspension hole
Ident. No. 447: In ErgoStar holder

Technical data:
- Surface: Phosphated

Ident. No. 441



Ident. No. 445

Ident. No. 447

Tip size			TX5 | TX6 | TX7 | TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40 | TX50	TX6 | TX7 | TX8 | TX9 | TX10 | TX15 | TX20	TX5 | TX6 | TX7 | TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40 | TX45
Number of pieces in assortment/set			13	7	13
52142...	Standard finish	Ident. No.	441 ●	-	-
52142...	With MagicSpring	Ident. No.	-	445 ●	447 ●

Prod. Gr. 533

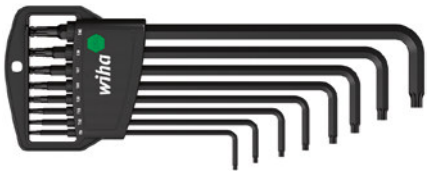
Angled screwdriver sets

For TX screws, long version with ball head

Execution:
- **Ident. No. 450–455:**
  - Chrome-vanadium steel
  - hardened and blackened throughout
  - Ball end on the long wrench side
- **Ident. No. 460:**
  - chromium-vanadium steel, brushed chromium-plated
  - long service life and perfect fit accuracy on screw head
  - lowers the risk of injury by increasing the usable space by bending 95°
  - T-handle wrench height reduced by up to 15% for improved accessibility

Advantage:
- **Ident. No. 450–455:**
  - High level of corrosion protection
  - Ball end enables screws to be tightened at angles of up to 25°
- **Ident. No. 460:** ball head enables screws to be tightened at angles of up to 25°

Delivery:
Ident. No. 450: Clamp holder with suspension hole
Ident. No. 455: In ErgoStar holder



Ident. No. 450

Ident. No. 455

Ident. No. 460

Tip size			TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40	TX5 | TX6 | TX7 | TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40 | TX45	TX5 | TX6 | TX7 | TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40 | TX45
Surface			Phosphated	Phosphated	Chrome plated
Number of pieces in assortment/set			8	13	13
52142...	With ball end	Ident. No.	450 ●	455 ●	-
52142...	ball end	Ident. No.	-	-	460 ●

Prod. Gr. 533

L-shaped TX key sets with a clamping function or with ball head

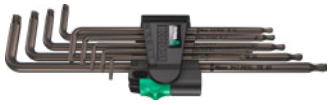
For TX socket screws

Execution:
- **Ident. No. 001:**
  - TX profile with special mechanical holding function
  - Screws are held securely without magnetisation
- **Ident. No. 001–002:**
  - Multi-coloured hose coating, in two-component clip
  - BlackLaser surface
- **Ident. No. 001–006:** Zinc-phosphated surface
- **Ident. No. 002:**
  - Sizes TX 15-40 with ball head on the long wrench side
  - hole in the drive tip above size TX 10
  - Holding clip fitted with magnetising device
- **Ident. No. 003:** Long version
- **Ident. No. 003, 007:** With mechanical holding function
- **Ident. No. 004:**
  - Long version with ball head on the long arm
  - Sizes TX 8, 9 and 10 do not have ball head
- **Ident. No. 005:** Long version with mechanical holding function
- **Ident. No. 005–006:** Rubber sheathing in various colours
- **Ident. No. 006:** Long version with ball head on the long arm from TX 15
- **Ident. No. 007:**
  - Made entirely of stainless steel
  - Long version, rubber sheathing in various colours

Ident. No. 001

Ident. No. 002

Ident. No. 003


Ident. No. 004

Ident. No. 005

Ident. No. 006

Ident. No. 007

Tip size			TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40
Surface			Coated
Number of pieces in assortment/set			9
52147...	with holder function, short, colourful	Ident. No.	001 ●
52147...	With ball head, short	Ident. No.	002 ●
52147...	With holding function, straight	Ident. No.	005 ●
52147...	With ball head, size	Ident. No.	004 ●
52147...	With ball head, various colours	Ident. No.	006 ●
52147...	With holding function, straight, stainless	Ident. No.	007 ●

Prod. Gr. 542

ATORN TX screwdriver

No. 52145 910–52145 920, 52145 927–52145 940

Execution:
- Blackened tip
- 3-component power grip, with large soft area
- **No. 52144:**
  - Chrome-vanadium/molybdenum steel
  - Fully hardened
- **No. 52145:**
  - chrome-vanadium/molybdenum steel
  - fully hardened

Advantage:
- More precise fit with longer service life
- **No. 52144:** 3-component power grip with large soft area for comfortable use and fatigue-free working
- **No. 52145:** 3-component power grip with large soft area for comfortable use and effortless work

Technical data:
- Surface: Chrome plated

Tip size		TX6	TX7	TX8	TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40
Blade length (mm)		60	60	60	60	80	80	100	100	115	115	130
Length (mm)		146	146	146	157	170	180	207	207	234	234	249
52144...	Ident. No.	906 ●	907 ●	908 ●	909 ●	-	-	-	-	-	-	-
52145...	Ident. No.	-	-	-	-	910 ●	915 ●	920 ●	925 ●	927 ●	930 ●	940 ●

Prod. Gr. 5HG

ATORN TX screwdriver set

Application:
Screwing TX screws

Execution:
- chrome-vanadium/molybdenum steel
- Fully hardened
- Matt chrome-plated
- Blackened tip
- 3-component power grip, with large soft area

Advantage:
- 3-component power grip with large soft area for comfortable use and effortless work

Technical data:
- Tip size: TX10 | TX15 | TX20 | TX25 | TX30
- Number of pieces in assortment/set: 5

52145...	Ident. No.	900 ●

Prod. Gr. 5HG

ATORN TX-IP screwdriver, with hole in the drive tip

For TX screws with pin

Ident. No. 925–940

Execution:
- Chrome-vanadium/molybdenum steel
- Fully hardened
- Blackened tip
- 3-component power grip, with large soft area

Advantage:
- 3-component power grip with large soft area for comfortable use and fatigue-free working
- More precise fit with longer service life

Technical data:
- Surface: Chrome plated

Tip size		TX10 + P	TX15 + P	TX20 + P	TX25 + P	TX27 + P	TX30 + P	TX40 + P
Blade length (mm)		80	100	100	100	115	115	130
Length (mm)		170	180	207	207	234	234	249
52144...	Ident. No.	910 ●	915 ●	920 ●	925 ●	927 ●	930 ●	940 ●

Prod. Gr. 5HG

ATORN TX screwdriver sets

for TX screws, with borehole in the drive tip

Application:
For turning safety screws (centre pin in profile).

Execution:
- Chrome-vanadium/molybdenum steel
- Fully hardened
- Matt chromium-plated
- Blackened tip
- 3-component power grip, with large soft area

Advantage:
- 3-component power grip with large soft area for comfortable use and fatigue-free working
- More precise fit with longer service life

Technical data:
- Surface: Chrome plated

Tip size		TX10 + P | TX15 + P | TX20 + P	TX6 | TX7 | TX8 | TX9 | TX10 + P	TX10 + P | TX15 + P | TX20 + P | TX25 + P | TX30 + P	TX8 | TX9 | TX10 + P | TX15 + P | TX20 + P | TX25 + P | TX30 + P
Number of pieces in assortment/ set		3	5	5	7
52144...	Ident. No.	900 ●	901 ●	902 ●	904 ●

Prod. Gr. 5HG

wiha Screwdriver

For TX screws

Execution:
- Chrome-vanadium/molybdenum steel
- Continuously hardened
- tip Wiha-Chromtop
- SoftFinish handle with roll-away protection

Technical data:
- Surface: Chrome plated

Tip size		TX3	TX4	TX5	TX6	TX7	TX8	TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40
Blade length (mm)		60	60	60	60	60	60	60	80	80	100	100	115	115	130
Length (mm)		164	164	164	164	164	164	171	191	191	218	218	233	233	254
52143...	Ident. No.	203 ●	204 ●	205 ●	206 ●	207 ●	208 ●	209 ●	210 ●	215 ●	220 ●	225 ●	227 ●	230 ●	240 ●

Prod. Gr. 533

wiha screwdriver sets

For TX screws

Execution:
- Chrome-vanadium/molybdenum steel
- Continuously hardened
- tip Wiha-Chromtop
- SoftFinish handle with roll-away protection

Technical data:
- Surface: Chrome plated

Tip size		TX10 | TX15 | TX20 | TX25 | TX30 | TX40	TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX30
Number of pieces in assortment/set		6	7
52143...	Ident. No.	265 ●	267 ●

Prod. Gr. 533

Ident. No. 265

wiha Screwdriver
for TX PLUS screws

Execution:
- Chrome-vanadium/molybdenum steel
- Continuously hardened
- tip Wiha-Chromtop
- SoftFinish handle with roll-away protection

Technical data:
- Surface: Chrome plated

Tip size		TXP6	TXP7	TXP8	TXP9	TXP10	TXP15	TXP20	TXP25
Blade length (mm)		60	60	60	60	80	80	100	100
Length (mm)		164	164	164	171	191	191	218	218
52143...	Ident. No.	106 ●	107 ●	108 ●	109 ●	110 ●	115 ●	120 ●	125 ●

Prod. Gr. 533

ATORN TX screwdriver with T-handle
with 2-component handle

Execution:
- easy-grip soft coating for optimum power transmission
- hard core for lasting blade/handle connection even under the highest loads
- blade made of CrV and CrMV (special alloy)
- optimum performance data up to 100% above the DIN values
- matt chrome-plated blade with black tip

Technical data:
- Blade length: 100 mm
- Surface: Chrome plated

Ident. No. 240

Tip size		TX8	TX10	TX15	TX20	TX25	TX30	TX40
52147...	Ident. No.	208 ●	210 ●	215 ●	220 ●	225 ●	230 ●	240 ●

Prod. Gr. 5HG

ATORN TX screwdriver set, with T-handle
with 2-component handle

Application:
Screwing TX screws

Execution:
- easy-grip soft coating for optimum power transmission
- hard core for lasting blade/handle connection even under the highest loads
- blade made of CrV and CrMV (special alloy)
- optimum performance data up to 100% above the DIN values
- matt chrome-plated blade with black tip
- Blade length: 100 mm

Technical data:
- Tip size: TX10 | TX15 | TX20 | TX25 | TX30 | TX40
- Surface: Chrome plated
- Number of pieces in assortment/set: 6

52147...	Ident. No.	300 ●

Prod. Gr. 5HG

ATORN Screwdriver with ergonomically shaped T-handle

for internal TX screws

Execution:
- Straight version
- Ergonomic T-handle
- Blade made of chrome-vanadium steel
- Hardened
- Black tip
- Hanging eyelet

Advantage:
- Ergonomically adjusted to your hand for effortless work

Technical data:
- Surface: Chrome plated

Tip size		TX8	TX9	TX10	TX15	TX20	TX25	TX27	TX30	TX40	TX45	TX50
Blade length (mm)		100	100	100	100	100	100	100	100	100	150	150
Length (mm)		125	125	125	125	132	132	132	132	132	189	189
52147...	Ident. No.	108 ●	109 ●	110 ●	115 ●	120 ●	125 ●	127 ●	130 ●	140 ●	145 ●	150 ●

Prod. Gr. 5HG

ATORN Screwdriver

with flag handle, for TX screws

Execution:
- Blade made from molybdenum-vanadium steel
- Fully hardened

Advantage:
- Improved corrosion resistance thanks to the black oxide finish

Technical data:
- Surface: Burnished

Tip size		TX5	TX6	TX7	TX8	TX9	TX10	TX15	TX20
Blade length (mm)		19	19	19	19	24	24	28	28
52142...	Ident. No.	005 ●	006 ●	007 ●	008 ●	009 ●	010 ●	015 ●	020 ●

Prod. Gr. 5HG

ATORN Screwdriver

with flag handle, for TX PLUS screws

Execution:
- Blade made from molybdenum-vanadium steel
- Fully hardened

Advantage:
- Improved corrosion resistance thanks to the black oxide finish
- TX PLUS with reinforced profile cross-section for up to 25% higher transferable torques compared to standard TX

Technical data:
- Surface: Burnished

Tip size		TXP5	TXP6	TXP7	TXP8	TXP9	TXP10	TXP15	TXP20
Blade length (mm)		19	19	19	19	24	24	28	28
52142...	Ident. No.	105 ●	106 ●	107 ●	108 ●	109 ●	110 ●	115 ●	120 ●

Prod. Gr. 5HG

wiha Screwdriver

For TX screws

Execution:
- Blade made of chrome-vanadium steel
- Continuously hardened
- **Ident. No. 305–320:** With key handle
- **Ident. No. 410–450:**
  - With T-handle
  - tip Wiha-Chromtop

Ident. No. 305–320

Tip size	Blade length (mm)	Length (mm)	Surface	52143... Ident. No.	
TX5	35	70	Burnished	305	●
TX6	35	70	Burnished	306	●
TX7	35	70	Burnished	307	●

Tip size	Blade length (mm)	Length (mm)	Surface	52143... Ident. No.	
TX8	40	75	Burnished	308	●
TX9	40	75	Burnished	309	●
TX10	40	75	Burnished	310	●
TX15	45	80	Burnished	315	●
TX20	45	80	Burnished	320	●
TX10	100	126	Chrome plated	410	●
TX15	100	126	Chrome plated	415	●
TX20	100	132	Chrome plated	420	●
TX25	100	132	Chrome plated	425	●
TX27	100	132	Chrome plated	427	●
TX30	100	132	Chrome plated	430	●
TX40	200	232	Chrome plated	440	●
TX50	250	288	Chrome plated	450	●

Ident. No. 410–450

Prod. Gr. 533

Screwdriver with 2-C T-handle and short lateral arm

For TX screws

Execution:
- Blade made of chrome-vanadium steel
- Continuously hardened
- Continuous blade for additional lateral drive

Advantage:
- Blades for lateral drive for easy opening and tightening, in particular of rusted in, bonded or self-tapping screws
- Handle geometry made from high-quality plastics with soft gripping areas for excellent comfort with high torque transmission

Technical data:
- Surface: Chrome plated

Tip size	Blade length (mm)	Length (mm)	52143... Ident. No.	
TX10	100	126	710	●
TX15	100	126	715	●
TX20	100	132	720	●
TX25	150	132	725	●
TX30	150	132	730	●
TX40	150	132	740	●

Prod. Gr. 533

Mini PocketStar

Application:
For the smallest screw connections such as fastening and adjusting sensors.

Execution:
- Screwdriver blades made from chrome-vanadium steel
- Housing made from fibreglass-reinforced polyamide

Advantage:
- Easy to choose the blade using lifting button

Technical data:
- Width across flats: 0.7 mm | 0.9 mm | 1.3 mm | 1.5 mm | 2 mm
- Slot width: 2.0 mm
- Tip size: PH00
- Surface: Nickel plated

52135...	Ident. No.	500 ●

Prod. Gr. 533

L-shaped hex key set

Short version, with ball head

Execution:
- chromium-vanadium steel, fully hardened and brushed chromium-plated.

Advantage:
- space-saving, compact holder
- ball head enables screws to be tightened at angles of up to 25°

Technical data:
- Width across flats: 1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | 10 mm
- Surface: Chrome plated

	Design		
52140...	Short	Ident. No.	800 ●

Prod. Gr. 533

Permanent magnetiser and demagnetiser

Application:
For magnetising and de-magnetising steel tool blades.

Execution:
- ABS plastic housing

Height (mm)		50
Length (mm)		52
Depth (mm)		29
52650...	Ident. No.	010 ●

Prod. Gr. 533

ESD precision screwdriver
Set of 6 pieces

Execution:
- Precision screwdriver with rotary cap
- 2-component handle technology with comfortable, non-slip soft coating
- “Black tip” for precise fit
- Handle top with roll-off protection
- Blade made from special chrome-molybdenum-vanadium alloy with optimal performance up to 100 % above DIN values

Delivery:
In ESD plastic box

Technical data:
- Number of pieces in assortment/set: 6 PCS
- Tip size: PH00 | PH0 | Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm

52689...	Ident. No.	501 ●

Prod. Gr. 5HG

Slotted and Phillips PH screwdriver set
With rotating cap, quick turn zone and plastic stand

Execution:
- High-alloy, chrome-vanadium/molybdenum steel blade
- Continuously hardened
- Matt chromium-plated
- Wiha-Chromtop® tip

Advantage:
- PicoFinish grip for precise and quick bolting
- Plastic stand to hang up or place in upright position

Tip size		PH00 | PH0 | Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm
52673...	Ident. No.	011 ●

Prod. Gr. 533

VDE PicoFinish electrician’s precision screwdriver set
6 pieces

Execution:
- slim handle shape and rotary cap for sensitive work
- every part individually tested at 10,000 V AC and approved for 1000 V AC

Technical data:
- Tip size: Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm | PH0 | PH00

52675...	Ident. No.	100 ●

Prod. Gr. 533

Hex key or socket set

Rotating cap, quick turn zone and plastic stand

Application:
Ideal for delicate screwing tasks

Execution:
- PicoFinish grip for precise and quick bolting
- Plastic stand to hang up or place in upright position
- **Ident. No. 011:**
  - Hexagon socket at 0.9 mm, from 1.3 mm with hexagon socket ball end
  - Wiha-Chromtop® for accurate work
  - Ball head enables screws to be tightened at angles of up to 25°
- **Ident. No. 021:** External hexagon socket wrench

Width across flats		0.9 mm | 1.3 mm | 1.5 mm | 2 mm | 2.5 mm | 3 mm	2.5 mm | 3 mm | 3.5 mm | 4 mm | 5 mm | 5.5 mm
52675...	Ident. No.	011 ●	021 ●

Prod. Gr. 533

Ident. No. 011

Ident. No. 021

ATORN Lifter for ESD components

Application:
For removing tightly seated components.

Execution:
- Chromium-vanadium steel blade
- Fully hardened
- Matt chrome-plated
- Impact-resistant plastic precision handle

Technical data:
- Fork width (outer): 3.6 mm
- Blade length: 55 mm
- Length: 150 mm

52689...	Ident. No.	300 ●

Prod. Gr. 5HG

ESD slotted screwdriver

Precision handle

Application:
For working on potentially electrostatic components (IEC 61340-5-1).

Execution:
- High-alloy, chrome-vanadium/molybdenum steel blade
- Fully hardened
- Brushed chromium-plated
- Wiha-Chromtop® tip
- Precision handle with impact-resistant plastic rotary cap

Technical data:
- Material of handle: 1-component plastic

Width of cutting edge (mm)		1.5	2.0	2.5	3.0
Thickness of cutting edge (mm)		0.25	0.4	0.4	0.5
Blade length (mm)		40	40	50	50
Length (mm)		120	120	145	145
52691...	Ident. No.	200 ●	210 ●	220 ●	230 ●

Prod. Gr. 533

ESD Phillips screwdriver

Precision handle

Application:
For working on potentially electrostatic components (IEC 61340-5-1).

Execution:
- High-alloy, chrome-vanadium/molybdenum steel blade
- Fully hardened
- Brushed chromium-plated
- Wiha-Chromtop® tip
- Precision handle with impact-resistant plastic rotary cap

Technical data:
- Material of handle: 1-component plastic

Tip size		PH00	PH0	PH1
Blade length (mm)		40	50	60
Length (mm)		120	145	170
52691...	Ident. No.	300 ●	310 ●	320 ●

Prod. Gr. 533

ESD hex key

Precision handle

Application:
For working on potentially electrostatic components (IEC 61340-5-1).

Execution:
- High-alloy, chrome-vanadium/molybdenum steel blade
- Hexagon socket drive
- Matt chrome-plated and continuously hardened
- Wiha-Chromtop® tip
- Precision handle with impact-resistant plastic rotary cap

Technical data:
- Design: Straight
- Surface: Chrome plated

Width across flats		0.7 mm	0.9 mm	1.3 mm	1.5 mm	2 mm	2.5 mm	3 mm
Blade length (mm)		40	40	40	50	50	60	60
Length (mm)		120	120	120	145	145	170	170
52691...	Ident. No.	397 ●	399 ●	413 ●	415 ●	420 ●	430 ●	440 ●

Prod. Gr. 533

Lifter for ESD components

Precision handle

Application:
For removing tightly seated components on PCBs.

Execution:
- High-alloy, chrome-vanadium/molybdenum steel blade
- Fully hardened
- Brushed chromium-plated
- Impact-resistant plastic precision handle

Technical data:
- Fork width (outer): 3.5 mm
- Blade length: 50 mm
- Length: 145 mm

52691...	Ident. No.	800 ●

Prod. Gr. 533

Slotted and cross-head PH screwdriver set ESD

Precision handle

Application:
For working on potentially electrostatic components (IEC 61340-5-1).

Execution:
- High-alloy, chrome-vanadium/molybdenum steel blade
- Fully hardened
- Brushed chromium-plated
- Wiha-Chromtop® tip
- Precision handle with impact-resistant plastic rotary cap
- With plastic stand

Technical data:
- Number of pieces in assortment/set: 6
- Tip size: PH00 | PH0 | Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm

52691...	Ident. No.	900 ●

Prod. Gr. 533

Wera Kraftform electrician's micro screwdriver sets

In rack or fabric bag

Application:
For fine screw fittings in the electronics industry

Execution:
- Rotating cap
- Rotary zone with integrated soft zones
- Black Point tip
- **Ident. No. 005–020:**
  - Ref.: 005 – IPR TX Plus 1 PPR x 40, Microstix m x 40 mm
  - Ref.: 020 – 1 IPR TX x 40 mm, Microstix m x 40 mm, lifters 3.5x50
- **Ident. No. 030:**
  - Ref.: 005 – IPR TX Plus 1 PPR x 40, Microstix m x 40 mm
  - Ref.: 020 – 1 IPR TX x 40 mm, Microstix m x 40 mm, lifters 3.5 x 50
  - Ref.: 030 – 1 IPR TX x 40 mm, Microstix m x 40 mm, lifters 3.5 x 50, TX with hold function

Advantage:
- **Ident. No. 005–020:** Black Point tip for longer service life and enhanced protection against corrosion
- **Ident. No. 030:** Black Point tip for longer service life and enhanced corrosion protection

Delivery:
In a rack or textile bag with riptape fastening

Ident. No. 005

Ident. No. 010

Ident. No. 020

Ident. No. 030

Number of pieces in assortment/set		6	12	10	25
Width across flats		-	1.5 mm | 2 mm	-	-
Tip size		PH000 | PH00 | PH0 | Slot 2.5 mm	PH00 | PH0 | PH1 | TX5 | TX6 | Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm	PH000 | PH00 | PH0 | TX8 | TX10 + P | 2.5 mm | 3 mm | Slot 1.5 mm | Slot 2.5 mm	PH000 | PH00 | PH0 | TX5 | TX6 | TX7 | TX8 | TX10 | 0.9 mm | 1.3 mm | 1.5 mm | 2 mm | 4 mm | 5.5 mm | Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm
52695...	Ident. No.	005 ●	010 ●	020 ●	030 ●

Prod. Gr. 542

ORION® Watchmakers' precision screwdriver with slotted shank

With aluminium handle

Execution:
- Handle made of corrosion-resistant aluminium with high strength
- Rotating hexagon head made of black plastic
- Quick screwing possible thanks to tapered handle shape, central knurling and rotating cap
- Blades made of molybdenum-vanadium steel, hardened and bronzed

Width of cutting edge (mm)		1.0	1.2	1.4	1.5	1.8	2.0	2.3	2.5	3.0	3.5
Length (mm)		80	84	84	84	100	100	100	100	112	112
Shank Ø (mm)		5	5	5	5	6	6	6	6	8	8
52705...	Ident. No.	610 ●	612 ●	614 ●	615 ●	618 ●	620 ●	623 ●	625 ●	630 ●	635 ●

Prod. Gr. 5LA

ORION® Watchmakers' precision screwdriver with cross-head shank

With aluminium handle

Execution:
- Handle made of corrosion-resistant aluminium with high strength
- Rotating hexagon head made of black plastic
- Quick screwing possible thanks to tapered handle shape, central knurling and rotating cap
- Blades made of molybdenum-vanadium steel, hardened and bronzed

Tip size		PH0000	PH000	PH00	PH0	PH1
Length (mm)		84	100	100	112	112
Blade Ø (mm)		1.5	2.0	2.5	3.0	3.5
Shank Ø (mm)		5	6	6	8	8
52707...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 5LA

ORION® Watchmakers' precision screwdriver sets with different equipment

With aluminium handle

Execution:
- Handle made of corrosion-resistant aluminium with high strength
- Rotating hexagon head made of black plastic
- Quick screwing possible thanks to tapered handle shape, central knurling and rotating cap
- Blades made of molybdenum-vanadium steel, hardened and bronzed

Technical data:
- Number of pieces in assortment/set: 6

Tip size	In wooden box 52708... Ident. No.		In PVC case 52708... Ident. No.	
Slot 1 mm | Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm | Slot 3.5 mm	100	●	110	●
PH000 | PH0 | Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm	120	●	-	-
PH000 | PH00 | Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm	130	●	-	-
PH0 | PH1 | Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm	-	-	140	●

Prod. Gr. 5LA

Ident. No. 100, 120

ORION® Watchmakers' magazine screwdriver

4 blades in shaft

Execution:
- Robust plastic body with rotating cap
- Replacement blades in shaft
- Clamping insert with knurled nut made of nickel-plated tool steel
- Blades made of molybdenum-vanadium steel, hardened and bronzed

Technical data:
- Tip size: Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm
- Shank diameter: 10 mm

52710...	Ident. No.	030 ●

Prod. Gr. 5LA

ORION® Watchmakers' precision screwdriver sets cross head

With aluminium handle

Execution:
- Handle made of corrosion-resistant aluminium with high strength
- Rotating hexagon head made of black plastic
- Quick screwing possible thanks to tapered handle shape, central knurling and rotating cap
- Blades made of molybdenum-vanadium steel, hardened and bronzed

Number of pieces in assortment/set	Tip size	In PVC case 52709... Ident. No.		In wooden box 52709... Ident. No.	
3	PH000 | PH00 | PH0	100	●	-	-
4	PH0000 | PH000 | PH00 | PH0	-	-	110	●

Prod. Gr. 5LA

Ident. No. 110

ATORN Slotted screwdrivers with hexagonal shanks (DIN 5264)

Execution:
- Chrome-vanadium/molybdenum steel blade
- Fully hardened
- Matt chrome-plated
- Blackened tip
- Steel blue/black
- **Ident. No. 036–046: Without** hexagonal shoulder for wrenches
- **Ident. No. 056–121: With** hexagonal shoulder for wrenches

Advantage:
- 2-component power grip with large soft area for more comfortable use and effortless work
- More precise fit with longer service life

Technical data:
- Material of handle: 2-component plastic

Width of cutting edge (mm)		3.5	4.5	5.5	6.5	8.0	10.0	12.0
Thickness of cutting edge (mm)		0.6	0.8	1	1.2	1.2	1.6	2
Blade length (mm)		75	90	100	125	150	175	200
Length (mm)		186	197	209	245	269	297	320
52751...	Ident. No.	036 ●	046 ●	056 ●	066 ●	081 ●	101 ●	121 ●

Prod. Gr. 5HG

ATORN Screwdriver with hexagonal shank sets (DIN 5264)

Application:
Ident. No. 381: For tightening and loosening slotted and Phillips-head screws

Execution:
- Chrome-vanadium/molybdenum steel blade
- Matt chrome-plated
- Blackened tip
- Steel blue/black
- With hexagonal shoulder for wrenches (from a blade width of 5.5 mm)
- **Ident. No. 351:** Fully hardened
- **Ident. No. 361–381:** Chrome-plated

Advantage:
- 2-component power grip with large soft area for more comfortable use and effortless work
- More precise fit with longer service life

Ident. No. 351

Ident. No. 361

Ident. No. 381

Number of pieces in assortment/set		6	6	8
Tip size		Slot 3.5 mm | Slot 4.5 mm | Slot 5.5 mm | Slot 6.5 mm | Slot 8 mm | Slot 10 mm	PH1 | PH2 | Slot 4.5 mm | Slot 5.5 mm | Slot 6.5 mm | Slot 8 mm	PH1 | PH2 | PH3 | PZ1 | PZ2 | Slot 5.5 mm | Slot 6.5 mm | Slot 8 mm
52751...	Ident. No.	351 ●	361 ●	381 ●

Prod. Gr. 5HG

ATORN Phillips screwdriver with hexagonal shank (ISO 8764)

With PH and PZ drive

Execution:
- Chrome-vanadium/molybdenum steel blade
- Fully hardened
- Matt chrome-plated
- Blackened tip
- Steel blue/black
- With hexagonal shoulder for wrenches

Advantage:
- 2-component power grip with large soft area for more comfortable use and effortless work
- More precise fit with longer service life

Technical data:
- Material of handle: 2-component plastic

Tip size		PH1	PH2	PH3	PZ1	PZ2	PZ3
Blade length (mm)		80	100	150	80	100	150
Length (mm)		187	219	269	187	219	269
52751...	Ident. No.	501 ●	502 ●	503 ●	601 ●	602 ●	603 ●

Prod. Gr. 5HG

ATORN Phillips screwdriver with hexagonal shank sets (ISO 8764)

Execution:
- Chrome-vanadium/molybdenum steel blade
- Fully hardened
- Matt chrome-plated
- Blackened tip
- Steel blue/black
- With hexagonal shoulder for wrenches

Advantage:
- 2-component power grip with large soft area for more comfortable use and effortless work
- More precise fit with longer service life

Ident. No. 700

Ident. No. 710

Tip size		PH1 | PH2 | PH3	PZ1 | PZ2 | PZ3
52751...	Ident. No.	700 ●	710 ●

Prod. Gr. 5HG

ATORN Slotted screwdriver with striking cap (DIN 5264)

Hexagonal shank

Ident. No. 065

Execution:
- One-piece chrome-vanadium-molybdenum steel blade
- Fully hardened, impact-resistant on the handle side
- Solid striking cap for use as a chisel
- Brushed chromium-plated blade, blackened tip

- **With** hexagonal shoulder for wrenches

Advantage:
- 2-component power grip for more comfortable use and effortless work

Technical data:
- Material of handle: 2-component plastic

Width of cutting edge (mm)		4.5	5.5	7.0	9.0	10.0	12.0
Thickness of cutting edge (mm)		0.8	1.0	1.2	1.2	1.6	2.0
Blade length (mm)		85	95	130	150	175	210
Length (mm)		183	197	232	263	288	323
52753...	Ident. No.	045 ●	055 ●	065 ●	080 ●	100 ●	120 ●

Prod. Gr. 5HG

ATORN Screwdriver set with striking cap (DIN 5264)

Hexagonal shank

Execution:
- One-piece chrome-vanadium-molybdenum steel blade
- Fully hardened, impact-resistant on the handle side
- Solid striking cap
- Brushed chromium-plated blade, blackened tip
- **With** hexagonal shoulder for wrenches

Advantage:
- 2-component power grip for more comfortable use and effortless work

Technical data:
- Tip size: PH1 | PH2 | Slot 4.5 mm | Slot 5.5 mm | Slot 7 mm

52753...	Ident. No.	200 ●

Prod. Gr. 5HG

ATORN Phillips screwdriver with striking cap (ISO 8764)

Hexagonal shank

Ident. No. 020

Execution:
- One-piece chrome-vanadium-molybdenum steel blade
- Fully hardened, impact-resistant on the handle side
- Solid striking cap to loosen seized screws
- Brushed chromium-plated blade, blackened tip
- **With** hexagonal shoulder for wrenches

Advantage:
- 2-component power grip for more comfortable use and effortless work

Technical data:
- Material of handle: 2-component plastic

Tip size		PH1	PH2	PH3
Blade length (mm)		75	105	150
Length (mm)		177	207	263
52753...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 5HG

ATORN Slotted screwdrivers with circular shank (DIN 5264)

Ident. No. 350–365

Execution:
- Blade made of chrome-vanadium steel
- Fully hardened

Advantage:
- 2-component power grip with large soft area for more comfortable use and effortless work

Technical data:
- Material of handle: 2-component plastic

Width of cutting edge (mm)		2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	8.0	10.0
Thickness of cutting edge (mm)		0.4	0.5	0.6	0.8	0.8	0.9	1	1.1	1.2	1.2	1.6
Blade length (mm)		75	80	100	100	100	100	125	150	150	175	200
Length (mm)		161	166	197	207	207	207	232	269	269	294	319
52752...	Ident. No.	325 ●	330 ●	335 ●	340 ●	345 ●	350 ●	355 ●	360 ●	365 ●	380 ●	400 ●

Prod. Gr. 5HG

ATORN Screwdriver with circular shank sets (DIN 5264)

Execution:
- Chrome-vanadium/molybdenum steel blade
- 2-component power grip with large soft area
- **Ident. No. 410:** Fully hardened
- **Ident. No. 411–412:** Chrome-plated

Advantage:
- 2-component power grip with large soft area for more comfortable use and effortless work

Technical data:
- Number of pieces in assortment/set: 6

Ident. No. 410

Ident. No. 411

Ident. No. 412

Tip size		Slot 3 mm | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm | Slot 8 mm | Slot 10 mm	PH1 | PH2 | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm | Slot 8 mm	PZ1 | PZ2 | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm | Slot 8 mm
52752...	Ident. No.	410 ●	411 ●	412 ●

Prod. Gr. 5HG

ATORN Phillips screwdrivers with circular shanks

With PH and PZ drive

Execution:
- Blade made of chrome-vanadium steel
- Fully hardened
- 2-component power grip with large soft area

Advantage:
- 2-component power grip with large soft area for more comfortable use and effortless work

Technical data:
- Material of handle: 2-component plastic

Tip size		PH0	PH1	PH2	PH3	PZ0	PZ1	PZ2	PZ3
Blade length (mm)		60	80	100	150	60	80	100	150
Length (mm)		146	187	219	269	146	187	219	269
52752...	Ident. No.	500 ●	501 ●	502 ●	503 ●	600 ●	601 ●	602 ●	603 ●

Prod. Gr. 5HG

ATORN Phillips screwdrivers with circular shank sets (DIN 5264)

Ident. No. 700

Ident. No. 710

Execution:
- Blade made of chrome-vanadium steel
- Fully hardened

Advantage:
- 2-component power grip with large soft area for more comfortable use and effortless work

Tip size		PH1 | PH2 | PH3	PZ1 | PZ2 | PZ3
52752...	Ident. No.	700 ●	710 ●

Prod. Gr. 5HG

ATORN Slotted screwdriver with short handle

with circular shank

Ident. No. 040, 065

Application:
For screwdriving work in confined spaces

Execution:
- Blade hardened and chrome-plated, black tip
- Ergonomically shaped two-component handle for optimum power transmission
- Suspension hole and roll-away protection integrated in the handle

Technical data:
- Blade length: 25 mm
- Length: 82 mm
- Material of handle: 2-component plastic

Width of cutting edge (mm)		4	5.5	6.5
Thickness of cutting edge (mm)		0.8	1.0	1.2
52755...	Ident. No.	040 ●	055 ●	065 ●

Prod. Gr. 5HG

ATORN Phillips screwdriver with short handle

with circular shank

Ident. No. 002

Application:
For screwdriving work in confined spaces

Execution:
- Blade hardened and chrome-plated, black tip
- Ergonomically shaped two-component handle for optimum power transmission
- Suspension hole and roll-away protection integrated in the handle

Technical data:
- Blade length: 25 mm
- Length: 82 mm
- Material of handle: 2-component plastic

Tip size		PH1	PH2
52755...	Ident. No.	001 ●	002 ●

Prod. Gr. 5HG

Slotted screwdrivers (DIN 5264)

with circular shank

Execution:
- Chrome-vanadium/molybdenum steel blade
- Continuously hardened
- Matt chromium-plated
- Wiha-Chromtop® tip
- SoftFinish® handle with roll-off protection

Advantage:
- Multi-component handle for greater comfort
- Wiha-Chromtop® for accurate working processes

Technical data:
- Material of handle: 2-component plastic

Width of cutting edge (mm)	Thickness of cutting edge (mm)	Blade length (mm)	Length (mm)	52736... Ident. No.	
2	0.4	65	169	100	●
2.5	0.4	75	179	110	●
3	0.5	80	184	115	●
3	0.5	100	204	116	●
3	0.5	150	254	117	●
3	0.5	200	304	118	●
3.5	0.6	100	204	120	●
4	0.8	100	211	130	●
4	0.8	150	261	131	●
4	0.8	200	311	132	●
4	0.8	300	411	133	●
4.5	0.8	125	236	135	●
5.5	1	125	236	140	●

Width of cutting edge (mm)	Thickness of cutting edge (mm)	Blade length (mm)	Length (mm)	52736... Ident. No.	
5.5	1	150	261	141	●
5.5	1	200	311	142	●
5.5	1	300	411	143	●
6.5	1.2	100	218	144	●
6.5	1.2	150	268	150	●
6.5	1.2	200	318	151	●
8	1.2	150	274	155	●
8	1.2	175	299	160	●
8	1.6	175	299	165	●
10	1.6	200	324	170	●
12	2	250	374	180	●
14	2.5	250	374	190	●

Prod. Gr. 533

SoftFinish screwdriver set

with circular shank

Application:
Ident. No. 250: particularly suitable for dry applications

Execution:
- SoftFinish® handle with roll-off protection
- **Ident. No. 210:**
  - Chrome-vanadium/molybdenum steel blade
  - Continuously hardened
  - Matt chromium-plated
- **Ident. No. 250:**
  - chromium-vanadium-molybdenum steel blade
  - fully hardened
  - brushed chromium-plated

Advantage:
- **Ident. No. 210:**
  - Multi-component handle for greater comfort
  - Wiha-Chromtop® for accurate working processes

Ident. No. 210

Number of pieces in assortment/set		6	12
Tip size		PH1 | PH2 | Slot 3.5 mm | Slot 4.5 mm | Slot 5.5 mm | Slot 6.5 mm	PH1 | PH2 | PH3 | PZ1 | PZ2 | TX15 | TX20 | TX25 | TX30 | Slot 3.5 mm | Slot 4 mm | Slot 6.5 mm
52736...	Ident. No.	210 ●	250 ●

Prod. Gr. 533

Slotted screwdrivers with hexagonal shanks (DIN 5264)

Execution:
- Chrome-vanadium/molybdenum steel blade
- Continuously hardened
- Matt chromium-plated
- Wiha-Chromtop® tip
- SoftFinish® handle with roll-off protection
- Hexagonal blade and hexagonal shoulder

Advantage:
- Multi-component handle for greater comfort
- Wiha-Chromtop® for accurate working processes
- Hexagonal shoulder for use with a wrench

Technical data:
- Material of handle: 2-component plastic

Width of cutting edge (mm)		3.5	4.5	5.5	6.5	8	10	12	14
Thickness of cutting edge (mm)		0.6	0.8	1	1.2	1.2	1.6	2	2.5
Blade length (mm)		75	90	100	125	150	175	200	250
Length (mm)		186	201	213	238	268	293	318	368
52737...	Ident. No.	110 ●	120 ●	130 ●	140 ●	150 ●	160 ●	170 ●	180 ●

Prod. Gr. 533

wiha Screwdriver with hexagonal shank set (DIN 5264)

Execution:
- Chrome-vanadium/molybdenum steel blade
- Continuously hardened
- Matt chromium-plated
- Wiha-Chromtop® tip
- SoftFinish® handle with roll-off protection

Advantage:
- Multi-component handle for greater comfort
- Wiha-Chromtop® for accurate working processes
- Hexagonal shoulder for use with a wrench

Number of pieces in assortment/set		6
Tip size		PH1 | PH2 | Slot 3.5 mm | Slot 4.5 mm | Slot 5.5 mm | Slot 7 mm
52737...	Ident. No.	**410** ●

Prod. Gr. 533

wiha Cross-head PH screwdrivers (ISO 8764)

For PHILLIPS-RECESS screws

Application:
Ident. No. 001–003: For screwdriving tasks in tight spaces.

Execution:
- Continuously hardened
- Matt chromium-plated
- SoftFinish® handle with roll-off protection
- **Ident. No. 001–003:** Short round blade and Stubby handle shape
- **Ident. No. 050–100:** Round blade made from chrome-vanadium/molybdenum steel
- **Ident. No. 110–410:** Hexagonal blade with hexagonal shoulder made from chrome-vanadium/molybdenum steel

Advantage:
- Wiha-Chromtop® for accurate working processes

Technical data:
- Material of handle: 2-component plastic

Ident. No. 001–003

Ident. No. 050–100

Ident. No. 110–410

Tip size		PH1	PH2	PH3	PH0	PH1	PH1	PH2	PH2	PH3	PH4	PH1	PH2	PH3	PH4
Blade length (mm)		25	25	25	60	80	200	100	150	150	200	80	100	150	200
Length (mm)		81	81	81	164	191	311	218	268	274	324	186	213	268	318
52792...	Ident. No.	**001** ●	**002** ●	**003** ●	**050** ●	**060** ●	**070** ●	**080** ●	**082** ●	**090** ●	**100** ●	**110** ●	**210** ●	**310** ●	**410** ●

Prod. Gr. 533

Wera Slotted screwdrivers (DIN 5264)

Hexagonal shank and striking cap

Execution:
- end-to-end, tempered hexagon shank
- Hexagonal shoulder from size 3.5 mm
- Multi-component Kraftform handle with roll-away protection for sizes 3.5 mm to 10 mm
- Black Point tip
- Size 12 and 14 mm/ref. no. 070 and 080 with 1-C Weralit handle

Advantage:
- Impact-resistant blade
- Black Point tip for longer service life and enhanced protection against corrosion
- Size 3.5 mm to 14 mm with steel cap for use as a chisel
- Hexagonal shoulder for use with a wrench

Width of cutting edge (mm)		3.5	4.5	5.5	7	9	10	12	14
Thickness of cutting edge (mm)		0.6	0.8	1	1.2	1.6	1.6	2	2.5
Blade length (mm)		80	90	100	125	150	175	200	250
Length (mm)		161	188	205	230	262	287	317	367
Material of handle		2-component plastic	2-component plastic	2-component plastic	2-component plastic	2-component plastic	2-component plastic	1-component plastic	1-component plastic
52765...	Ident. No.	**010** ●	**020** ●	**030** ●	**040** ●	**050** ●	**060** ●	**070** ●	**080** ●

Prod. Gr. 542

Slotted, Phillips and TX screwdriver set (DIN 5264)

Hexagonal shank and striking cap

Execution:
- Continuous, tempered and impact-resistant hexagon blade
- Black Point tip for longer service life and enhanced corrosion protection
- Kraftform multi-component handle for optimum force transmission
- Steel cap for use as a chisel
- Hexagonal shoulder for use with a wrench

Delivery:
In plastic rack to hang up

Number of pieces in assortment/set		6	13
Tip size		PH1 | PH2 | Slot 3.5 mm | Slot 4.5 mm | Slot 5.5 mm | Slot 7 mm	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX20 | TX25 | Slot 3.5 mm | Slot 4.5 mm | Slot 5.5 mm | Slot 7 mm | Slot 9 mm
52765...	Ident. No.	800 ●	810 ●

Prod. Gr. 542

Ident. No. 800

Ident. No. 810

Cross-head screwdrivers

PH and PZ output

Execution:
- End-to-end tempered hexagonal blade
- Multi-component Kraftform handle with roll-away protection for sizes PH/PZ 1 to 3
- Size PH 4 and PZ 4/ident. no. 040 and 140 with 1-C Weralit handle
- Black Point tip

Advantage:
- Impact-resistant blade
- Black Point tip for longer service life and enhanced protection against corrosion
- Steel cap for use as a chisel
- Hexagonal shoulder for use with a wrench

Tip size		PH1	PH2	PH3	PH4
Blade length (mm)		80	100	150	200
Length (mm)		178	205	262	317
Material of handle		2-component plastic	2-component plastic	2-component plastic	1-component plastic
52767...	Ident. No.	010 ●	020 ●	030 ●	040 ●

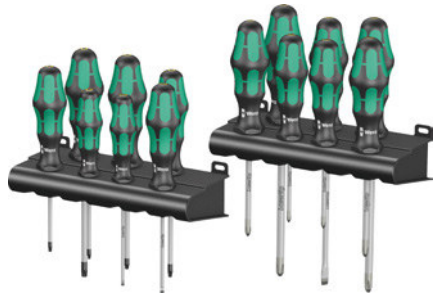
Prod. Gr. 542

Wera XXL screwdriver sets
with circular shank

Execution:
- Screwdriver with power grip
- **Ident. No. 010:**
  - Lasertip tip
  - round blades, slotted, cross-head and TX
- **Ident. No. 020:**
  - Workshop, VDE, screw chisel screwdrivers
  - round and hexagon blades, slotted, cross-head and TX
  - Voltage tester screwdriver

Advantage:
- Multi-component handle for greater comfort
- **Ident. No. 010:**
  - Micro-roughened, sharp-edged surface texture created by laser tip securely holds the screwdriver in the screw head
  - Cam-Out effect is reduced
  - Lower contact force required

Delivery:
In plastic rack to hang up



Ident. No. 010

Ident. No. 020

Number of pieces in assortment/set		14	12
Tip size		PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX10 | TX15 | TX20 | TX25 | TX30 | Slot 3.5 mm | Slot 4 mm | Slot 6.5 mm	PH1 | PH2 | PZ1 | PZ2 | TX15 | TX20 | TX25 | Slot 2.5 mm | Slot 3.5 mm | Slot 5.5 mm | Slot 7 mm
52768...	Ident. No.	010 ●	020 ●

Prod. Gr. 542

ATORN slotted screwdriver with wooden handle

Execution:
- Blade made of chrome-vanadium steel
- Chrome-plated
- Wooden handle with leather cap
- Continuous blade with hexagonal shoulder
- Blackened tip

Technical data:
- Material of handle: Wood

Width of cutting edge (mm)		3.5	4.5	5.5	7	9	10	12	14
Thickness of cutting edge (mm)		0.6	0.8	1.0	1.2	1.4	1.6	2.0	2.5
Blade length (mm)		75	90	100	125	150	175	200	250
Length (mm)		175	190	205	230	270	295	325	380
52730...	Ident. No.	510 ●	520 ●	530 ●	540 ●	550 ●	560 ●	570 ●	580 ●

Prod. Gr. 5HG

ATORN Phillips screwdriver with wooden handle (ISO 8764)
With PH drive

Execution:
- Blade made of chrome-vanadium steel
- Chrome-plated
- Wooden handle with leather cap
- Continuous blade with hexagonal shoulder
- Blackened tip

Technical data:
- Material of handle: Wood

Tip size		PH1	PH2	PH3	PH4
Blade length (mm)		80	100	150	200
Length (mm)		180	205	270	330
52782...	Ident. No.	540 ●	550 ●	560 ●	570 ●

Prod. Gr. 5HG

ATORN Slotted and Phillips screwdriver sets
with wooden handle

Execution:
- Blade made of chrome-vanadium steel
- Chrome-plated
- Wooden handle with leather cap
- Continuous blade with hexagonal shoulder
- Blackened tip

Number of pieces in assortment/set		6	7
Tip size		PH1 | PH2 | Slot 4.5 mm | Slot 5.5 mm | Slot 7 mm | Slot 9 mm	Slot 3.5 mm | Slot 4.5 mm | Slot 5.5 mm | Slot 7 mm | Slot 9 mm | Slot 12 mm
52730...	Ident. No.	800 ●	810 ●

Prod. Gr. 5HG

Ident. No. 800

Ident. No. 810

ORION Slotted screwdrivers
with circular shank

Execution:
- Two-component grip with large soft area
- Cross hole

Advantage:
- Ergonomic, effortless work
- High degree of torque transmission
- Cross hole for hanging up or inserting a lever

Technical data:
- Material of handle: 2-component plastic

Width of cutting edge (mm)		2.5	3	3.5	4	5.5	6.5	8	10	12
Thickness of cutting edge (mm)		0.4	0.5	0.6	0.8	1.0	1.2	1.2	1.6	2.0
Blade length (mm)		75	75	100	100	125	150	175	200	250
Length (mm)		135	155	175	185	220	255	290	315	355
52752...	Ident. No.	025 ●	030 ●	035 ●	040 ●	055 ●	065 ●	080 ●	100 ●	120 ●

Prod. Gr. 5LA

ORION Slotted and Phillips screwdriver sets
with circular shank

Execution:
- Two-component grip with large soft area
- Cross hole

Advantage:
- Ergonomic, effortless work
- High degree of torque transmission
- Cross hole for hanging up or inserting a lever

Number of pieces in assortment/set		5	5	8
Tip size		PH1 | PH2 | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm	Slot 3.5 mm | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm | Slot 8 mm	Slot 2.5 mm | Slot 3 mm | Slot 3.5 mm | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm | Slot 8 mm | Slot 10 mm
52752...	Ident. No.	200 ●	230 ●	250 ●

Prod. Gr. 5LA

Ident. No. 200

ORION® Cross-head screwdriver (ISO 8764)

With PH and PZ drive

Execution:
- Two-component grip with large soft area
- Cross hole

Advantage:
- Ergonomic, effortless work
- High degree of torque transmission
- Cross hole for hanging up or inserting a lever

Technical data:
- Material of handle: 2-component plastic

Ident. No. 005–030

Ident. No. 105–130

Tip size		PH0	PH1	PH2	PH3	PZ0	PZ1	PZ2	PZ3
Blade length (mm)		60	80	100	150	60	80	100	150
Length (mm)		135	175	205	265	135	175	205	265
52788...	Ident. No.	005 ●	010 ●	020 ●	030 ●	105 ●	110 ●	120 ●	130 ●

Prod. Gr. 5LA

ATORN ORION® Voltage tester screwdriver

for 150-250 V

Application:
Ident. No. 100: Testing equipment for determining alternating voltages according to VDE 0680
Ident. No. 200: Test equipment for determining alternating voltages according to DIN VDE 0680-6

Execution:
- **Ident. No. 100:**
  - Plastic-coated blade made from chrome-vanadium steel
  - Ergonomic transparent handle with light tubes
- **Ident. No. 200:**
  - Insulated blade made from vanadium special steel
  - Handle made from transparent plastic
  - Light tubes (cannot be replaced)
  - Clip

Advantage:
- **Ident. No. 100:**
  - Ergonomic handle for comfortable handling
  - With practical clip

Ident. No. 100

Ident. No. 200

Width of cutting edge (mm)		3	3
Thickness of cutting edge (mm)		0.8	0.8
Blade length (mm)		61	70
Length (mm)		145	143
Material of handle		1-component plastic	1-component plastic
52721...	Ident. No.	200 ●	100 ●

ATORN® = Prod. Gr. 5HG
ORION = Prod. Gr. 5LA

wiha Voltage tester screwdriver

for 150-250 V

Application:
Testing equipment for determining alternating voltages according to DIN VDE 0680-6

Execution:
- Vanadium special steel blade
- Cellulose acetate handle
- Light tubes (cannot be replaced)
- Clip
- **Ident. No. 020:** Transparent handle
- **Ident. No. 100:** Black handle

Advantage:
- Instantly to hand thanks to the clip

Ident. No. 020

Ident. No. 100

Width of cutting edge (mm)		3	3
Thickness of cutting edge (mm)		0.8	0.8
Blade length (mm)		60	70
Length (mm)		143	165
Material of handle		1-component plastic	1-component plastic
52722...	Ident. No.	020 ●	100 ●

Prod. Gr. 533

ORION® PLUS multi-stripper

Execution:
- Screwdriver with two reversible bits
- Phase and voltage tester (110-250 V)
- Cable stripper for 8-13 mm circular cables and coax cables
- Cable cutters up to 9 mm
- Two-component handle

Advantage:
- Flexible applications in a single tool
- Ergonomic handle for comfortable handling

Length (mm)		199
52724...	Ident. No.	010 ●

Prod. Gr. 5LA

ATORN VDE slotted screwdriver (DIN 7437)

With slim shank

Ident. No. 355

Application:
For working on live components

Execution:
- Protective insulation (to DIN EN 60900) sprayed directly onto the blade
- Slim design: Insulating layer in the front part flush with the output
- multi-component handle provides optimum power transmission
- Screw symbols on the handle cap
- Roll-off protection integrated in the handle

Technical data:
- Material of handle: 2-component plastic

Width of cutting edge (mm)		3.5	4.0	5.5	6.5
Thickness of cutting edge (mm)		0.6	0.8	1.0	1.2
Blade length (mm)		100	100	125	125
Length (mm)		197	207	244	269
52725...	Ident. No.	335 ●	340 ●	355 ●	365 ●

Prod. Gr. 5HG

ATORN VDE Phillips screwdrivers (DIN 7438)

With slim shank/PH, PZ and PZS

Ident. No. 401

Ident. No. 411

Ident. No. 421

Application:
For working on live components

Execution:
- Protective insulation (to DIN EN 60900) sprayed directly onto the blade
- Slim design: Insulating layer in the front part flush with the output
- multi-component handle provides optimum power transmission
- Screw symbols on the handle cap
- Roll-off protection integrated in the handle

Technical data:
- Material of handle: 2-component plastic

Tip size		PH1	PH2	PZ1	PZ2	PZ1 + slot	PZ2 + slot
Blade length (mm)		80	100	80	100	80	100
Length (mm)		187	219	187	219	187	219
52725...	Ident. No.	401 ●	402 ●	411 ●	412 ●	421 ●	422 ●

Prod. Gr. 5HG

ATORN VDE screwdriver, TX

With slim shank

Ident. No. 520

Application:
for working on live components

Execution:
- protective insulation as per DIN EN 60900 sprayed directly onto the blade
- slim design: insulating layer in the front part is flush with the output
- multi-component handle provides optimum power transmission
- screw symbols on the grip cap
- roll-away protection integrated in the handle

Technical data:
- Material of handle: 2-component plastic
- Tip type: TX

Tip size		TX15	TX20	TX25
Blade length (mm)		100	125	125
Length (mm)		207	244	244
52725...	Ident. No.	515 ●	520 ●	525 ●

Prod. Gr. 5HG

ATORN VDE screwdriver set (DIN 7437)

With slim shank

Execution:
- 2-component Power Grip handle - for optimum power transmission
- soft quick-turning zone with hard power point
- completely hardened and tempered blade with optimum elasticity and wear resistance
- VDE insulated to 1000 V in line with EN 60900 (fully insulated blade)

Advantage:
- equally suited to small and large hands, right and left handers.

Number of pieces in assortment/set		6	6
Tip size		PH1 | PH2 | Slot 3.5 mm | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm	PZ1 | PZ2 | Slot 3.5 mm | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm
52725...	Ident. No.	600 ●	610 ●

Prod. Gr. 5HG

Ident. No. 600

ATORN VDE slotted screwdriver (DIN 7437)

Ident. No. 066

Application:
For working on live components.

Execution:
- Protective insulation according to DIN EN 60900
- Chrome-vanadium/molybdenum steel blade
- Hardened and black oxide finish
- Blade insulation sprayed directly onto the blade
- 2-component power grip, red/yellow
- Individually tested

Advantage:
- Ergonomic handle for comfortable handling
- High torque transfer

Technical data:
- Material of handle: 2-component plastic

Width of cutting edge (mm)		2.5	3	3.5	4	5.5	6.5	8	10
Thickness of cutting edge (mm)		0.4	0.5	0.6	0.8	1	1.2	1.2	1.6
Blade length (mm)		75	100	100	100	125	150	175	200
Length (mm)		161	186	197	207	244	269	294	319
52726...	Ident. No.	026 ●	031 ●	036 ●	041 ●	056 ●	066 ●	081 ●	101 ●

Prod. Gr. 5HG

ATORN VDE slotted and Phillips screwdriver sets (DIN 7437)

Ident. No. 203

Application:
For working on live components.

Execution:
- Protective insulation according to DIN EN 60900
- Chrome-vanadium/molybdenum steel blade
- Hardened and black oxide finish
- Blade insulation sprayed directly onto the blade
- 2-component power grip, red/yellow
- Individually tested
- **Ident. No. 201–202:** Ref. no. 202 - with voltage tester screwdriver, slotted 3 mm

Advantage:
- Ergonomic handle for comfortable handling
- High torque transfer

Number of pieces in assortment/set		6	7	5
Tip size		PH1 | PH2 | Slot 2.5 mm | Slot 3.5 mm | Slot 4 mm | Slot 5.5 mm	PH1 | PH2 | Slot 2.5 mm | Slot 3 mm | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm	Slot 2.5 mm | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm | Slot 8 mm
52726...	Ident. No.	201 ●	202 ●	203 ●

Prod. Gr. 5HG

Ident. No. 201

ATORN VDE Phillips screwdrivers (DIN 7438)

For PH and PZ

Ident. No. 402

Ident. No. 302

Application:
For working on live components.

Execution:
- Protective insulation according to DIN EN 60900
- Chrome-vanadium/molybdenum steel blade
- Hardened and black oxide finish
- Blade insulation sprayed directly onto the blade
- 2-component power grip, red/yellow

- Individually tested

Advantage:
- Ergonomic handle for comfortable handling
- High torque transfer

Technical data:
- Material of handle: 2-component plastic

Tip size		PH0	PH1	PH2	PH3	PZ0	PZ1	PZ2	PZ3
Blade length (mm)		60	80	100	150	60	80	100	150
Length (mm)		146	187	219	269	146	187	219	269
52786...	Ident. No.	300 ●	301 ●	302 ●	303 ●	400 ●	401 ●	402 ●	403 ●

Prod. Gr. 5HG

ATORN VDE Phillips screwdriver set (DIN 7438)

Ident. No. 310

Ident. No. 410

Application:
For working on live components.

Execution:
- Protective insulation according to DIN EN 60900
- Chrome-vanadium/molybdenum steel blade
- Hardened and black oxide finish
- Blade insulation sprayed directly onto the blade
- 2-component power grip, red/yellow

- Individually tested

Advantage:
- Ergonomic handle for comfortable handling
- High torque transfer

Technical data:
- Number of pieces in assortment/set: 3 PCS

Tip size		PH1 | PH2 | PH3	PZ1 | PZ2 | PZ3
52786...	Ident. No.	310 ●	410 ●

Prod. Gr. 5HG

wiha VDE slotted screwdriver

Application:
For working on live components.

Execution:
- Protective insulation according to DIN EN 60900
- Chrome-vanadium/molybdenum steel blade
- Hardened and burnished
- Polyamide blade insulation sprayed directly onto the blade

- SoftFinish® handle with roll-off protection

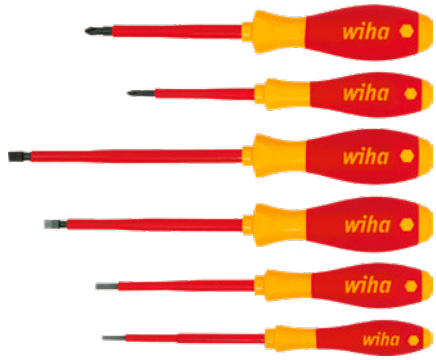
Advantage:
- Multi-component handle for greater comfort
- High degree of torque transmission

Technical data:
- Material of handle: 2-component plastic

Width of cutting edge (mm)		2	2.5	3	3.5	4	4.5	4.5	5.5	5.5	6	6.5	8	8	10
Thickness of cutting edge (mm)		0.4	0.4	0.5	0.6	0.8	1	1	1	1	1.2	1.2	1.2	1.6	1.6
Blade length (mm)		60	75	100	100	100	125	175	125	175	150	150	175	175	200
Length (mm)		164	179	204	204	211	236	286	243	293	268	268	299	299	321
52728...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●	060 ●	070 ●	080 ●	090 ●	100 ●	110 ●	120 ●	130 ●	140 ●

Prod. Gr. 533

VDE screwdriver set (DIN 7437)



Application:
For working on live components.

Execution:
- Protective insulation according to DIN EN 60900
- Chrome-vanadium/molybdenum steel blade
- Hardened and burnished
- Polyamide blade insulation sprayed directly onto the blade
- SoftFinish® handle with roll-off protection

Advantage:
- Multi-component handle for greater comfort
- High degree of torque transmission

Number of pieces in assortment/set		6
Tip size		PH1 | PH2 | Slot 3 mm | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm
52728...	Ident. No.	**210** ●

Prod. Gr. 533

slimFix VDE slotted screwdrivers (ISO 8764)

For slotted screws

Ident. No. 055

Application:
For working on live components.

Execution:
- Insulation (to DIN EN 60900) sprayed directly onto the blade
- Slim version: Insulation integrated in the bit in the front section
- Chrome-vanadium/molybdenum steel blade
- Hardened and burnished
- Individually tested
- SoftFinish® handle with roll-off protection

Advantage:
- Slim version for deep-set screws
- Multi-component handle for greater comfort

Technical data:
- Material of handle: 2-component plastic

Width of cutting edge (mm)		3.5	4	5.5	6.5
Thickness of cutting edge (mm)		0.6	0.8	1	1.2
Blade length (mm)		100	100	125	125
Length (mm)		204	211	243	268
52792...	Ident. No.	**035** ●	**040** ●	**055** ●	**065** ●

Prod. Gr. 533

slimFix VDE Phillips screwdrivers

PH and PZ output

Ident. No. 102

Application:
For working on live components.

Execution:
- Insulation (to DIN EN 60900) sprayed directly onto the blade
- Slim version: Insulation integrated in the bit in the front section
- Chrome-vanadium/molybdenum steel blade
- Hardened and burnished
- Individually tested
- SoftFinish® handle with roll-off protection

Advantage:
- Slim version for deep-set screws
- Multi-component handle for greater comfort

Technical data:
- Material of handle: 2-component plastic

Tip size		PH1	PH2	PZ1	PZ2
Blade length (mm)		80	100	80	100
Length (mm)		191	218	219	218
52792...	Ident. No.	**101** ●	**102** ●	**201** ●	**202** ●

Prod. Gr. 533

wiha slimFix VDE screwdriver sets

Application:
For working on live components.

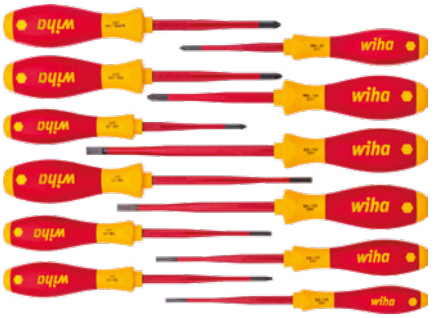
Execution:
- Insulation (to DIN EN 60900) sprayed directly onto the blade
- SoftFinish® handle with roll-off protection
- **Ident. No. 300:**
  - Slim version: Insulation integrated in the bit in the front section
  - Individually tested
- **Ident. No. 350:**
  - slim version: insulation integrated in the bit in the front section
  - individually tested

Advantage:
- **Ident. No. 300:** Slim version for deep-set screws
- **Ident. No. 350:** slim version for deep-set screws

Number of pieces in assortment/set		6	12
Tip size		PH1 | PH2 | Slot 3.5 mm | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm	PH1 | PH2 | Slot 3.5 mm | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm | PZ1 | PZ2 | PZ2 + slot | TX15 | TX20 | TX25
52792...	Ident. No.	300 ●	350 ●

Prod. Gr. 533

Ident. No. 300



Ident. No. 350

Wera VDE Lasertip® slotted screwdrivers

Slotted

Application:
For working on live components.

Execution:
- Protective insulation according to DIN EN 60900
- Ergonomic power grip
- Lasertip blade
- Individually tested

Advantage:
- Multi-component handle for optimum handling
- High degree of torque transmission

Technical data:
- Material of handle: 2-component plastic

Width of cutting edge (mm)		2.5	3	3.5	4	5.5	6.5	8	10
Thickness of cutting edge (mm)		0.5	0.5	0.6	0.8	1	1.2	1.6	1.6
Blade length (mm)		80	100	100	100	125	150	200	200
Length (mm)		156	181	181	198	223	255	312	312
52727...	Ident. No.	004 ●	005 ●	006 ●	008 ●	010 ●	012 ●	016 ●	017 ●

Prod. Gr. 542

Wera VDE Lasertip® Phillips screwdriver

Ident. No. 100–103

Application:
For working on live components.

Execution:
- Protective insulation according to DIN EN 60900
- Ergonomic power grip
- Lasertip blade
- Individually tested

Advantage:
- Multi-component handle for optimum handling
- High degree of torque transmission

Technical data:
- Material of handle: 2-component plastic

Tip size		PH0	PH1	PH2	PH3	PZ0	PZ1	PZ2	PZ3
Blade length (mm)		80	80	100	150	80	80	100	150
Length (mm)		161	178	205	262	161	178	205	262
52727...	Ident. No.	100 ●	101 ●	102 ●	103 ●	200 ●	201 ●	202 ●	203 ●

Prod. Gr. 542

Wera VDE Lasertip® screwdriver set

Application:
For working on live components.

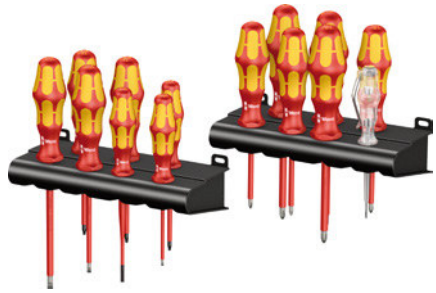
Execution:
- Protective insulation according to DIN EN 60900
- Ergonomic power grip
- Lasertip blade from a blade width of 3.5 mm
- Individually tested

Advantage:
- Multi-component handle for greater comfort
- High degree of torque transmission
- Micro-roughened, sharp-edged surface texture created by laser tip securely holds the screwdriver in the screw head
- Cam-Out effect is reduced
- Lower contact force required

Number of pieces in assortment/set		7	7	14
Tip size		PH1 | PH2 | Slot 2.5 mm | Slot 3 mm | Slot 3.5 mm | Slot 4 mm | Slot 5.5 mm	PZ1 | PZ2 | Slot 2.5 mm | Slot 3 mm | Slot 3.5 mm | Slot 4 mm | Slot 5.5 mm	PH1 | PH2 | PZ1 | PZ2 | PZ1 + slot | PZ2 + slot | TX10 | TX15 | TX20 | Slot 2.5 mm | Slot 3 mm | Slot 3.5 mm | Slot 4 mm | Slot 5.5 mm
52727...	Ident. No.	410 ●	420 ●	430 ●

Prod. Gr. 542

Ident. No. 420



Ident. No. 430

felo Esmart VDE screwdriver

Application:
For working on live components.

Execution:
- Protective insulation according to DIN EN 60900
- Safe up to 1000-V alternating voltage
- Two-component handle
- Clip-on rotary cap
- Soft shell area
- Certified 'GS' safety
- Individually tested

Advantage:
- Blades held securely in grip thanks to automatic lock in the handle
- Rotary cap and soft shell for use as precision tool

Delivery:
In plastic case

Tip size		PH1 | PH2 | TX10 | TX15 | TX20 | Slot 2.5 mm | Slot 3 mm | Slot 3.5 mm | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm
Number of pieces in assortment/set		14
52724...	Ident. No.	300 ●

Prod. Gr. 5JF

ORION VDE slotted screwdriver

Application:
For working on live components.

Execution:
- Protective insulation according to DIN EN 60900
- High-alloy special steel blade
- Hardened and burnished
- Individually tested

Advantage:
- Ergonomic handle for comfortable handling
- Better resistance to corrosion
- Handle and insulation in impact-resistant plastic

Technical data:
- Material of handle: 1-component plastic

Width of cutting edge (mm)		2.5	3	3.5	4	5.5	6.5	8	10
Thickness of cutting edge (mm)		0.4	0.5	0.6	0.8	1	1.2	1.2	1.6
Blade length (mm)		75	100	100	100	125	150	175	200
Length (mm)		155	180	180	190	225	250	285	310
52728...	Ident. No.	530 ●	540 ●	550 ●	560 ●	580 ●	590 ●	600 ●	610 ●

Prod. Gr. 5LA

ORION® VDE slotted screwdriver set (DIN 7437)

Application:
For working on live components.

Execution:
- Protective insulation according to DIN EN 60900
- High-alloy special steel blade
- Hardened and burnished
- Certified 'GS' safety
- Individually tested

Advantage:
- Ergonomic handle for comfortable handling
- Handle and insulation in impact-resistant plastic

Delivery:
In cardboard packaging

Number of pieces in assortment/set		7
Tip size		PH1 | PH2 | Slot 2.5 mm | Slot 3 mm | Slot 4 mm | Slot 5.5 mm | Slot 6.5 mm
52728...	Ident. No.	800 ●

Prod. Gr. 5LA

ORION® VDE Phillips PH screwdriver (DIN 7438)

Application:
For working on live components.

Execution:
- Protective insulation according to DIN EN 60900
- High-alloy special steel blade
- Hardened and burnished
- Individually tested

Advantage:
- Ergonomic handle for comfortable handling
- Handle and insulation in impact-resistant plastic

Technical data:
- Material of handle: 1-component plastic

Tip size		PH0	PH1	PH2	PH3
Blade length (mm)		60	80	100	150
Length (mm)		140	170	200	260
52784...	Ident. No.	530 ●	540 ●	550 ●	560 ●

Prod. Gr. 5LA

ORION® Watchmaker's screwdriver sets

Execution:
- Blades made from chrome-vanadium steel
- Metal handles with rotary cap
- Chrome-plated
- **Ident. No. 020:** With external and internal hexagons with a width of 1.5-5 mm

Delivery:
In plastic box

Number of pieces in assortment/set		6	16
Tip size		PH0 | PH1 | Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm	PH00 | PH0 | PH1 | PZ1 | Slot 1 mm | Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm | Slot 3.5 mm
52704...	Ident. No.	010 ●	020 ●

Prod. Gr. 5LA

Ident. No. 010

Ident. No. 020

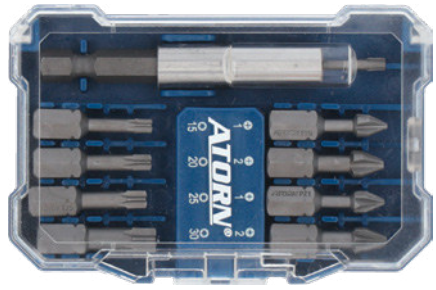
ATORN Bit assortment in box, 10 pcs

Execution:
- Equipped with 9 bits C 6.3, 1/4”, 25 mm in length
- Magnetic holder with 1/4” magnetic mount and precise concentricity
- **Ident. No. 500–520:** High-quality wear-resistant bits with precise manufacturing dimensions
- **Ident. No. 530:**
  - High-quality bits with torsion zone for cushioning of load peaks
  - Torsion zone avoids bit breakage on tough screw fittings

Delivery:
In plastic box

Technical data:
- Blade length: 25 mm
- Drive: 1/4 inch

Ident. No. 500



Ident. No. 530

Tip size			PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | Slot 4.5 mm | Slot 5.5 mm | Slot 6.5 mm	TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX40	PH1 | PH2 | PZ1 | PZ2 | TX10 | TX15 | TX20 | TX25 | TX30
52987...	Slotted, PH, PZ equipment	Ident. No.	500 ●	-	-
52987...	TX equipment	Ident. No.	-	510 ●	-
52987...	PH, PZ, TX equipment	Ident. No.	-	-	520 ●
52987...	Torsion bits	Ident. No.	-	-	530 ●

Prod. Gr. 5HE

ATORN Bit assortment in box, 31 pcs

Execution:
- Equipped with 30 bits C 6.3, 1/4”, 25 mm in length
- Magnetic holder with 1/4” magnetic mount and precise concentricity
- High-quality wear-resistant bits with precise manufacturing dimensions
- ABS/polycarbonate bit box is rugged and impact-resistant
- **Ident. No. 600:** All-round set, slotted/cross recess/TX/hexagon socket
- **Ident. No. 610:**
  - TORSION set
  - High-quality bits with torsion zone
  - Torsion zone avoids bit breakage on hard joints
- **Ident. No. 620:** Sorted TX set (the most common sizes are included several times)
- **Ident. No. 630:** All-round set, cross recess/TX/TX with hole,

Delivery:
In plastic box

Technical data:
- Blade length: 25 mm
- Drive: 1/4 inch

Ident. No. 600

Ident. No. 610

Ident. No. 620

Ident. No. 630

Tip size			PH1 | PH2 | PZ1 | PZ2 | TX10 | TX15 | TX20 | TX25 | TX30 | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | Slot 4.5 mm | Slot 5.5 mm | Slot 6.5 mm	TX10 | TX15 | TX20 | TX25 | TX30 | TX40	TX10 | TX15 | TX20 | TX25 | TX30 | TX40 | PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX10 + P | TX15 + P | TX20 + P | TX25 + P | TX30 + P | TX40 + P
52987...	Set ALLROUND	Ident. No.	600 ●	-	-
52987...	TORSION set	Ident. No.	610 ●	-	-
52987...	Set TX	Ident. No.	-	620 ●	-
52987...	Set TX/TX-P/PH/PZ	Ident. No.	-	-	630 ●

Prod. Gr. 5HE

ATORN Bit assortment in box 61 pcs or 32 pcs with bit handle

Application:
Ident. No. 700: For mechanical screwing of slotted, Phillips-head, TX, TX-IP and hexagon-socket screws

Execution:
- Magnetic holder with 1/4" magnetic mount and precise concentricity
- High-quality wear-resistant bits with precise manufacturing dimensions
- ABS/polycarbonate bit box is rugged and impact-resistant
- **Ident. No. 700:**
  - Equipped with 60 bits C 6.3, 1/4", 25 mm in length
  - All-round set, slotted/cross recess/hexagon socket/TX/TX with hole,
- **Ident. No. 710:**
  - Equipped with 30 bits C 6.3, 1/4", 25 mm in length
  - All-round set, slotted/cross recess/hexagon socket/TX and screwdriver handle

Delivery:
In plastic box

Technical data:
- Blade length: 25 mm
- Drive: 1/4 inch

Ident. No. 700

Ident. No. 710

Number of pieces in assortment/set (PCS)		-	32
Tip size		TX10 | TX15 | TX20 | TX25 | TX30 | TX40 | PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX10 + P | TX15 + P | TX20 + P | TX25 + P | TX30 + P | TX40 + P | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | Slot 4.5 mm | Slot 5.5 mm | Slot 6.5 mm	TX10 | TX15 | TX20 | TX25 | TX30 | TX40 | PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | 3 mm | 4 mm | 5 mm | 6 mm | Slot 4.5 mm | Slot 5.5 mm | Slot 6.5 mm
Composition of set		-	1 bit each TX10 | TX15 | TX40 2 bits each TX20 | TX25 | TX30 2 bits each PH1 | PH3 | PZ1 | PZ3 3 bits each PH1 | PZ1 1 hexagon bit each 3 mm | 4 mm | 5 mm | 6 mm 1 slotted bit each 4.5 mm | 5.5 mm | 6.5 mm 1 holder 1 handle
52987...	Ident. No.	**700**	**710**
		●	●

Prod. Gr. 5HE

ATORN Hex bit socket set 6 pcs and connector set 3 pcs

Application:
Ident. No. 900: For socket wrench inserts 1/4", 3/8". 1/2

Execution:
- **Ident. No. 800:**
  - With direct drive E 6.3, 1/4" and magnet mount
  - High-strength hardened inserts for machine operation
  - Magnet securely holds screw or nut
  - Set of 6 including the most common widths.
- **Ident. No. 900:**
  - Hex drive E 6.3, 1/4", square output
  - With ball lock (spring-loaded ball on a square)

Delivery:
In plastic box

Technical data:
- Blade length: 50 mm

Ident. No. 800

Ident. No. 900

Number of pieces in assortment/set (PCS)		-	3
Tip size		7 mm | 8 mm | 3/8 inch | 10 mm | 12 mm | 13 mm	1/4 inch | 3/8 inch | 1/2 inch
Composition of set		-	1 adapter 1/4 inch, 1 adapter 3/8 inch, 1 adapter 1/2 inch
Drive		E 6.3 (1/4 inch)	1/4 inch
52987...	Ident. No.	**800**	**900**
		●	●

Prod. Gr. 5HE

ATORN Slotted bit 1/4” drive

Execution:
- 1/4 inch hexagon drive, shape C 6.3 in accordance with DIN 3126/ISO 1173
- Chromium-vanadium steel
- Fully hardened

Technical data:
- Blade length: 25 mm
- Surface: Uncoated
- Drive: C 6.3 (1/4 inch)

Width of cutting edge (mm)		4.5	5.5	5.5	6.5	8.0
Thickness of cutting edge (mm)		0.6	0.8	1.0	1.2	1.6
52983...	Ident. No.	100 ●	110 ●	120 ●	130 ●	140 ●

Prod. Gr. 5HE

ATORN Slotted bit 1/4” drive

Execution:
- 1/4 inch hexagon drive, **shape E** 6.3 in accordance with DIN 3126/ISO 1173
- Chromium-vanadium steel
- Fully hardened

Advantage:
- Deep-set screws are easier to reach

Technical data:
- Blade length: 70 mm
- Surface: Uncoated
- Drive: E 6.3 (1/4 inch)

Width of cutting edge (mm)		3.0	3.5	4.0	5.5	6.5
Thickness of cutting edge (mm)		0.5	0.6	0.8	1.0	1.2
52984...	Ident. No.	400 ●	410 ●	420 ●	430 ●	440 ●

Prod. Gr. 5HE

ATORN TORSION - cross recess Phillips head (PH) and Pozidriv (PZ) bits
Drive 1/4”

Ident. No. 001–003

Ident. No. 011–013

Application:
For particularly tough conditions – torsion zone absorbs load peaks

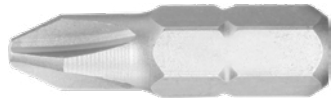
Execution:
- 1/4 inch hexagon drive, shape C 6.3 in accordance with DIN 3126/ISO 1173
- Chromium-vanadium steel
- Fully hardened
- Tough material properties
- Torsion zone prevents the bit from tearing off
- Cushions load peaks

Technical data:
- Blade length: 25 mm
- Surface: Uncoated
- Drive: C 6.3 (1/4 inch)

Tip size		PH1	PH2	PH3	PZ1	PZ2	PZ3
52983...	Ident. No.	001 ●	002 ●	003 ●	011 ●	012 ●	013 ●

Prod. Gr. 5HE

ATORN Cross recess Phillips head (PH) and Pozidriv (PZ) bits, 1/4” drive
Length 25 and 50 mm



No. 52983 200–52983 203

No. 52984 001–52984 003

No. 52983 300–52983 303

No. 52984 011–52984 013

Execution:
- Chromium-vanadium steel
- Fully hardened
- **No. 52983:** 1/4 inch hexagon drive, shape C 6.3 in accordance with DIN 3126/ISO 1173
- **No. 52984:** 1/4 inch hexagon drive, shape E 6.3 in accordance with DIN 3126/ISO 1173

Technical data:
- Surface: Uncoated

Tip size	Blade length (mm)	Drive	52983... Ident. No.		52984... Ident. No.	
PH0	25	C 6.3 (1/4 inch)	200	●	-	-
PH1	25	C 6.3 (1/4 inch)	201	●	-	-
PH2	25	C 6.3 (1/4 inch)	202	●	-	-
PH3	25	C 6.3 (1/4 inch)	203	●	-	-
PZ0	25	C 6.3 (1/4 inch)	300	●	-	-
PZ1	25	C 6.3 (1/4 inch)	301	●	-	-

Tip size	Blade length (mm)	Drive	52983... Ident. No.		52984... Ident. No.	
PZ2	25	C 6.3 (1/4 inch)	302	●	-	-
PZ3	25	C 6.3 (1/4 inch)	303	●	-	-
PH1	50	E 6.3 (1/4 inch)	-	-	001	●
PH2	50	E 6.3 (1/4 inch)	-	-	002	●
PH3	50	E 6.3 (1/4 inch)	-	-	003	●
PZ1	50	E 6.3 (1/4 inch)	-	-	011	●
PZ2	50	E 6.3 (1/4 inch)	-	-	012	●
PZ3	50	E 6.3 (1/4 inch)	-	-	013	●

Prod. Gr. 5HE

ATORN Cross recess Phillips head (PH) and Pozidriv (PZ) bits, 1/4" drive

Length 70, 90 and 152 mm

No. 52986 001–52986 003

No. 52987 001–52987 003

No. 52987 101–52987 103

No. 52986 011–52986 013

No. 52987 011–52987 013

No. 52987 111–52987 113

Execution:
- 1/4 inch hexagon drive, shape E 6.3 in accordance with DIN 3126/ISO 1173
- Chromium-vanadium steel
- Fully hardened

Technical data:
- Surface: Uncoated
- Drive: E 6.3 (1/4 inch)

Tip size	Blade length (mm)	52986... Ident. No.		52987... Ident. No.	
PH1	70	001	●	-	-
PH2	70	002	●	-	-
PH3	70	003	●	-	-
PZ1	70	011	●	-	-
PZ2	70	012	●	-	-
PZ3	70	013	●	-	-
PH1	90	-	-	001	●
PH2	90	-	-	002	●
PH3	90	-	-	003	●
PZ1	90	-	-	011	●
PZ2	90	-	-	012	●
PZ3	90	-	-	013	●
PH1	152	-	-	101	●
PH2	152	-	-	102	●
PH3	152	-	-	103	●
PZ1	152	-	-	111	●
PZ2	152	-	-	112	●
PZ3	152	-	-	113	●

Prod. Gr. 5HE

ATORN TORSION - TX bits

Drive 1/4"

Application:
For particularly tough conditions – torsion zone absorbs load peaks

Execution:
- 1/4 inch hexagon drive, shape C 6.3 in accordance with DIN 3126/ISO 1173
- Chromium-vanadium steel
- Fully hardened

- Tough material properties
- Torsion zone prevents the bit from tearing off
- Cushions load peaks

Technical data:
- Blade length: 25 mm
- Surface: Uncoated
- Drive: C 6.3 (1/4 inch)

Tip size		TX10	TX15	TX20	TX25	TX27	TX30	TX40
52983...	Ident. No.	010 ●	015 ●	020 ●	025 ●	027 ●	030 ●	040 ●

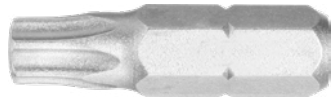
Prod. Gr. 5HE

ATORN TX bits, 1/4 inch drive

In length 25 and 50 mm

Execution:
- Chromium-vanadium steel
- Fully hardened
- **No. 52983:** 1/4 inch hexagon drive, shape C 6.3 in accordance with DIN 3126/ISO 1173
- **No. 52984:** 1/4 inch hexagon drive, shape E 6.3 in accordance with DIN 3126/ISO 1173

Technical data:
- Surface: Uncoated



No. 52983

No. 52984

Tip size	Blade length (mm)	Drive	52983... Ident. No.		52984... Ident. No.	
TX3	25	C 6.3 (1/4 inch)	403	●	-	-
TX4	25	C 6.3 (1/4 inch)	404	●	-	-
TX5	25	C 6.3 (1/4 inch)	405	●	-	-
TX6	25	C 6.3 (1/4 inch)	406	●	-	-
TX7	25	C 6.3 (1/4 inch)	407	●	-	-
TX8	25	C 6.3 (1/4 inch)	408	●	-	-
TX9	25	C 6.3 (1/4 inch)	409	●	-	-
TX10	25	C 6.3 (1/4 inch)	410	●	-	-
TX15	25	C 6.3 (1/4 inch)	415	●	-	-
TX20	25	C 6.3 (1/4 inch)	420	●	-	-
TX25	25	C 6.3 (1/4 inch)	425	●	-	-

Tip size	Blade length (mm)	Drive	52983... Ident. No.		52984... Ident. No.	
TX27	25	C 6.3 (1/4 inch)	427	●	-	-
TX30	25	C 6.3 (1/4 inch)	430	●	-	-
TX40	25	C 6.3 (1/4 inch)	440	●	-	-
TX8	50	E 6.3 (1/4 inch)	-	-	008	●
TX10	50	E 6.3 (1/4 inch)	-	-	010	●
TX15	50	E 6.3 (1/4 inch)	-	-	015	●
TX20	50	E 6.3 (1/4 inch)	-	-	020	●
TX25	50	E 6.3 (1/4 inch)	-	-	025	●
TX27	50	E 6.3 (1/4 inch)	-	-	027	●
TX30	50	E 6.3 (1/4 inch)	-	-	030	●
TX40	50	E 6.3 (1/4 inch)	-	-	040	●

Prod. Gr. 5HE

ATORN TX bits 1/4 inch drive

In lengths 70, 90 and 152 mm

Execution:
- 1/4 inch hexagon drive, shape E 6.3 in accordance with DIN 3126/ISO 1173
- Chromium-vanadium steel
- Fully hardened

Technical data:
- Surface: Uncoated
- Drive: E 6.3 (1/4 inch)

No. 52986

No. 52987 008–52987 040

No. 52987 108–52987 140

Tip size	Blade length (mm)	52986... Ident. No.		52987... Ident. No.	
TX8	70	008	●	-	-
TX10	70	010	●	-	-
TX15	70	015	●	-	-
TX20	70	020	●	-	-
TX25	70	025	●	-	-
TX27	70	027	●	-	-
TX30	70	030	●	-	-
TX40	70	040	●	-	-
TX8	90	-	-	008	●
TX10	90	-	-	010	●
TX15	90	-	-	015	●
TX20	90	-	-	020	●

Tip size	Blade length (mm)	52986... Ident. No.		52987... Ident. No.	
TX25	90	-	-	025	●
TX27	90	-	-	027	●
TX30	90	-	-	030	●
TX40	90	-	-	040	●
TX8	152	-	-	108	●
TX10	152	-	-	110	●
TX15	152	-	-	115	●
TX20	152	-	-	120	●
TX25	152	-	-	125	●
TX27	152	-	-	127	●
TX30	152	-	-	130	●
TX40	152	-	-	140	●

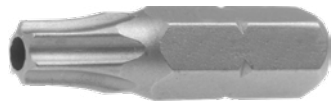
Prod. Gr. 5HE

ATORN TX bits with borehole in drive tip, 1/4 inch drive

In length 25 and 50 mm

Execution:
- Chromium-vanadium steel
- Fully hardened
- **No. 52983:** 1/4 inch hexagon drive, shape C 6.3 in accordance with DIN 3126/ISO 1173
- **No. 52984:** 1/4 inch hexagon drive, shape E 6.3 in accordance with DIN 3126/ISO 1173

Technical data:
- Surface: Uncoated



No. 52983

No. 52984

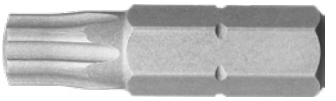
Tip size	Blade length (mm)	Drive	52983... Ident. No.		52984... Ident. No.	
TX10	25	C 6.3 (1/4 inch)	510	●	-	-
TX15	25	C 6.3 (1/4 inch)	515	●	-	-
TX20	25	C 6.3 (1/4 inch)	520	●	-	-
TX25	25	C 6.3 (1/4 inch)	525	●	-	-
TX27	25	C 6.3 (1/4 inch)	527	●	-	-
TX30	25	C 6.3 (1/4 inch)	530	●	-	-
TX40	25	C 6.3 (1/4 inch)	540	●	-	-

Tip size	Blade length (mm)	Drive	52983... Ident. No.		52984... Ident. No.	
TX7	50	E 6.3 (1/4 inch)	-	-	107	●
TX8	50	E 6.3 (1/4 inch)	-	-	108	●
TX9	50	E 6.3 (1/4 inch)	-	-	109	●
TX10	50	E 6.3 (1/4 inch)	-	-	110	●
TX15	50	E 6.3 (1/4 inch)	-	-	115	●
TX20	50	E 6.3 (1/4 inch)	-	-	120	●

Prod. Gr. 5HE

ATORN TX Plus bits 1/4 inch drive

In length 25 mm



Execution:
- 1/4 inch hexagon drive, shape C 6.3 in accordance with DIN 3126/ISO 1173
- Chromium-vanadium steel
- Fully hardened

Technical data:
- Blade length: 25 mm
- Surface: Uncoated
- Drive: C 6.3 (1/4 inch)

Tip size	52983... Ident. No.	
TXP6	606	●
TXP7	607	●
TXP8	608	●
TXP9	609	●

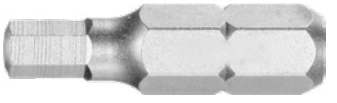
Tip size	52983... Ident. No.	
TXP10	610	●
TXP15	615	●
TXP20	620	●
TXP25	625	●

Tip size	52983... Ident. No.	
TXP27	627	●
TXP30	630	●
TXP40	640	●

Prod. Gr. 5HE

ATORN Hexagon bit, 1/4 inch drive

for hexagon socket screws, lengths 25 and 50 mm



No. 52983

No. 52984

Execution:
- Chromium-vanadium steel
- Fully hardened
- **No. 52983:** 1/4 inch hexagon drive, shape C 6.3 in accordance with DIN 3126/ISO 1173
- **No. 52984:** 1/4 inch hexagon drive, shape E 6.3 in accordance with DIN 3126/ISO 1173

Technical data:
- Surface: Uncoated

Width across flats	Blade length (mm)	Drive	52983... Ident. No.		52984... Ident. No.	
1.5 mm	25	C 6.3 (1/4 inch)	715	●	-	-
2 mm	25	C 6.3 (1/4 inch)	720	●	-	-
2.5 mm	25	C 6.3 (1/4 inch)	725	●	-	-
3 mm	25	C 6.3 (1/4 inch)	730	●	-	-
4 mm	25	C 6.3 (1/4 inch)	740	●	-	-
5 mm	25	C 6.3 (1/4 inch)	750	●	-	-
6 mm	25	C 6.3 (1/4 inch)	760	●	-	-
7 mm	25	C 6.3 (1/4 inch)	770	●	-	-
8 mm	25	C 6.3 (1/4 inch)	780	●	-	-

Width across flats	Blade length (mm)	Drive	52983... Ident. No.		52984... Ident. No.	
10 mm	25	C 6.3 (1/4 inch)	790	●	-	-
2.5 mm	50	E 6.3 (1/4 inch)	-	-	225	●
3 mm	50	E 6.3 (1/4 inch)	-	-	230	●
4 mm	50	E 6.3 (1/4 inch)	-	-	240	●
5 mm	50	E 6.3 (1/4 inch)	-	-	250	●
6 mm	50	E 6.3 (1/4 inch)	-	-	260	●
8 mm	50	E 6.3 (1/4 inch)	-	-	280	●
10 mm	50	E 6.3 (1/4 inch)	-	-	290	●

Prod. Gr. 5HE

ATORN Tri-wing and torq-set bits, 1/4 inch drive , length 25 mm

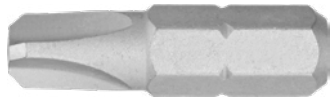
For safety screws

Execution:
- 1/4 inch hexagon drive, shape C 6.3 in accordance with DIN 3126/ISO 1173
- Chromium-vanadium steel
- Fully hardened

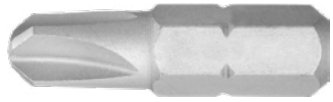
Technical data:
- Surface: Uncoated
- Drive: C 6.3 (1/4 inch)

Tip size	Blade length (mm)	Tip type	52983... Ident. No.	
TW1	25	-	930	●
TW2	25	-	931	●
TW3	25	-	932	●
TW4	25	-	933	●
TW5	25	-	934	●
TQ6	25	TQ	940	●
TQ8	25	TQ	941	●
TQ10	25	TQ	942	●
TQ1/4 inch	32	TQ	943	●

Prod. Gr. 5HE



Ident. No. 930–934



Ident. No. 940–943

wiha Bit holder

1/4 inch drive and 1/4 inch bit holder

Execution:
- 1/4” drive, hexagon, type E 6.3
- **Ident. No. 025–030:**
  - Automatic bit lock
  - Bit removed using the eject function
- **Ident. No. 025–130:** With permanent magnet
- **Ident. No. 310:** With snap ring and magnet

Advantage:
- **Ident. No. 025:**
  - Bit is held securely and with no play
  - Robust, hardened steel actuation sleeve
- **Ident. No. 030:**
  - Ideally suited for working in cramped conditions
  - Robust aluminium actuation sleeve

Technical data:
- Bit holder: 1/4 inch hexagon

Length (mm)	52853... Ident. No.	
60	025	●
66	030	●
59	120	●
74	130	●
57	310	●

Prod. Gr. 571

Ident. No. 025

Ident. No. 030

Ident. No. 120

Ident. No. 130

Ident. No. 310

Wera Bit holder

1/4 inch drive and 1/4 inch bit holder

Execution:
- **Ident. No. 001–003:**
  - Universal holder
  - Stainless steel sleeve
  - Snap ring
  - Powerful permanent magnet

Technical data:
- Bit holder: 1/4 inch hexagon

Length (mm)			50	75	100
52856...	Universal holder with snap ring and magnet	Ident. No.	001 ●	002 ●	003 ●
52856...	Rapidaptor holder with quick-change chuck	Ident. No.	220 ●	-	-
52856...	Rapidaptor holder with ring magnet with powerful permanent magnet	Ident. No.	-	225 ●	-
52856...	Rapidaptor holder with quick-change chuck and magnet	Ident. No.	230 ●	-	-
52856...	Rapidaptor BiTorsion holder with quick-change chuck and powerful permanent magnet	Ident. No.	-	240 ●	-
52856...	Impaktor bit holder TriTorsion with ring magnet and snap ring	Ident. No.	-	245 ●	-

Prod. Gr. 542

Ident. No. 001

Ident. No. 002

Ident. No. 003

Ident. No. 220, 230

Ident. No. 240

Ident. No. 245

ATORN Bit box

17 pieces, format C 6.3

Execution:
- Box made from high-strength plastic
- Transparent cover with opening mechanism
- Quick-change holder with aluminium sleeve and magnet
- Quick-change bit holder for C and E 6.3 bits

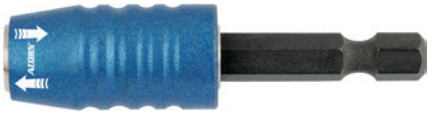
Tip size		PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX10 | TX15 | TX20 | TX25 | TX30 | 3 mm | 4 mm | 5 mm | Slot 4.5 mm | Slot 6.5 mm	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX10 | TX15 | TX20 | TX25 | TX30 | TX40
Blade length (mm)		25	25
Drive		1/4 inch	1/4 inch
52841...	Ident. No.	100 ●	110 ●

Prod. Gr. 5HE

ATORN Bit holder

Execution:
- **Ident. No. 200:**
  - CentroFix bit holder with special clearance-free clamping for perfect concentricity
  - Type C and E 6.3
- **Ident. No. 210:** Quick-change bit holder for ¼" bits, type C 6.3
- **Ident. No. 220:** 2-component bit handle with hexagon blade 125 mm and magnetic ¼" bit holder
- **Ident. No. 225:** 2-component bit handle with circular blade and magnetic ¼-inch bit holder
- **Ident. No. 230:** 2-component handle for direct mounting of both ¼" bit holders

Technical data:
- Bit holder: 1/4 inch hexagon



Ident. No. 200

Ident. No. 210

Ident. No. 220

Ident. No. 225

Ident. No. 230

Blade length (mm)		-	-	125	100	-
Length (mm)		60	50	200	205	110
Tip size		-	-	-	1/4 inch	-
Tip type		-	-	-	Hexagon socket	-
52841...	Ident. No.	200 ●	210 ●	220 ●	225 ●	230 ●

Prod. Gr. 5HE

wiha FlipSelector bit box

Shape C 6.3

Execution:
- Fibre glass-reinforced polyamide box, robust for long-term use
- Universal bit holder 1/4" with magnet
- **Ident. No. 111:** Fitted with 12 standard bits in slotted and cross-head versions
- **Ident. No. 121:** fitted with 12 standard bits in TX version
- **Ident. No. 141:** fitted with 12 standard bits in TX and cross-head versions

Advantage:
- Tough standard bits for all kinds of screw couplings in trade and industry

Technical data:
- Drive: 1/4 inch
- Blade length: 25 mm

Ident. No. 111

Ident. No. 121

Ident. No. 141

Slot length (mm)		5.5	-	-
Tip size		PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	TX7 | TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX30 | TX40	PH2 | PZ1 | PZ2 | PZ3 | TX10 | TX15 | TX20 | TX25 | TX30 | TX40
52859...	Ident. No.	111 ●	121 ●	141 ●

Prod. Gr. 571

wiha Collector bit box

Format C 6.3 for safety screws

Execution:
- Torsion bit Collector, fittings for universal use
- With ClicFix ¼" quick-change holder, magnetic
- **Ident. No. 325:** With handle for manual screwdriving

Technical data:
- Drive: 1/4 inch
- Blade length: 25 mm

Ident. No. 325

Ident. No. 330

Tip size		PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX10 | TX15 | TX20 | TX25 | TX30 | TX40 | 4 mm | 5 mm | 6 mm | Slot 4.5 mm | Slot 5.5 mm | Slot 6.5 mm	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX10 | TX15 | TX20 | TX25 | TX30 | TX40 | 3 mm | 4 mm | 5 mm | 6 mm | Slot 4.5 mm | Slot 5.5 mm
Number of pieces in assortment/set		32	61
52859...	Ident. No.	325 ●	330 ●

Prod. Gr. 571

Wera BitCheck 30 bit box

30 pieces

Execution:
- Bits are tough – for universal application
- popular sizes in multiple designs
- easy to operate and convenient folding holder with bit clamping
- universal holder, 1/4", with powerful magnet, snap ring and stainless steel sleeve

Technical data:
- Drive: 1/4 inch
- Blade length: 25 mm
- Number of pieces in assortment/set: 30 PCS

Ident. No. 300

Tip size		PH2 | PZ1 | PZ2 | PZ3 | TX10 | TX15 | TX20 | TX25 | TX30 | TX40	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX10 | TX15 | TX20 | TX25 | TX30 | TX40 | 4 mm | 5 mm | 6 mm | Slot 4.5 mm | Slot 5.5 mm | Slot 6.5 mm	TX10 | TX15 | TX20 | TX25 | TX30 | TX40
52860...	Ident. No.	300 ●	310 ●	320 ●

Prod. Gr. 542

Reversible screwdriver sets with telescopic shank

System 4 and system 6

Execution:
- Blades made of chromium-vanadium-molybdenum steel, points colour-coded, Wiha chromium tip
- **Ident. No. 010–030:**
  - Softfinish telescopic handle, system 4
  - Blade adjustment range: 18-90 mm
- **Ident. No. 090–100:**
  - Softfinish telescopic handle, system 6
  - Blade adjustment range: 42-114 mm

Advantage:
- Handle with click-stop ball clamping for a secure hold and quick changeover of blades
- Blade length can be adjusted

Delivery:
In textile roll-up pouch

Ident. No. 030

Tip size		PH00 | PH0 | PH1 | Slot 2 mm | Slot 3 mm | Slot 4 mm	PH000 | PH00 | PH0 | PH1 | Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm | Slot 3.5 mm | Slot 4 mm	PH000 | PH00 | PH0 | PH1 | 1.3 mm | 1.5 mm | 2 mm | 2.5 mm | 3 mm | Slot 1.5 mm | Slot 2 mm | Slot 2.5 mm | Slot 3 mm | Slot 3.5 mm | Slot 4 mm	PH1 | PH2 | PZ1 | PZ2 | TX10 | TX15 | TX20 | TX25 | Slot 4 mm | Slot 6 mm	PH1 | PH2 | PZ1 | PZ2 | 4 mm | 5 mm | 6 mm | TX10 | TX15 | TX20 | TX25 | TX30 | TX40 | Slot 4 mm | Slot 5.5 mm | Slot 6 mm | Slot 6.5 mm
Blade length (mm)		90	90	90	114	114
Number of pieces in assortment/set		4	6	11	6	11
52686...	Ident. No.	**010** ●	**020** ●	**030** ●	**090** ●	**100** ●

Prod. Gr. 533

Smart reversible screwdriver set

Screwdriver and T-grip function

Execution:
- Unique smart two-component handle with dual function: screwdriver and T-handle application possible
- ¼" double blades made from heavy-duty bit steel

Delivery:
In a shock-resistant, non-slip plastic box with grip insert

Width across flats		3 mm | 4 mm | 5 mm | 6 mm
Tip size		PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX6 | TX7 | TX8 | TX9 | TX10 | TX15 | TX20 | TX25 | TX30 | TX40 | Slot 4 mm | Slot 5 mm | Slot 6 mm | Slot 7 mm
Length (mm)		160
Number of pieces in assortment/set		13
52685...	Ident. No.	**100** ●

Prod. Gr. 5JF

Kraftform Kompakt® bit assortments

Toughened version

Application:
Ident. No. 041–065: All kinds of screw connections

Execution:
- **Ident. No. 041–065:**
  - ¼" hexagon head drive in accordance with DIN 3126, type C and E 6.3
  - With quick-change chuck and holder
- **Ident. No. 100:**
  - compact tool set with 52 screwdrivers
  - bit hand-held holder and Rapidaptor with quick-change chuck
  - 30 BiTorsion bits with 25 mm length with colour coding
  - 12 Impaktor bits with 50 mm length with colour coding
  - 8 Allen keys with Hex-Plus profile and ball head on long side

Advantage:
- **Ident. No. 100:** suitable bit always immediately to hand owing to easily recognisable colour coding and size labelling

Delivery:
Ident. No. 100: in compact and robust fabric box with Velcro closure

Technical data:
- Drive: 1/4 inch

Ident. No. 041

Ident. No. 060

Ident. No. 065

Ident. No. 100

Blade length (mm)		89	89	-	-
Tip size		PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX15 | TX20 | TX25 | TX30	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX10 | TX15 | TX20 | TX25 | TX30 | 3 mm | 4 mm | 5 mm | 6 mm | Slot 5.5 mm	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX10 | TX15 | TX20 | TX25 | TX30 | TX40 | 4 mm | 5 mm | 6 mm | Slot 4.5 mm | Slot 5.5 mm | Slot 6.5 mm	PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 | TX10 | TX15 | TX20 | TX25 | TX30 | TX40 | 1.5 mm | 2 mm | 2.5 mm | 3 mm | 4 mm | 5 mm | 6 mm | 8 mm | Slot 5.5 mm
Number of pieces in assortment/set		11	17	-	52
52857...	Ident. No.	**041** ●	**060** ●	**065** ●	**100** ●

Prod. Gr. 542

ATORN Magazine bit holder

Execution:
- Telescopic bit magazine equipped with 7 bits
- Bit holder with magnetic mount, 1/4”
- **Ident. No. 150:** With ratchet function - switch using dial - right/left or rigid

Advantage:
- Seamless, smooth cap for minimum friction
- Ergonomic easy-grip soft coating for optimum torque transfer

Ident. No. 100

Ident. No. 150

Bit holder		1/4 inch hexagon	1/4 inch hexagon
Slot width (mm)		5.5	5.5
Tip size		PH1 | PH2 | PZ1 | PZ2	PH1 | PH2 | PZ1 | PZ2 | Slot 5.5 mm | TX15 | TX20 | TX25
Blade length (mm)		112	50
Length (mm)		217	175
52853...	Ident. No.	**100** ●	**150** ●

Prod. Gr. 5HE

Bit holder

Stainless steel

Execution:
- **Ident. No. 090:** Magnetic, with short, round shank
- **Ident. No. 110–120:** Hexagonal shank, chrome-vanadium steel, bright nickel-plated, with powerful permanent magnet
- **Ident. No. 140:** With flexible shank and snap ring for angled screws

Technical data:
- Bit holder: 1/4 inch hexagon

Ident. No. 090

Ident. No. 110

Ident. No. 140

Blade length (mm)		7	125	300	150
Length (mm)		57	225	400	268
52854...	Ident. No.	090 ●	110 ●	120 ●	140 ●

Prod. Gr. 571

Stubby magazine bit holder

Execution:
- ¼ inch magnetic bit mount
- Ergonomic Soft-Finish short handle for working in confined areas
- Bit magazine with six bits in the handle

Technical data:
- Blade length: 25 mm
- Length: 57 mm

Ident. No. 400

Tip size		PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3	PZ1 | PZ2 | PZ3 | Slot 4.5 mm | Slot 6.5 mm | Slot 8 mm
52854...	Ident. No.	400 ●	450 ●

Prod. Gr. 571

Magazine bit holder

Execution:
- Bit magazine integrated in the handle to hold 8 bits
- Swivel-open flap for removal
- Ergonomic multi-component handle with roll-off protection
- Mount ‚1/4", with magnet

Slot width (mm)		6.5
Tip size		PH1 | PH2 | PH3 | PZ2 | TX15 | TX20 | TX25
Blade length (mm)		125
Length (mm)		225
52854...	Ident. No.	200 ●

Prod. Gr. 571

LiftUp magazine bit holder

Execution:
- **Ident. No. 200:**
  - Magnetic bit holder
  - For 25-mm standard bits 1/4"
  - Bit magazine opens by pushing the button
- **Ident. No. 250:**
  - magnetic bit holder
  - equipped with 13 double bits – i.e. 26 drive sizes
  - bit magazine opens by pushing the button
  - large handle – maximum power
- **Ident. No. 300:**
  - VDE-insulated, metal ClicFix bit holder reliably secures all slimBits
  - Individually tested protective insulation 1000 V AC, VDE and GS certified
  - Internal bit magazine with 6 slots

Advantage:
- **Ident. No. 200:** 12 bits ready to hand and stored in compact handle
- **Ident. No. 250:** no more searching, the most popular bits in a single tool
- **Ident. No. 300:**
  - SoftFinish electric multi-component handle with roll-off protection
  - Protective insulation sprayed directly onto the blade, completely integrated in the blade in the front section
  - slimBits stored in compartments for easy access

Ident. No. 200

Ident. No. 250

Ident. No. 300

Width across flats		3 mm | 4 mm | 5 mm	3 mm | 4 mm | 5 mm | 6 mm	-
Tip size		PH2 | PZ1 | PZ2 | PZ3 | TX15 | TX20 | TX25 | TX30 | Slot 5.5 mm	PH0 | PH1 | PH2 | PH3 | PZ1 | PZ2 | TX10 | TX15 | TX20 | TX25 | TX27 | TX30 | TX6 | TX8 | PZ0 | PZ3 | Slot 4 mm | Slot 5.5 mm | Slot 6 mm | Slot 6.5 mm | Square tip size 1 | Square tip size 2	Slot 3 mm | Slot 4 mm | Slot 5.5 mm | PH1 | PH2 | PZ2 + slot
Blade length (mm)		-	-	70
Length (mm)		-	-	195
Material of handle		-	-	2-component plastic
52855...	Ident. No.	200 ●	250 ●	300 ●

Prod. Gr. 571

ATORN Hexagonal sockets

Ident. No. 100

Execution:
- With 2-component handle
- Hardened and brushed chromium-plated blade

Technical data:
- Blade length: 125 mm
- Material of handle: 2-component plastic
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Width across flats	Length (mm)	52159... Ident. No.	
4 mm	217	040	●
5 mm	217	050	●
5.5 mm	217	055	●
6 mm	217	060	●
7 mm	217	070	●
8 mm	217	080	●

Width across flats	Length (mm)	52159... Ident. No.	
9 mm	217	090	●
10 mm	217	100	●
11 mm	227	110	●
12 mm	227	120	●
13 mm	227	130	●

Prod. Gr. 5HG

ATORN Hexagonal socket screwdriver
with flexible shank

Ident. No. 306

Ident. No. 314

Application:
Variable screw fastening in hard-to-reach positions

Execution:
- Flexible spring steel blade – torsion-resistant and plastic-coated
- Output is pressed in a twist-proof manner
- Ergonomically shaped two-component handle with optimum power transmission properties
- Hardened and chrome-plated inserts.
- Ref. no. 314 with 1/4 in quick-change bit chuck for accommodating all 1/4 in bits

Technical data:
- Material of handle: 2-component plastic

Bit holder	Width across flats	Blade length (mm)	Length (mm)	52160... Ident. No.	
-	5 mm	153	266	305	●
-	6 mm	153	266	306	●
-	7 mm	153	266	307	●
-	8 mm	153	266	308	●
-	10 mm	178	291	310	●
1/4 inch hexagon	1/4 inch	178	291	314	●

Prod. Gr. 5HG

ATORN Hexagonal socket with T-handle

with 2-component handle

Execution:
- Comfortable non-slip soft coating provides for optimal power transmission
- Hard core for lasting blade/handle connection even under the highest loads
- Blade made of special CrV and CrMV alloy
- Optimal performance data up to 100% above DIN values
- Matt chrome-plated blade
- With hole for hanging

Technical data:
- Material of handle: 2-component plastic
- Surface: Chrome plated

Ident. No. 420

Ident. No. 474

Width across flats	Blade length (mm)	52167... Ident. No.	
8 mm	125	420	●
8 mm	230	422	●
8 mm	350	424	●
9 mm	125	430	●
9 mm	230	432	●
10 mm	125	440	●
10 mm	230	442	●

Width across flats	Blade length (mm)	52167... Ident. No.	
10 mm	350	444	●
11 mm	125	450	●
11 mm	230	452	●
12 mm	125	460	●
12 mm	230	462	●
13 mm	125	470	●
13 mm	230	472	●

Width across flats	Blade length (mm)	52167... Ident. No.	
13 mm	350	474	●
14 mm	125	480	●
15 mm	125	490	●
16 mm	125	500	●
17 mm	125	510	●

Prod. Gr. 5HG

ORION® Hexagon tubular socket screwdriver

seamless, made of hardened, chrome-plated C35

Application:
Ideally suited for far-projecting threaded pins.

Execution:
- Impact-resistant plastic handle

Technical data:
- Surface: Chrome plated
- Material: Hardened steel

Width across flats		4 mm	4.5 mm	5 mm	5.5 mm	6 mm	7 mm	8 mm	9 mm	10 mm	11 mm	12 mm	13 mm	14 mm
Length (mm)		210	210	210	210	220	220	220	220	230	230	230	230	240
Hole Ø of mount (mm)		3	3	3	3	6.3	6.3	6.3	6.3	6.3	6.3	8.5	8.5	8.5
52168...	Ident. No.	510 ●	520 ●	530 ●	540 ●	550 ●	560 ●	570 ●	580 ●	590 ●	600 ●	610 ●	620 ●	630 ●

Prod. Gr. 5LB

ORION® Hexagon tubular socket screwdriver

Execution:
- Made from steel pipe
- Unhardened

Technical data:
- Material: Steel pipe

Width across flats	Length (mm)	Hole Ø of mount (mm)	Surface	52174... Ident. No.	
8 mm	100	6	Chrome plated	080	●
9 mm	110	6	Chrome plated	090	●
10 mm	120	6	Chrome plated	100	●
11 mm	120	6	Chrome plated	110	●
12 mm	140	8	Chrome plated	120	●
13 mm	140	8	Chrome plated	130	●
14 mm	140	8	Chrome plated	140	●
17 mm	150	10	Chrome plated	170	●
19 mm	160	12	Chrome plated	190	●
22 mm	170	12	Chrome plated	220	●
24 mm	180	14	Chrome plated	240	●

Width across flats	Length (mm)	Hole Ø of mount (mm)	Surface	52174... Ident. No.	
27 mm	190	14	Chrome plated	270	●
30 mm	200	16	Chrome plated	300	●
32 mm	210	16	Chrome plated	320	●
36 mm	220	18	Chrome plated	360	●
41 mm	240	18	Chrome plated	410	●
46 mm	245	20	Lacquered	460	●
50 mm	245	20	Lacquered	500	●
55 mm	245	20	Lacquered	550	●
60 mm	250	25	Lacquered	600	●
65 mm	250	25	Lacquered	650	●
70 mm	250	25	Lacquered	700	●

Prod. Gr. 5LB

ORION® Hexagon tubular socket screwdriver (DIN 896)

made of C35 steel

Execution:
- Hardened
- With tommy bar hole on both sides

Technical data:
- Surface: Chrome plated
- Material: Hardened steel

Width across flats	Length (mm)	Hole Ø of mount (mm)	52176... Ident. No.	
6 x 7 mm	100	6	020	●
7 x 8 mm	100	6	030	●
8 x 9 mm	100	6	040	●
8 x 10 mm	120	6	050	●
9 x 10 mm	120	6	060	●
10 x 11 mm	120	6	080	●
10 x 13 mm	140	8	100	●
11 x 13 mm	140	8	120	●
12 x 13 mm	140	8	140	●
12 x 14 mm	140	8	150	●
13 x 14 mm	140	8	155	●
13 x 15 mm	140	8	160	●
13 x 17 mm	150	10	170	●
14 x 15 mm	140	8	180	●
14 x 17 mm	150	10	190	●
16 x 17 mm	150	10	200	●
17 x 19 mm	160	12	210	●

Width across flats	Length (mm)	Hole Ø of mount (mm)	52176... Ident. No.	
18 x 19 mm	160	12	230	●
19 x 22 mm	170	12	240	●
20 x 22 mm	170	12	260	●
21 x 23 mm	170	14	270	●
22 x 24 mm	180	14	280	●
24 x 26 mm	180	14	300	●
24 x 27 mm	180	14	310	●
25 x 28 mm	180	16	330	●
27 x 30 mm	200	16	350	●
27 x 32 mm	200	16	360	●
30 x 32 mm	200	16	370	●
30 x 36 mm	220	18	380	●
32 x 36 mm	220	18	390	●
36 x 41 mm	245	18	400	●
41 x 46 mm	245	20	410	●
46 x 50 mm	245	20	420	●

Prod. Gr. 5LB

ORION® Hexagon tubular socket screwdriver set (DIN 896)

Execution:
- With stepped tommy bar
- Hardened
- With tommy bar hole on both sides

Delivery:
In cardboard packaging

Composition of set		lengths supplied: 100–150 mm	Supplied lengths: 100 - 170 mm	Supplied lengths: 100 - 200 mm
Width across flats		6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm	6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm	6 x 7 mm | 8 x 9 mm | 10 x 11 mm | 12 x 13 mm | 14 x 15 mm | 16 x 17 mm | 18 x 19 mm | 20 x 22 mm | 21 x 23 mm | 24 x 26 mm | 25 x 28 mm | 30 x 32 mm
Hole Ø of mount (mm)		10	12	16
Surface		Chrome plated	Chrome plated	Chrome plated
Material		Hardened steel	Hardened steel	Hardened steel
Number of pieces in assortment/set		6	8	12
52178...	Ident. No.	100 ●	120 ●	200 ●

Prod. Gr. 5LB

ATORN Construction and electrical MasterKey

Application:
Suitable for actuating locking systems in the areas of facilities engineering, gas and water supply systems and shut-off systems.

Execution:
- Made from die-cast zinc
- With reversible bit
- Bottle opener function

Technical data:
- Slot width: 7 mm

Tip size		PH2 | Two-way bit 3-5 mm | Square drive, 5 mm | Square drive, 6 mm | Square drive, 8 mm | Square drive, 9 mm	PH2 | Square drive, 5 mm | Square drive, 6 mm | Square drive, 8 mm | Square drive, 9 mm | Conical external square, 6-10 mm
Length x width		75 x 110 mm	75 x 135 mm
52188...	Ident. No.	010 ●	020 ●

Prod. Gr. 534

Ident. No. 010

Ident. No. 020

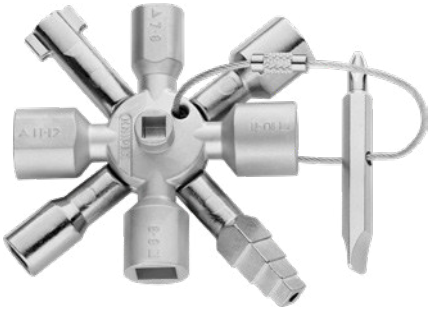
KNIPEX TwinKey universal key

Application:
Suitable for actuating locking systems in the areas of facilities engineering, gas and water supply systems and shut-off systems.

Execution:
- 10 profiles
- 2 crosses
- 1 key – for all standard locking systems and sizes
- 8-leg version that is connected via magnet to save space and secured via a robust stainless steel wire cable

Tip size		Conical external square, 6-9 mm | Two-way bit 3-5 mm | Crescent, 6 mm | Square drive, 5 mm | Square drive, 6-7 mm | Square drive, 7-8 mm | Square drive, 9 mm | Square drive, 10-11 mm | PH2 | Triangular drive, 7-8/9-10/11-12 mm
Slot width (mm)		5.5
Length (mm)		95
Length x width		95 x 95 mm
52189...	Ident. No.	010 ●

Prod. Gr. 535



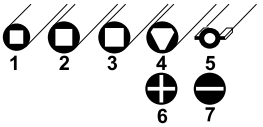
Patented universal key
cross-shaped

Application:
Ident. No. 010: For switch cabinets or masts and for all building trades

Ident. No. 015–050: For switch cabinets or rods and for all building trades

Execution:
- Made from die-cast zinc
- **Ident. No. 015:** With carabiner hooks on chain

Ident. No. 010



Ident. No. 010

Ident. No. 015

Ident. No. 015

Ident. No. 050

Tip size		Square drive, 6 mm | Triangular drive, 7-8 mm | PH2 | Two-way bit 3-5 mm	Two-way bit 3-5 mm | Crescent, 6 mm | Triangular drive, 7/8-9/10-11 mm | Square drive, 5 mm | Square drive, 6 mm | Square drive, 7-8 mm | Square drive, 9-10 mm	PH2 | Conical external square, 6-10 mm | Triangular drive, 7-8 mm | Triangular drive, 9 mm | Square drive, 5 mm
Slot width (mm)		5.5	-	5.5
Length (mm)		72	95	69
Length x width		72 x 72 mm	95 x 95 mm	69 x 90 mm
52190...	Ident. No.	010 ●	015 ●	050 ●

Prod. Gr. 534

Patented universal key
folding

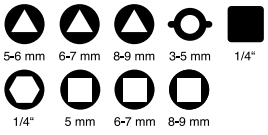
Application:
Ident. No. 012, 100: For switch cabinets or rods and for all building trades
Ident. No. 013: For switch cabinets and many other closure systems

Execution:
- **Ident. No. 012, 100:** Made from die-cast zinc
- **Ident. No. 013:**
  - Doublejoint Key
  - With swivel joint – easy to collapse
- **Ident. No. 100:**
  - Plastic body with die-cast insert
  - With shirt clip

Ident. No. 012

Ident. No. 013

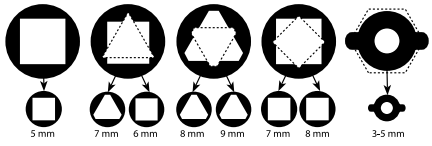
Ident. No. 100



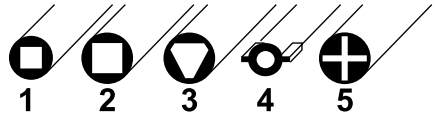
10in1

Patentiert

Ident. No. 012



Ident. No. 013



Ident. No. 100

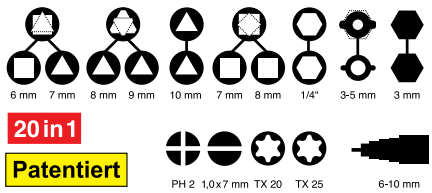
Tip size		Two-way bit 3-5 mm | Triangular drive, 9 mm | Square drive, 5 mm | Square drive, 6 mm | Square drive, 7-8 mm	Two-way bit 3-5 mm | Crescent, 6 mm | Square drive, 5 mm | Square drive, 6 mm | Square drive, 7-8 mm | Triangular drive, 7 mm | Triangular drive, 8 mm | Triangular drive, 9 mm	Two-way bit 3-5 mm | PH2 | Triangular drive, 9 mm | Square drive, 6 mm | Square drive, 7-8 mm
Slot width (mm)		-	-	5.5
Length (mm)		97	80	26
Length x width		97 x 25 mm	80 x 25 mm	26 x 145 mm
52190...	Ident. No.	012 ●	013 ●	100 ●

Prod. Gr. 534

Patented universal key
with magazine

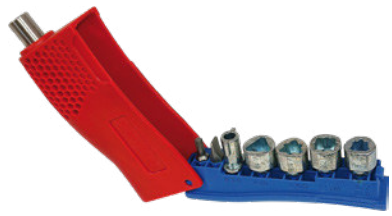
Application:
For closure systems in electrical engineering, gas and water supplies, air conditioning and ventilation systems

Execution:
- Doublekey box
- Robust Multibox made of high-strength plastic, ergonomically moulded
- Universal inserts made of die-cast zinc with dual function, can be removed easily



20in1

Patentiert



Tip size		Two-way bit 3-5 mm | Crescent, 6 mm | Triangular drive, 7/8-9/10-11 mm | Square drive, 5 mm | Square drive, 6 mm | Square drive, 7-8 mm | Square drive, 9-10 mm
Length (mm)		110
Length x width		110 x 60 mm
52190...	Ident. No.	120 ●

Prod. Gr. 534

ATORN Torque screwdriver
for interchangeable shanks

Execution:
- Precise and simple adjustment
- Triggering can be easily felt and heard when the set torque is reached
- Ergonomic handle for optimum power transmission
- robust aluminium sealing cap with easily readable adjustment scale

Delivery:
With certificate, user manual and adjustment key

Ident. No. 011

Ident. No. 021

Ident. No. 031

Min./max. torque measuring range		0.6-1.5 Nm	1.5-3.0 Nm	3.0-5.4 Nm
Scale value torque (Nm)		0.1	0.1	0.1
Blade Ø (in)		1/4	1/4	1/4
Handle length (mm)		105	105	105
Material of handle		2-component plastic	2-component plastic	2-component plastic
Error limit (%) (%)		6	6	6
Calibration certificate		Yes	Yes	Yes
52200...	Ident. No.	011 ●	021 ●	031 ●

Prod. Gr. 5HC

ATORN Torque screwdriver set
for interchangeable shanks

Application:
For controlled and secure screwing – cannot be overtightened

Execution:
- Set of two torque screwdriver handles: 0.6 Nm to 1.5 Nm and 1.5 Nm to 3.0 Nm
- Complete with adjustment tool, bit holder blade and 10 1/4" bits
- error limit: +/- 6%
- robust aluminium sealing cap with easily readable adjustment scale

Delivery:
with certificate and directions, in impact-resistant plastic box with foam insert

Min./max. torque measuring range		0.6-3.0 Nm
Scale value torque (Nm)		0.1
Error limit (%)		6
Calibration certificate		Yes
52200...	Ident. No.	061 ●

Prod. Gr. 5HC

ATORN Shanks for slotted screws
for torque screwdrivers no. 52200 011-061

Execution:
- Blade diameter 1/4"
- For torque screwdrivers no. 52200 010-030

Technical data:
- Blade length: 170 mm
- Blade diameter: 1/4 in

Width of cutting edge (mm)		3.0	3.5	4.0
52200...	Ident. No.	230 ●	235 ●	240 ●

Prod. Gr. 5HC

ATORN Shanks for Phillips screws
for torque screwdrivers no. 52200 011-061

Ident. No. 300

Ident. No. 310

Application:
For PHILLIPS screws

Execution:
- Blade diameter 1/4”
- For torque screwdrivers no. 52200 010-030

Technical data:
- Blade length: 170 mm
- Blade diameter: 1/4 in

Tip size		PH0	PH1	PH2	PZ0	PZ1	PZ2
52200...	Ident. No.	300 ●	301 ●	302 ●	310 ●	311 ●	312 ●

Prod. Gr. 5HC

ATORN Shanks for hexagon socket screws
for torque screwdrivers 52200 011-061

Execution:
- Blade diameter 1/4”
- For torque screwdrivers no. 52200 010-030

Technical data:
- Blade length: 170 mm
- Blade diameter: 1/4 in

Width across flats		1.5 mm	2 mm	2.5 mm	3 mm	4 mm
52200...	Ident. No.	315 ●	320 ●	325 ●	330 ●	340 ●

Prod. Gr. 5HC

ATORN Shanks for TX® and TX-Plus® screws
for torque screwdrivers no. 52200 011-061

Ident. No. 106–125

Ident. No. 206–225

Application:
Ident. No. 106–125: For TX screws
Ident. No. 206–225: For TX Plus screws

Execution:
- Blade diameter 1/4”
- **Ident. No. 106–125:** For torque screwdrivers no. 52200 011 - 031
- **Ident. No. 206–225:** For torque screwdrivers no. 52200 010-030

Technical data:
- Blade length: 170 mm
- Blade diameter: 1/4 in

Tip size	52200... Ident. No.	
TX6	106	●
TX7	107	●
TX8	108	●
TX9	109	●
TX10	110	●
TX15	115	●

Tip size	52200... Ident. No.	
TX20	120	●
TX25	125	●
TXP6	206	●
TXP7	207	●
TXP8	208	●
TXP9	209	●

Tip size	52200... Ident. No.	
TXP10	210	●
TXP15	215	●
TXP20	220	●
TXP25	225	●

Prod. Gr. 5HC

ATORN Bit holder
for torque screwdrivers no. 52200 011-061

Execution:
- Blade diameter 1/4”
- For torque screwdrivers no. 52200 010-030

Blade length (mm)		170
Blade Ø (in)		1/4
52200...	Ident. No.	400 ●

Prod. Gr. 5HC

ATORN Torque limiter sets

19 or 30 pieces, in plastic box with foam insert

Application:

Ident. No. 100: For controlled screw tightening between 0.6 to 5.5 Nm

Ident. No. 110: For controlled screw tightening between 0.6 to 3.0 Nm

Execution:

- Precise deviation tolerance of +/- 10%
- Tactile indication and clicking noise when torque is reached
- Integrated safety clutch prevents the screw joint from being overtightened
- Carbon steel body with 43–48 HRC, electrically nickel-plated
- Industrial bit inserts made from hardened bit steel 58-60 HRC, with colour-coded rings
- Precision quick-change chuck with bit lock
- **Ident. No. 100:**
  - Pre-set torque limiters with the values 0.6/0.9/1 .2/1.4/2.0/3.0/5.0/5.5 Nm
  - Coloured outer sleeve with printed torque value - The matching bit insert, which is also colour-coded, can therefore be selected without any problems.
  - Ergonomically shaped two-component screw-driver handle and two-component t-handle with optimum power transmission properties
- **Ident. No. 110:**
  - Pre-set torque limiters with the values 0.6/0.9/1.2/1.4/2.0/3.0 Nm
  - Coloured outer sleeve with torque value printed on - this makes it easy to select the right bit insert, which features the same colour coding.
  - Ergonomically shaped two-component handle with optimum power transmission properties

Advantage:

- Optimum protection against overtightening sensitive screw connections
- Easy to handle thanks to the colour coding

Delivery:

Ident. No. 100: 50 mm bit inserts. Sizes: TX 6, 7, 8, 9, 10, 15, 20, 25, TX plus 6, 7, 8, 9, 10, 15, 20, 25, HEX (hexagon socket) 2.0/2.5/3.0/4.0 mm

Ident. No. 110: 50 mm bit inserts. Sizes: TX 6, 7, 8, 9, 10, 15, TX plus 6, 7, 8, 9, 10, 15

Technical data:

- Blade length: 50 mm
- Handle length: 100 mm
- Material of handle: 2-component plastic
- Error limit (%): 10

Ident. No. 100

Ident. No. 110

Min./max. torque measuring range		0.6-5.5 Nm	0.6-3.0 Nm
52199...	Ident. No.	100	110
		●	●

Prod. Gr. 5HC

ATORN Torque limiter

With 1/4 inch E 6.3 x 25 mm recess and 1/4 inch bit holder

Application:

For controlled screw tightening.

Execution:

- Fixed pre-set torque values
- Precise deviation tolerance of +/- 10%
- Tactile indication and clicking noise when torque is reached
- Integrated safety clutch prevents the screw joint from being overtightened
- Coloured outer sleeve with printed torque value - The matching bit insert, which is also colour-coded, can therefore be selected without any problems.
- Carbon steel body with 43–48 HRC, electrically nickel-plated

Advantage:

- Optimum protection against overtightening sensitive screw connections
- Easy to handle thanks to the colour coding

Ident. No. 206

Ident. No. 209

Ident. No. 212

Ident. No. 214

Ident. No. 220

Ident. No. 230

Ident. No. 250

Ident. No. 255

Min./max. torque measuring range		0.6-0.6 Nm	0.9-0.9 Nm	1.2-1.2 Nm	1.4-1.4 Nm	2.0-2.0 Nm	3.0-3.0 Nm	5.0-5.0 Nm	5.5-5.5 Nm
Length (mm)		53	53	53	53	53	53	53	53
Error limit (%)		10	10	10	10	10	10	10	10
Colour		Red	Brown	Green	Yellow	Purple	Blue	Grey	Black
52199...	Ident. No.	206	209	212	214	220	230	250	255
		●	●	●	●	●	●	●	●

Prod. Gr. 5HC

ATORN Bit inserts 1/4 inch for torque limiter

with colour coding

Application:
In conjunction with the colour-matched torque limiter insert

Execution:
- High-quality, wear-resistant industrial bit, length 50 mm
- Hardened bit steel with 58–60 HRC
- Colour-coded ring

Advantage:
- Colour assignment to easily select the correct bit to match the torque

Technical data:
- Blade diameter: 1/4
- Blade length: 50 mm

Ident. No. 307

Ident. No. 309

Ident. No. 315

Ident. No. 325

Ident. No. 407

Ident. No. 409

Ident. No. 415

Ident. No. 425

Ident. No. 520

Ident. No. 525

Ident. No. 530

Ident. No. 540

Tip size	Tip type	Colour	52199... Ident. No.	
TX6	TX	Red	306	●
TX7	TX	Brown	307	●
TX8	TX	Green	308	●
TX9	TX	Yellow	309	●
TX10	TX	Purple	310	●
TX15	TX	Blue	315	●
TX20	TX	Grey	320	●
TX25	TX	Black	325	●
TXP6	TX-Plus	Red	406	●
TXP7	TX-Plus	Brown	407	●

Tip size	Tip type	Colour	52199... Ident. No.	
TXP8	TX-Plus	Green	408	●
TXP9	TX-Plus	Yellow	409	●
TXP10	TX-Plus	Purple	410	●
TXP15	TX-Plus	Blue	415	●
TXP20	TX-Plus	Grey	420	●
TXP25	TX-Plus	Black	425	●
HEX 2 mm	Hexagon	Green	520	●
HEX 2.5 mm	Hexagon	Purple	525	●
HEX 3 mm	Hexagon	Blue	530	●
HEX 4 mm	Hexagon	Grey	540	●

Prod. Gr. 5HC

ATORN Bit holder for torque limiter as screwdriver handle or T-handle 1/4 inch

Accommodates all C and E 6.3 (1/4 inch) bits, with quick-change chuck

Execution:
- **Ident. No. 100:**
  - Ergonomically shaped 2-component handle with comfortable soft zone and optimum power transmission properties.
  - Quick-change chuck, 1/4 inch, E 6.3 with secure bit locking
  - Slim and handy design
- **Ident. No. 110:**
  - Ergonomically shaped two-component handle with optimum power transmission properties
  - Precision quick-change chuck with bit lock

Technical data:
- Bit holder: 1/4 inch hexagon
- Blade length: 40 mm
- Tip size: 1/4 inch
- Tip type: Hexagon socket

Ident. No. 100

Ident. No. 110

Length (mm)		139	-
Handle length (mm)		-	50
Material of handle		-	2-component plastic
52988...	Ident. No.	100 ●	110 ●

Prod. Gr. 5HE

wiha easy Torque torque screwdrivers

Fixed factory torque setting

Execution:
- Click signal on reaching the set torque value
- Quick identification by printed marking on end of handle

Advantage:
- Handle enables optimum force transmission
- Unlimited opening torque
- Mechanism resistant to industrial lubricants

Technical data:
- Handle length: 130 mm
- Material of handle: 2-component plastic
- Error limit (%): 10 %
- Calibration certificate: No

Max. torque measuring range (Nm)		0.5	0.6	0.9	1.1	1.2	1.4	2	2.5	3	3.8	4	4.5	5
52201...	Ident. No.	005 ●	006 ●	009 ●	011 ●	012 ●	014 ●	021 ●	025 ●	030 ●	038 ●	040 ●	045 ●	050 ●

Prod. Gr. 537

Torque screwdriver

TorqueVario®-S with scale, with calibration certificate

Execution:
- Variable torque adjustment
- With scale
- SoftFinish® handle
- Automatic release and click signal

Advantage:
- Compact and particularly lightweight design

Delivery:
With adjustment tool

Notes:
Supplied with a factory test certificate

Technical data:
- Blade diameter: 4 mm
- Material of handle: 2-component plastic
- Calibration certificate: Yes

Min./max. torque		0.1-0.6 Nm	0.4-1 Nm	0.5-2 Nm	0.8-5 Nm
Scale value		0.05	0.05	0.1	0.2
Handle length (mm)		127	127	131	138
Error limit (%) (%)		10	6	6	6
52206...	Ident. No.	130 ●	140 ●	150 ●	160 ●

Prod. Gr. 537

Torque screwdriver set

TorqueVario®-S with scale, with calibration certificate

Delivery:
Torque screwdriver no. 52206 160, universal bit holder, setting tool, in robust metal box

Notes:
Supplied with a factory test certificate

Min./max. torque		0.8-5 Nm
Max. torque (Nm)		5
Min. torque (Nm)		0.8
Tip size		PH1 | PH2 | PZ1 | PZ2 | TX10 | TX15 | TX20 | TX25
Blade length (mm)		170
Handle length (mm)		138
Material of handle		2-component plastic
Width across flats		2.5 mm | 3 mm
Error limit (%) (%)		6
Calibration certificate		Yes
52206...	Ident. No.	190 ●

Prod. Gr. 537

Torque screwdriver

TorqueFix®, with calibration certificate

Execution:
- With fixed, preset torque
- SoftFinish® handle
- Automatic release and click signal

Advantage:
- Compact and particularly lightweight design

Notes:
Supplied with a factory test certificate

Technical data:
- Material of handle: 2-component plastic
- Error limit (%): 6 %
- Calibration certificate: Yes

Max. torque measuring range (Nm)	Handle length (mm)	52207... Ident. No.	
0.15	112	001	●
0.4	112	004	●
0.6	112	006	●
0.8	112	008	●
0.9	112	009	●
1.1	119	011	●
1.2	119	012	●

Max. torque measuring range (Nm)	Handle length (mm)	52207... Ident. No.	
1.5	119	015	●
2	119	020	●
3	126	030	●
5	132	050	●
5.5	132	055	●
7.2	132	072	●

Prod. Gr. 537

Shanks for TX screws

For torque screwdrivers no. 52201005-050/52206130-190/52207001-072/52205010-020

Ident. No. 405

Ident. No. 437

Execution:
- Hexagon mount

Technical data:
- Blade length: 175 mm
- Blade diameter: 4 mm

Tip size			TX5	TX6	TX7	TX8	TX9	TX10	TX15	TX20	TX25
52207...	TX	Ident. No.	405 ●	406 ●	407 ●	408 ●	409 ●	410 ●	415 ●	420 ●	425 ●
52207...	TX with MagicSpring	Ident. No.	-	436 ●	437 ●	438 ●	439 ●	440 ●	445 ●	450 ●	455 ●

Prod. Gr. 537

Shanks for TX-Plus screws

For torque screwdrivers no. 52201005-050/52206130-190/52207001-072/52205010-020

Ident. No. 505

Ident. No. 556

Application:
for TX Plus screws

Execution:
- Hexagon mount

Technical data:
- Blade length: 175 mm
- Blade diameter: 4 mm

Tip size			TXP5	TXP6	TXP7	TXP8	TXP9	TXP10	TXP15	TXP20	TXP25
52207...	TX plus	Ident. No.	505 ●	506 ●	507 ●	508 ●	509 ●	510 ●	515 ●	520 ●	525 ●
52207...	TX plus MagicSpring	Ident. No.	-	556 ●	557 ●	558 ●	559 ●	560 ●	565 ●	570 ●	575 ○

Prod. Gr. 537

Shanks for hexagon socket screws

For torque screwdrivers no. 52201005-050/52206130-190/52207001-072/52205010-020

Ident. No. 615–640

Ident. No. 715–740

Execution:
- Hexagon mount
- **Ident. No. 615–640:** Hexagon socket
- **Ident. No. 715–740:** Hexagon with ball head

Technical data:
- Blade length: 175 mm
- Blade diameter: 4 mm

Width across flats			1.5 mm	2 mm	2.5 mm	3 mm	4 mm
52207...	Without ball end	Ident. No.	615 ●	620 ●	625 ●	630 ●	640 ●
52207...	With ball end	Ident. No.	715 ●	720 ●	725 ●	730 ●	740 ●

Prod. Gr. 537

Adapter shank

For torque screwdrivers no. 52201005-050/52206130-190/52207001-072/52205010-020

Ident. No. 850

Ident. No. 860

Execution:
- Hexagon mount
- ref. no. 850 output bit holder, 1/4”
- ref. no. 860 square drive output, 1/4”

Technical data:
- Blade diameter: 4 mm

Blade length (mm)			162	155
52207...	Universal bit holder	Ident. No.	850 ●	-
52207...	Adapter blade	Ident. No.	-	860 ●

Prod. Gr. 537

STAHLWILLE® Torque screwdriver

TORSIOMAX 775, with calibration certificate

Application:
For torque-controlled screw tightening in the CNm range.

Execution:
- ¼-inch internal hexagon (F 6.3 DIN 3126)
- Releases itself
- For individual and series tightening
- With unlatch coupling, anti-clockwise/clockwise tightening
- Comes with certificate

Notes:
Supplied with a factory test certificate

Technical data:
- Blade diameter: 1/4 in
- Material of handle: Aluminium
- Error limit (%): 6 %
- Calibration certificate: Yes

Ident. No. 010

Ident. No. 025

Ident. No. 030

Min./max. torque		2.0-30 Ncm	20-120 Ncm	40-300 Ncm	100-500 Ncm
Scale value		0.2	1.0	1.0	2.5
Handle length (mm)		105	157	160	205
52208...	Ident. No.	010 ●	020 ●	025 ●	030 ●

Prod. Gr. 531

Accessories for		52208 010	52208 020	52208 025	52208 030
30000... Calibration group N for torque	Ident. No.	193 ○ 643 ○	193 ○ 643 ○	193 ○ 643 ○	193 ○ 643 ○

STAHLWILLE® Torque screwdriver

TORSIOMETER 760

Application:
For tools with hexagonal shank (E 6.3 DIN 3126).

Execution:
- with ¼ inch hexagon socket chuck (F 6.3 DIN 3126)
- With comparison scale in.lb and sliding tab
- with trailing pointer as indicator function (non-triggering)

Notes:
Supplied with a factory test certificate

Technical data:
- Handle length: 185 mm
- Material of handle: 1-component plastic
- Error limit (%): 4 %
- Calibration certificate: Yes

Min./max. torque		15-75 Ncm	30-150 Ncm	60-300 Ncm	120-600 Ncm
Scale value		2.5	5.0	1.0	20
52205...	Ident. No.	206 ●	212 ●	225 ●	250 ●

Prod. Gr. 531

ATORN Adapter/tool shank with 1/4 inch hexagon drive

Application:
For attaching socket wrench inserts

Execution:
- Drive 1/4 inch C or E 6.3 hexagonal
- Square output with ball lock (spring-loaded ball) for nut clamping

Technical data:
- Length: 50 mm
- Tip size: 1/4 inch
- Tip type: Square-cut
- Drive: 1/4 inch
- Drive type: Hexagon

52987...	Ident. No.	902 ●

Prod. Gr. 5HE

GEDORE Torque screwdriver (ISO 6789)

With calibration certificate according to DIN EN ISO 6790

Application:
For actuating 1/4 inch bits according to DIN 3126-C 6.3.

Execution:
- With length and circular scale for simple and precise adjustment
- When the set value is reached, the mechanism slides down so that the values are not overrun
- Precision round ball coupling for controlled clockwise tightening

Advantage:
- A secure stop function prevents accidental value adjustment

Notes:
Supplied with a factory test certificate

Technical data:
- Blade diameter: 1/4 in
- Material of handle: 1-component plastic
- Error limit (%): 6 %
- Calibration certificate: Yes

Ident. No. 010

Ident. No. 060

Min./max. torque		24-120 Ncm	120-600 Ncm
Scale value		1.0	10
Handle length (mm)		183	196
52204...	Ident. No.	**010** ●	**060** ●

Prod. Gr. 556

wiha Torque screwdriver with T-handle

Wiha TorqueVario®-STplus with scale, with calibration certificate

Execution:
- Numerical torque value gauge in scale window
- Torque can be continuously adjusted from 5 to 14 Nm using an adjustment tool
- Comfortable T-handle with soft area for optimum torque transmission
- Automatic release and click signal when the set torque is reached
- Complete with adjustment tool

Delivery:
With adjustment tool, in practical plastic box

Notes:
Supplied with a factory test certificate

Blade Ø (mm)		6
Material of handle		2-component plastic
Error limit (%) (%)		6
Calibration certificate		Yes
52222...	Ident. No.	**010** ●

Prod. Gr. 537

wiha Torque screwdriver set with T-handle

Wiha TorqueVario®-STplus with scale, with calibration certificate

Execution:
- Numerical torque value gauge in scale window
- Torque can be continuously adjusted from 5 to 14 Nm using an adjustment tool
- Comfortable T-handle with soft area for optimum torque transmission
- Automatic release and click signal when the set torque is reached
- Set of 1/4" and 3/8" adapter blades and bit holders, bits and setting tool

Delivery:
Torque screwdriver no. 52222 010, universal bit holder, 2 adapter blades for ¼-inch and 3/8-inch nuts, setting tool

Notes:
Supplied with a factory test certificate

Min./max. torque		5-14 Nm
Tip size		1/4 inch | TX25 | TX30 | TX40
Error limit (%) (%)		6
Blade Ø (mm)		6
Width across flats		4 mm | 5 mm | 6 mm
Material of handle		2-component plastic
Calibration certificate		Yes
52222...	Ident. No.	**090** ●

Prod. Gr. 537

Blades for torque screwdrivers with T-handle

TX and TX plus

Technical data:
- Blade length: 53 mm
- Length: 130 mm
- Blade diameter: 6 mm

Ident. No. 215–225

Ident. No. 315–325

Tip size	for TX screws 52222... Ident. No.		for TX Plus screws 52222... Ident. No.	
TX15	215	●	-	-
TX20	220	●	-	-
TX25	225	●	-	-
TXP15	-	-	315	●
TXP20	-	-	320	●
TXP25	-	-	325	●

Prod. Gr. 537

Blades for torque screwdrivers with T-handle

For hexagon socket

Technical data:
- Blade length: 53 mm
- Length: 130 mm
- Blade diameter: 6 mm

Width across flats		3 mm	4 mm	5 mm	6 mm
52222...	Ident. No.	403 ●	404 ●	405 ●	406 ●

Prod. Gr. 537

Blades for torque screwdrivers with T-handle

Adapters and bit holders

Technical data:
- Blade diameter: 6 mm

Ident. No. 440

Ident. No. 450

Tip size		1/4 inch	1/4 inch	3/8 inch
Blade length (mm)		125	120	120
52222...	Ident. No.	440 ●	450 ●	460 ●

Prod. Gr. 537

Torque wrench with reversible ratchet (ISO 6789)

With calibration certificate according to DIN EN ISO 6789

Application:
For controlled tightening in a clockwise direction with a high degree of accuracy

Execution:
- The torque is set by turning the handle
- With lever reversible ratchet, suitable only for controlled clockwise tightening.
- Haptic and acoustic adjustment aid
- Audible and perceptible release when the set value is reached
- Dual scale with Nm and lbf.ft. display
- Ergonomic handle with comfortable, textured surface
- Rapid securing and opening via the locking ring

Advantage:
- Robust tubular design
- Reversible ratchet with locking push button
- Viewing window protects scale from damage

Delivery:
Secure and safe transport/storage in handy cylindrical package

Notes:
Supplied with calibration certificate.

Technical data:
- With scale: Yes

Ident. No. 060

Tip size	Scale value torque (Nm)	Min./max. torque measuring range	Length (mm)	Error limit (%)	52240... Ident. No.	
1/4 inch	0.1	1-6 Nm	234	4	006	●
1/4 inch	0.25	2.5-25 Nm	274	3	025	●
3/8 inch	0.5	10-60 Nm	355	3	060	●
1/2 inch	1	20-120 Nm	456	3	120	●
1/2 inch	1	40-200 Nm	551	3	200	●
1/2 inch	2	60-320 Nm	621	3	320	●

Prod. Gr. 5HC

ATORN Torque wrench with square plug-in socket (ISO 6789)

With calibration certificate according to DIN EN ISO 6789

Execution:
- Adjustable torque wrench
- For accommodating square plug-in tools
- Haptic and acoustic adjustment aid
- Triggering can be heard and felt when the set value is reached
- Dual scale with Nm and lbf.ft. display
- Ergonomic handle with comfortable, textured surface
- Rapid securing and opening via the locking ring

Advantage:
- Robust tubular design
- Plug-in square with locking push button
- Viewing window protects scale from damage

Notes:
Supplied with calibration certificate.

Technical data:
- Error limit (%): 3
- With scale: Yes

Ident. No. 120

Min./max. torque measuring range	Scale value torque (Nm)	Insert shank square	Length (mm)	52241... Ident. No.	
2.5-25 Nm	0.25	9 x 12 mm	258	025	●
10-60 Nm	0.5	9 x 12 mm	312	060	●
20-120 Nm	1	9 x 12 mm	393	110	●
20-120 Nm	1	14 x 18 mm	393	120	●
40-200 Nm	1	14 x 18 mm	488	200	●
60-320 Nm	2	14 x 18 mm	558	320	●

Prod. Gr. 5HC

GEDORE TORCOFIX TF-K torque wrench with reversible square drive (ISO 6789)

With calibration certificate according to DIN EN ISO 6789

Application:
For controlled right- and left-hand tightening (reset square to change direction)

Execution:
- Adjustable, triggering and robust pipe torque wrench with integrated square drive ratchet for industry and trade
- Classified according to DIN EN ISO 6789-2:2017 type II Class A, calibrated to a maximum permissible deviation of +/- 3% and thus more precise than the +/- 4% required by the standard
- Incl. traceable test certificate (DIN EN ISO 6789-2:2017)
- Robust, matt powder-coated steel tube construction with high-quality plastic parts
- New ergonomic handle, shaped to the natural grip position of the hand
- Clearly recognisable and perceptible hand centring aid and calibration aid in the centre of the handle
- Double scale Nm/lbf-ft with vernier scale (Nm), enlarged viewing window protects against abrasion and contamination
- Vertical alignment of the scale, torque adjustment thus suitable for left- and right-handed users
- Scale mark positioned directly above the scale, prevents reading errors (parallax errors)
- Precise bounce mechanism generates a clearly perceptible and audible trigger signal on reaching the set torque value

Notes:
Supplied with calibration certificate.

Technical data:
- With scale: Yes
- Error limit (%): 3 %

Ident. No. 006

Ident. No. 101

Ident. No. 401

Tip size	Scale value torque (Nm)	Min./max. torque	Length (mm)	52246... Ident. No.	
1/4 inch	0.25	1-5 Nm	223	006	●
1/4 inch	1	5-25 Nm	273	026	●
3/8 inch	2.5	10-50 Nm	303	051	●
1/2 inch	5	20-100 Nm	400	101	●
1/2 inch	10	40-200 Nm	495	201	●
1/2 inch	10	60-300 Nm	585	301	●
3/4 inch	10	80-400 Nm	690	401	●
3/4 inch	10	110-550 Nm	965	551	●
3/4 inch	10	250-850 Nm	1390	851	●

52246 006 = Prod. Gr. 530, 52246 026 = Prod. Gr. 530, 52246 051 = Prod. Gr. 530, 52246 101 = Prod. Gr. 556, 52246 201 = Prod. Gr. 556, 52246 301 = Prod. Gr. 556, 52246 401 = Prod. Gr. 556, 52246 551 = Prod. Gr. 556, 52246 851 = Prod. Gr. 556

GEDORE DREMOMETER torque wrench (ISO 6789)

With calibration certificate according to DIN EN ISO 6789

Application:
The tightening value is set and read from the scale by means of rotary motion with angle key integrated in the handle end.

Execution:
- Audible and perceptible release when the tightening torque is reached
- Single key, one arm, with automatic release

Advantage:
- Special design ensures faultless operation
- The measured value or set torque is not changed
- Independent of handle position

Notes:
Supplied with calibration certificate.

Technical data:
- Error limit (%): 3 %

Ident. No. 006

Ident. No. 008

Ident. No. 020

Ident. No. 040

Min./max. torque	Scale value torque (Nm)	Tip size	Length (mm)	Min./max. length	52248... Ident. No.	
2.5-12 Nm	0.5	1/4 inch	211	-	006	●
6-30 Nm	1	1/4 inch	268	-	008	●
8-40 Nm	5	3/8 inch	338	-	010	●
25-120 Nm	5	1/2 inch	462	-	020	●
40-200 Nm	5	1/2 inch	551	-	025	●
60-300 Nm	5	1/2 inch	617	-	028	●
80-360 Nm	5	3/4 inch	717	-	030	●
110-550 Nm	5	3/4 inch	812	-	032	●
155-760 Nm	5	3/4 inch	812	-	035	●
155-760 Nm	5	3/4 inch	-	812-1413 mm	040	●
520-1000 Nm	5	3/4 inch	-	812-1413 mm	050	●
750-2000 Nm	5	1 inch	-	932-2008 mm	060	●

Prod. Gr. 556

Wera Click-Torque wrench with reversible ratchet

With calibration certificate, for clockwise tightening

Execution:
- setting: audible and perceptible click when scale values are reached
- release mechanism: audible and perceptible click signal when the set torque is reached
- dual Nm and lbf-ft scale
- fine adjustment scale in Nm – ensures precise and safe operation
- ergonomically shaped 2-component handle
- locking button on the end of the handle with silicone padding – protection against unintentional adjustment
- **Ident. No. 200, 220–290:** very robust design, with ratchet (45 teeth)
- **Ident. No. 210:** very robust design, with ratchet (45 teeth) – with direct mounting of bits

Delivery:
in a robust plastic rot. box

Notes:
Supplied with calibration certificate.

Ident. No. 200

Ident. No. 270

Tip size	Scale value torque (Nm)	Min./max. torque	Length (mm)	With scale	Error limit (%) (%)	52261... Ident. No.	
1/4 inch	0.1	2.5-25 Nm	290	Yes	4	200	●
1/4 inch	0.1	2.5-25 Nm	291	Yes	4	210	●
3/8 inch	0.25	10-50 Nm	360	Yes	3	220	●
3/8 inch	0.5	20-100 Nm	405	Yes	3	230	●
1/2 inch	0.25	10-50 Nm	360	Yes	3	240	●
1/2 inch	0.5	20-100 Nm	405	Yes	3	260	●
1/2 inch	1	40-200 Nm	510	Yes	3	270	●
1/2 inch	1	60-300 Nm	595	Yes	3	280	●
1/2 inch	1	80-400 Nm	680	Yes	3	290	●

Prod. Gr. 542

5000-3 CT torque wrench system

With reversible ratchet and calibration certificate

Execution:
- Quick and reliable adjustment of the required torque by turning the handle
- Audible and perceptible quick release
- Precise and fine scale graduation
- Designed for harsh workshop use
- Optimised sealing ring for protection against foreign bodies
- Handle with roll protection for lighter power transmission using more grip
- Adjustment aid using engagement points
- Easy-to-read high-contrast scale

Notes:
Supplied with calibration certificate.

Technical data:
- With scale: Yes
- Error limit (%): 3 %

Ident. No. 201

Ident. No. 231

Tip size	Scale value torque (Nm)	Min./max. torque	Length (mm)	52262... Ident. No.	
1/4 inch	0.25	2.5-25 Nm	234	201	●
3/8 inch	0.5	10-60 Nm	320	211	●
1/2 inch	1	20-120 Nm	421	221	●
1/2 inch	1	40-200 Nm	519	231	●
1/2 inch	2	60-320 Nm	628	241	●

Prod. Gr. 569

6000 CT torque wrench system

With reversible ratchet and calibration certificate

Execution:
- Quick and reliable adjustment of the required torque by turning the handle
- Rotary button provides additional locking function for adjustments
- Hard chrome-plated, slim steel pipe design
- **Ident. No. 001–050:** automatic audible and perceptible quick release
- **Ident. No. 060–100:** Automatic, audible, visible and perceptible quick release

Delivery:
In storage box

Notes:
Supplied with calibration certificate.

Technical data:
- With scale: Yes

Ident. No. 001

Ident. No. 004

Ident. No. 100

Tip size	Scale value torque (Nm)	Min./max. torque	Length (mm)	Error limit (%) (%)	52262... Ident. No.	
1/4 inch	0.1	1-6 Nm	197	4	001	●
1/4 inch	0.1	2-10 Nm	198	2	002	●
1/4 inch	0.5	4-40 Nm	256	2	004	●
3/8 inch	0.5	5-60 Nm	335	2	010	●
3/8 inch	1	20-120 Nm	389	2	020	●
1/2 inch	1	20-120 Nm	435	2	030	●
1/2 inch	1	40-200 Nm	543	2	040	●
1/2 inch	2	60-320 Nm	659	2	050	●
3/4 inch	2	100-400 Nm	803	2	060	●
3/4 inch	2	200-500 Nm	1040	2	070	●
3/4 inch	2	300-800 Nm	1280	2	080	●
3/4 inch	5	400-1000 Nm	1788	3	090	○+
1 inch	5	600-1600 Nm	2455	3	100	○+

Prod. Gr. 569

Torque wrench

calibration certificate

Application:
For holding plug-in tools no. 52286.

Execution:
- Can be set to micrometre scale by turning the handle
- Automatic, audible and perceptible quick release when the set value is reached
- Left and right hand tightening with set torque possible

Delivery:
In safe storage box

Notes:
Supplied with calibration certificate.

Technical data:
- Error limit (%): 2 %
- With scale: Yes

Ident. No. 010

Ident. No. 020

Min./max. torque	Scale value torque (Nm)	Insert shank square	Length (mm)	52264... Ident. No.	
5-60 Nm	0.5	9 x 12 mm	305	010	●
20-120 Nm	1	14 x 18 mm	400	020	●

Prod. Gr. 569

6300 CT torque wrench system
calibration certificate

Application:
For holding plug-in tools no. 52286; only suitable for right-hand threads.

Execution:
- No adjustment scale
- Automatic audible and perceptible quick release
- Setting and locking only with combination key ident. no. 200 in combination with torque tester no. 52292

Notes:
Supplied with calibration certificate.

Technical data:
- Error limit (%): 2 %
- With scale: No

Ident. No. 010

Ident. No. 050

Min./max. torque	Insert shank square	Length (mm)	52266... Ident. No.	
2-12 Nm	9 x 12 mm	125	010	●
2-25 Nm	9 x 12 mm	180	020	●
5-50 Nm	9 x 12 mm	240	040	●
15-35 Nm	9 x 12 mm	180	030	○
15-85 Nm	9 x 12 mm	315	050	●
50-200 Nm	14 x 18 mm	400	060	●
60-320 Nm	14 x 18 mm	630	070	●

Prod. Gr. 569

STAHLWILLE® Torque wrench
MANOSKOP® 730 and 730 Quick from 6-50 Nm, all models with calibration certificate

Execution:
- with chuck for replaceable plug-in tools
- double stop signal
- dual scale with Nm and ft-lb
- integrated magnifying glass in adjustment window for optimal legibility
- can be adjusted without dismantling
- ergonomically shaped, non-slip adjustment element
- QuickRelease safety catch on insert head
- Low-wear triggering system with bending rod.

Advantage:
- With long-term accuracy

Delivery:
in sturdy plastic container

Notes:
Supplied with calibration certificate.

Technical data:
- With scale: Yes

Ident. No. 302

Ident. No. 305

Min./max. torque	Scale value torque (Nm)	Insert shank square	Length (mm)	Error limit (%) (%)	52281... Ident. No.	
4-20 Nm	0.5	9 x 12 mm	180	4	302	●
8-40 Nm	0.5	9 x 12 mm	222	4	304	●
6-50 Nm	1	9 x 12 mm	315	3	305	●
20-100 Nm	1	9 x 12 mm	371	3	310	●
25-130 Nm	2	14 x 18 mm	406	3	313	●
40-200 Nm	2	14 x 18 mm	452	3	320	●
80-400 Nm	5	14 x 18 mm	592	3	340	●
130-650 Nm	5	14 x 18 mm	874	3	365	●

Prod. Gr. 531

STAHLWILLE® Torque wrench
Service MANOSKOP® 730 N with calibration certificate

Execution:
- With mount for replaceable plug-in tools
- Double stop signal
- Double scale
- Ergonomic 2-component handle

Advantage:
- Quick and precise adjustment

Notes:
Supplied with calibration certificate.

Technical data:
- With scale: Yes

Min./max. torque	Scale value torque (Nm)	Insert shank square	Length (mm)	Error limit (%) (%)	52282... Ident. No.	
4-20 Nm	0.25	9 x 12 mm	275	4	004	●
10-50 Nm	0.25	9 x 12 mm	330	3	005	●
20-100 Nm	0.5	9 x 12 mm	386	3	010	●
25-130 Nm	0.5	14 x 18 mm	421	3	012	●
40-200 Nm	1	14 x 18 mm	467	3	020	●
80-400 Nm	2	14 x 18 mm	607	3	040	●
130-650 Nm	2	14 x 18 mm	890	3	065	●

Prod. Gr. 531

STAHLWILLE® Torque wrench

MANOSKOP® 755 series

Application:
For holding plug-in tools no. 52286, suitable for working on production lines or for series production work.

Execution:
- Double stop signal
- No adjustment scale, adjustment via testers
- Automatic audible and perceptible release when the set value is reached
- Made from square steep pipe
- IMPORTANT: Supplied WITHOUT calibration certificate. This is only created when the wrench settings are fixed at the factory.

Advantage:
- Long-term accuracy

Technical data:
- Error limit (%): 4 %
- With scale: No

Min./max. torque	Insert shank square	Length (mm)	52284... Ident. No.	
4-40 Nm	9 x 12 mm	201	090	●
20-100 Nm	9 x 12 mm	318	100	●
40-200 Nm	14 x 18 mm	457	110	●
60-300 Nm	14 x 18 mm	609	120	●

Prod. Gr. 531

STAHLWILLE® Electronic torque wrench SENSOTOK 701

With built-in 1/4" reversible fine-tooth ratchet

Execution:
- very slim and compact design for torques from 1 Nm
- measurement units: Nm, cNm, ft-lb and in-lb
- measurements can be taken regardless of force application point
- With 3.6 V lithium battery (spare battery art no. 56815330)
- with certificate
- evaluation of screwing process by means of colour LEDs, buzzer and vibration

Advantage:
- versatile – 3 measuring modes: Track, Peak Hold, screwing application with evaluation
- intuitive keying-in control ensures simple adjustment
- ergonomic handle construction for effortless operation

Min./max. torque	Tip size	Length (mm)	Error limit (%) (%)	52284... Ident. No.	
1-20 Nm	1/4 inch	210	4	200	●

Prod. Gr. 531

STAHLWILLE® Electronic torque/angle-controlled wrenches

Sensotork® 713 R with digital display and calibration certificate

Execution:
- Electronic torque wrenches for rotation angle with plug-in tool reversible ratchet
- With quick-release safety locking device
- Torque and rotating angle are visible simultaneously, comfortable rotating angle measurement without reference arm in extremely large area of rotation.
- Measurement units: Nm, ft.lb, in.lb
- Adjustable pre-warning time of visual, perceptible and acoustic signals
- Adjustable individual plug-in tool lengths
- Fulfils DKD-R3-7, Class 2 and DIN EN ISO 6789, with certificate
- operating duration approx. 60 hours (with 2 batteries type Mignon, 1.5 V, AA)
- Measurements can be taken regardless of force application point
- backlighting of the display (traffic light principle) screwdriving processes are saved with a time stamp

Advantage:
- Service friendly thanks to simple adjustment and self-actuated note regarding next calibration deadline
- Individual identification designation possible, protection against unintentional adjustment and external access by password
- Repeated screw tasks can be combined into a menu-controlled process

Delivery:
In a rugged plastic case incl. batteries (2x Mignon 1.5 V, type AA)

Notes:
Supplied with calibration certificate.

Technical data:
- Error limit (%): 1 %

Min./max. torque	Tip size	Insert shank square	Length (mm)	52282... Ident. No.	
3-60 Nm	3/8 inch	9 x 12 mm	378	100	●
10-200 Nm	1/2 inch	14 x 18 mm	608	102	●
20-400 Nm	3/4 inch	14 x 18 mm	838	104	●

Prod. Gr. 531

STAHLWILLE® Electro-mechanical torque/angle-controlled wrench

MANOSKOP 714 - indicating and clicking

Execution:
- 4 measurement modes (torque, rotation angle, torque with control variable of rotation angle, rotation angle with control variable of torque)
- High-resolution colour graphic display with additional lateral signal lights, freely configurable menu structure
- 3 function modes: triggering, peak (displaying operation with peak value display) and track (displaying operation with current value display)
- Micro-USB 2.0 interface
- Data storage (2500 screwdriving processes), up to 200 screw joints in max. 25 processes can be programmed
- Measurement units: Nm, ft.lb, in.lb/automatically correct tightening torque on input of deviating actual dimension
- Feelable, optical and acoustic release signal, torque and angle of rotation visible simultaneously
- Automatic indication of the next calibration deadline depending on the time and/or the loading count
- Display resolution, rotation angle 0.1°
- Torque display resolution <= 60 Nm: 0.01 Nm > 60 Nm: 0.1 Nm

Advantage:
- Quick and precise setting via keyboard, automatic key lock to protect against accidental changes to settings
- Overload protection by means of acoustic and optical warning signals and forced release (right)
- Reliable handling with ergonomically shaped handle (resistant to oils, greases, fuels, brake fluids and Skydrol)

Delivery:
In robust plastic case (size 40 in sheet steel case), with software Sensomaster, USB cable, 4 micro batteries AAA/LR03, 1.5 V micro NiMh batteries AAA, 1.2 V can be used.

Technical data:
- Error limit (%): 2 %

Ident. No. 002

Ident. No. 020

Min./max. torque	Insert shank square	Length (mm)	52283... Ident. No.	
1-10 Nm	9 x 12 mm	226	001	●
2-20 Nm	9 x 12 mm	226	002	●
4-40 Nm	9 x 12 mm	252	004	●
6-60 Nm	9 x 12 mm	393	006	●
10-100 Nm	9 x 12 mm	466	010	●
20-200 Nm	14 x 18 mm	547	020	●
40-400 Nm	14 x 18 mm	656	040	○

Prod. Gr. 531

STAHLWILLE® Electro-mechanical torque wrench

Service/series MANOSKOP® 730 D with calibration certificate

Execution:
- Display and release when the set torque is reached just like a mechanical wrench
- Holder for plug-in tools
- Display of the value reached on the display
- In 'display' mode, continuous display of torque experienced on display
- Saved values of screw-tightening actions can be transferred to a PC (USB interface, storage of up to 7500 screw-tightening actions in wrench)
- Automatic indication of the next calibration deadline (convenient adherence to DIN EN ISO 6789)
- Operating duration approx. 60 hours (with 2 batteries type Mignon, 1.5 V, AA)

Advantage:
- Quick setting via handy keyboard and large display
- Automatic key lock to protect against accidental changes to settings, protection against setting changes by third parties via PIN code.
- Overloading protection by means of acoustic and optical warning signals

Delivery:
In robust plastic case

Notes:
Supplied with calibration certificate.

Technical data:
- Error limit (%): 2 %

Min./max. torque	Insert shank square	Length (mm)	52282... Ident. No.	
10-100 Nm	9 x 12 mm	467	410	●
20-200 Nm	14 x 18 mm	548	420	●
40-400 Nm	14 x 18 mm	688	440	●

Prod. Gr. 531

Open-end wrench plug-in tools

For torque wrench with square plug-in shaft

Technical data:

- Surface: Chrome plated
- Material: Chrome-vanadium steel

No. 52286

No. 52287 007–52287 019

No. 52287 113–52287 136

		HAZET		STAHLWILLE	
Width across flats	Insert shank square	52286... Ident. No.		52287... Ident. No.	
7 mm	9 x 12 mm	007	●	007	●
8 mm	9 x 12 mm	008	●	008	●
9 mm	9 x 12 mm	009	●	009	●
10 mm	9 x 12 mm	010	●	010	●
11 mm	9 x 12 mm	011	●	011	●
12 mm	9 x 12 mm	012	●	012	●
13 mm	9 x 12 mm	013	●	013	●
14 mm	9 x 12 mm	014	●	014	●
15 mm	9 x 12 mm	015	●	015	●
16 mm	9 x 12 mm	016	●	016	●
17 mm	9 x 12 mm	017	●	017	●
18 mm	9 x 12 mm	018	●	018	●
19 mm	9 x 12 mm	019	●	019	●
13 mm	14 x 18 mm	113	●	113	●

		HAZET		STAHLWILLE	
Width across flats	Insert shank square	52286... Ident. No.		52287... Ident. No.	
14 mm	14 x 18 mm	114	●	114	●
15 mm	14 x 18 mm	115	●	115	●
16 mm	14 x 18 mm	116	●	116	●
17 mm	14 x 18 mm	117	●	117	●
18 mm	14 x 18 mm	118	●	118	●
19 mm	14 x 18 mm	119	●	119	●
21 mm	14 x 18 mm	121	●	121	●
22 mm	14 x 18 mm	122	●	122	●
24 mm	14 x 18 mm	124	●	124	●
27 mm	14 x 18 mm	127	●	127	●
30 mm	14 x 18 mm	130	●	130	●
32 mm	14 x 18 mm	132	●	132	●
34 mm	14 x 18 mm	134	●	134	●
36 mm	14 x 18 mm	136	●	136	●

STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569

Box wrench plug-in tools

For torque wrench with square plug-in shaft

Technical data:

- Surface: Chrome plated
- Material: Chrome-vanadium steel

No. 52286

No. 52287 207–52287 222

No. 52287 313–52287 341

		HAZET		STAHLWILLE	
Width across flats	Insert shank square	52286... Ident. No.		52287... Ident. No.	
7 mm	9 x 12 mm	207	●	207	●
8 mm	9 x 12 mm	208	●	208	●
10 mm	9 x 12 mm	210	●	210	●
11 mm	9 x 12 mm	211	●	211	●
12 mm	9 x 12 mm	212	●	212	●
13 mm	9 x 12 mm	213	●	213	●
14 mm	9 x 12 mm	214	●	214	●
15 mm	9 x 12 mm	215	●	215	●
16 mm	9 x 12 mm	216	●	216	●
17 mm	9 x 12 mm	217	●	217	●
18 mm	9 x 12 mm	218	●	218	●
19 mm	9 x 12 mm	219	●	219	●
21 mm	9 x 12 mm	221	●	221	●
22 mm	9 x 12 mm	222	●	222	●
13 mm	14 x 18 mm	313	●	313	●

		HAZET		STAHLWILLE	
Width across flats	Insert shank square	52286... Ident. No.		52287... Ident. No.	
14 mm	14 x 18 mm	314	●	314	●
15 mm	14 x 18 mm	315	●	315	●
16 mm	14 x 18 mm	316	●	316	●
17 mm	14 x 18 mm	317	●	317	●
18 mm	14 x 18 mm	318	●	318	●
19 mm	14 x 18 mm	319	●	319	●
21 mm	14 x 18 mm	321	●	321	●
22 mm	14 x 18 mm	322	●	322	●
24 mm	14 x 18 mm	324	●	324	●
27 mm	14 x 18 mm	327	●	327	●
30 mm	14 x 18 mm	330	●	330	●
32 mm	14 x 18 mm	332	●	332	●
34 mm	14 x 18 mm	334	●	334	●
36 mm	14 x 18 mm	336	●	336	●
41 mm	14 x 18 mm	341	●	341	●

STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569

Plug-in square drives
for torque wrench

Execution:
- DIN 3120 drive

Technical data:
- Tip size: 1/2 inch
- Insert shank square: 14 x 18 mm
- Surface: Chrome plated
- Material: Chrome-vanadium steel

52286...	Ident. No.	550 ●

Prod. Gr. 569

Plug-in square drives
For torque wrench with square plug-in shaft

Technical data:
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Tip size	Insert shank square	Max. load force (N)	52287... Ident. No.	
1/4 inch	9 x 12 mm	40	540	●
3/8 inch	9 x 12 mm	80	545	●
1/2 inch	9 x 12 mm	100	550	●
1/2 inch	14 x 18 mm	300	553	●
3/4 inch	14 x 18 mm	650	555	●

Prod. Gr. 531

Ident. No. 540, 550

Plug-in reversible ratchets
for torque wrench

Application:
Ident. No. 650: for torque wrenches

Technical data:
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Tip size	Insert shank square	Max. load force (N)	Number of teeth	52286... Ident. No.	
1/4 inch	9 x 12 mm	40	20	600	●
3/8 inch	9 x 12 mm	120	30	605	●
1/2 inch	9 x 12 mm	120	32	610	●
1/2 inch	14 x 18 mm	300	32	650	●

Prod. Gr. 569

Plug-in reversible ratchets
for torque wrench

Application:
No. 52286 655: for torque wrenches

Execution:
- **No. 52287:**
  - With fail-safe connection
- Quick Release with safety locking device

Technical data:
- Surface: Chrome plated
- Material: Chrome-vanadium steel

				HAZET		STAHLWILLE	
Tip size	Insert shank square	Max. load force (N)	Number of teeth	52286... Ident. No.		52287... Ident. No.	
1/4 inch	9 x 12 mm	40	20	615	●	-	-
3/8 inch	9 x 12 mm	100	30	620	●	620	●
1/2 inch	9 x 12 mm	100	32	625	●	-	-
1/2 inch	14 x 18 mm	250	32	655	●	-	-
1/4 inch	9 x 12 mm	40	22	-	-	615	●
1/2 inch	9 x 12 mm	100	30	-	-	625	●
1/2 inch	14 x 18 mm	200	36	-	-	655	●

STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569

No. 52286

No. 52287 615–52287 625

Plug-in reversible ratchet

For torque wrench with square plug-in shaft

Execution:
- Deeper-inset switching mechanism protects against unintentional switching
- Deep-set
- Flat design for optimum access
- Ratchet with 40 teeth

Technical data:
- Insert shank square: 14 x 18 mm
- Max. torque: 200 Nm
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Tip size	52286... Ident. No.	
3/8 inch	616	●
1/2 inch	617	●

Prod. Gr. 569

Plug-in reversible fine-tooth reversible ratchets

for torque wrench

Application:
for torque wrenches

Technical data:
- Surface: Chrome plated
- Material: Chrome-vanadium steel

No. 52286

No. 52287 630

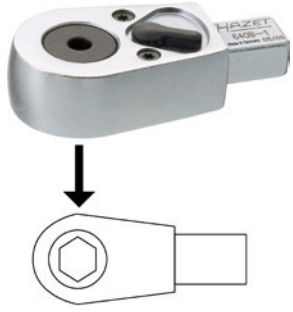
				HAZET		STAHLWILLE	
Tip size	Insert shank square	Max. load force (N)	Number of teeth	52286... Ident. No.		52287... Ident. No.	
3/8 inch	9 x 12 mm	120	72	630	●	-	-
1/2 inch	9 x 12 mm	120	72	635	●	-	-
1/2 inch	14 x 18 mm	300	72	660	●	-	-
3/4 inch	14 x 18 mm	800	72	665	●	-	-
3/8 inch	9 x 12 mm	100	60	-	-	630	●
1/2 inch	9 x 12 mm	100	60	-	-	635	●
1/2 inch	14 x 18 mm	300	60	-	-	660	●
3/4 inch	14 x 18 mm	400	60	-	-	665	●
3/4 inch	14 x 18 mm	650	60	-	-	670	●

STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569

Plug-in reversible ratchet for bits

for torque wrench

Technical data:
- Insert shank square: 9 x 12 mm
- Surface: Chrome plated
- Material: Chrome-vanadium steel



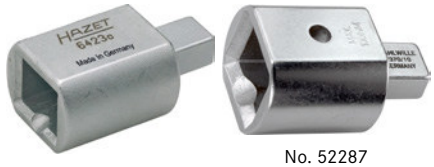
Tip size	52286... Ident. No.	
1/4 inch	640	●
5/16 inch	645	●

Prod. Gr. 569

Plug-in adapter for torque wrench

Notes:
Observe the change in torque forces.

Technical data:
- Tip size: 14 x 18 mm
- Insert shank square: 9 x 12 mm
- Surface: Chrome plated
- Material: Chrome-vanadium steel



No. 52286 No. 52287

HAZET		STAHLWILLE	
52286... Ident. No.		52287... Ident. No.	
700	●	700	●

STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569

Weld-on plug-in tools

Application:
For welding special tools

Technical data:
- Surface: Plain
- Material: Chrome-vanadium steel

No. 52286

No. 52287

	HAZET		STAHLWILLE	
Insert shank square	52286... Ident. No.		52287... Ident. No.	
9 x 12 mm	800	●	800	●
14 x 18 mm	850	●	850	●

STAHLWILLE = Prod. Gr. 531
HAZET = Prod. Gr. 569

GEDORE DremoTest E electronic torque tester

calibration certificate

Application:
For checking and adjusting all clockwise torque wrenches used in workshops, in industry and for quality assurance processes.

Execution:
- With auto-reset function
- 1st peak value recognition (first peak/crunch point recognition)
- Fixed hexagonal box nut mount
- Convertible between Nm and lbf.ft, integrated measuring transducer
- Serial RS232 interface

Advantage:
- Simple to use and with a robust design

Notes:
Supplied with calibration certificate.

Technical data:
- Error limit (%): 1 %

Min./max. torque		0.9-55 Nm	9-320 Nm	90-1100 Nm
Drive		1/4 inch | 3/8 inch	3/8 inch | 1/2 inch	1/2 inch | 3/4 inch
52292...	Ident. No.	550 ●	600 ●	650 ●

Prod. Gr. 556

LET‘S WORK TOGETHER.
Do you need more than just a hammer, pair of pliers or a screwdriver?
We have the full range for you. Machining tools, handling systems and
measuring technology. However, we also offer tailor-made system solutions,
large and small machinery and complete factory equipment.
In total, more than 120,000 products.
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ATORN combination pliers

Application:
For gripping, holding and cutting.

Execution:
- Serrated gripping surfaces, inductively hardened blades
- **Ident. No. 510–730:**
  - Special tool steel for hard and soft wire
  - Oil-hardened
- **Ident. No. 910–930:**
  - Tempered tool steel for hard and soft wire
  - VDE type according to DIN EN 60900

Advantage:
- **Ident. No. 710–730:** Safe, ergonomic and effortless work thanks to 2-component handles with slip guard
- **Ident. No. 910–930:** Safe, ergonomic and effortless work thanks to 2-component handles with hand guard

Technical data:
- Max. medium wire diameter cutting capacity: 1.6 mm

Ident. No. 510–530

Ident. No. 710–730

Ident. No. 910–930

Length (mm)	Surface	VDE certified	Material of handle	53232... Ident. No.	
160	Plain	-	Polyvinyl chloride	510	●
180	Plain	-	Polyvinyl chloride	520	●
200	Plain	-	Polyvinyl chloride	530	●
160	Chrome plated	-	2-component plastic	710	●
180	Chrome plated	-	2-component plastic	720	●
200	Chrome plated	-	2-component plastic	730	●
160	Chrome plated	Yes	2-component plastic	910	●
180	Chrome plated	Yes	2-component plastic	920	●
200	Chrome plated	Yes	2-component plastic	930	●

Prod. Gr. 5HZ

ATORN Pliers sets
Workshop and VDE

Execution:
- Serrated gripping surfaces, inductively hardened blades

Delivery:
In robust plastic case

Ident. No. 805

Ident. No. 808

Ident. No. 965

Ident. No. 970

VDE certified		-	-	Yes	Yes
Number of pieces in assortment/set (PCS)		4	6	4	5
Included in delivery		1x combination pliers 180 mm, 1x diagonal cutters 160 mm, 1x snipe-nose pliers 160 mm, 1x water pump pliers 250 mm	1x combination pliers 200 mm, 1x diagonal cutters 160 mm, 1x straight snipe-nose pliers 200 mm, 1x bent snipe-nose pliers 200 mm, 1x heavy-duty diagonal cutters 180 mm, 1x water pump pliers 250 mm, with quick adjustment	1x VDE combination pliers 180 mm, 1x VDE diagonal cutters 160 mm, 1x VDE straight snipe-nose pliers 200 mm, 1x VDE wire-stripping pliers 160 mm, for 0.5 to 6 mm^2	1x VDE combination pliers 180 mm, 1x VDE diagonal cutters 160 mm, 1x VDE straight snipe-nose pliers 160 mm, 1x VDE bent snipe-nose pliers 160 mm, 1x VDE wire-stripping pliers 160 mm, for 0.5 to 6 mm^2
53232...	Ident. No.	805 ●	808 ●	965 ●	970 ●

Prod. Gr. 5HZ

KNIPEX Pliers sets

Execution:
- **Ident. No. 001:**
  - Combination pliers, 180 mm, 2-component handles, polished head
  - Snipe nose pliers with 200 mm cutting edge, 2-component handles, polished head
  - Side cutters, 160 mm, 2-component handles, polished head
- **Ident. No. 002:**
  - VDE combination pliers, 180 mm, 2-component handles, chrome-plated head
  - VDE snipe nose pliers with 200 mm cutting edge, 2-component handles, chrome-plated head
  - VDE side cutters, 160 mm, 2-component handles, chrome-plated head
- **Ident. No. 003:**
  - combination pliers, 180 mm, 2-component handles, polished head
  - Cobra 250-mm water pump pliers, dipped handles
  - side cutters, 160 mm, 2-component handles, polished head

Technical data:
- Number of pieces in assortment/set: 3 PCS

Ident. No. 001

Ident. No. 002

Ident. No. 003

VDE certified			-	Yes
Material of handle			-	2-component plastic
53068...	Universal 1	Ident. No.	001 ●	-
53068...	VDE	Ident. No.	-	002 ●
53068...	Universal 2	Ident. No.	003 ●	-

Prod. Gr. 535

KNIPEX **combination pliers** (ISO 5746)

Application:
For gripping, holding and cutting.

Execution:
- Special tool steel, forged and oil-hardened
- Blades also inductively hardened for hard and soft wire
- Gripping zones for flat and round material
- Long cutting edges for thicker cables
- **Ident. No. 005–140:** Polished head
- **Ident. No. 205–340:** Chrome-plated pliers
- **Ident. No. 320–340:** VDE type according to DIN EN 60900

Advantage:
- **Ident. No. 120–340:** Safe, ergonomic and fatigue-free working thanks to two-component handles

Ident. No. 030

Ident. No. 130

Ident. No. 230

Ident. No. 330

Length (mm)	Surface	VDE certified	Material of handle	Max. medium wire Ø cutting capacity (mm)	53068... Ident. No.	
140	Plain	-	Polyvinyl chloride	2.8	005	●
160	Plain	-	Polyvinyl chloride	3.1	020	●
180	Plain	-	Polyvinyl chloride	3.4	030	●
200	Plain	-	Polyvinyl chloride	3.8	040	●
160	Plain	-	2-component plastic	3.1	120	●
180	Plain	-	2-component plastic	3.4	130	●
200	Plain	-	2-component plastic	3.8	140	●
110	Chrome plated	-	2-component plastic	2.5	205	●
140	Chrome plated	-	2-component plastic	2.8	210	●
160	Chrome plated	-	2-component plastic	3.1	220	●
180	Chrome plated	-	2-component plastic	3.4	230	●
200	Chrome plated	-	2-component plastic	3.8	240	●
160	Chrome plated	Yes	2-component plastic	3.1	320	●
180	Chrome plated	Yes	2-component plastic	3.4	330	●
200	Chrome plated	Yes	2-component plastic	3.8	340	●

Prod. Gr. 535

Pliers sets in textile belt bag

2 piece

Execution:
- **Ident. No. 006:**
  - Water pump pliers Mini Cobra 125 mm
  - Mini plier wrench 150 mm
- **Ident. No. 006–007:** Both with PVC dipped handles
- **Ident. No. 007:**
  - Water pump pliers Cobra 150 mm
  - Heavy-duty side cutters, 160 mm
- **Ident. No. 008:**
  - Water pump pliers Cobra 150 mm, PVC dipped grip handles
  - Sharp combination pliers 145 mm, 2-component grip handles

Delivery:
In robust textile belt bag with riptape fastening

Technical data:
- Material of handle: Polyvinyl chloride
- Number of pieces in assortment/set: 2

Ident. No. 006

Ident. No. 007

Ident. No. 008

53068...	Set 006	Ident. No.	006 ●
53068...	Set 007	Ident. No.	007 ●
53068...	Set 008	Ident. No.	008 ●

Prod. Gr. 535

Needlenose combination pliers

Application:
For all common installation and repair tasks

Execution:
- Narrow head shape with tapered jaws
- Gripping surfaces with special three-point contour for securely gripping flat parts
- Easy cutting thanks to high-ratio power joint

Ident. No. 400

Ident. No. 420

Ident. No. 430

Ident. No. 440

Ident. No. 460

Length (mm)		145	145	145	185	185	185	185
Surface		Plain	Chrome plated	Chrome plated	Plain	Plain	Chrome plated	Chrome plated
VDE certified		-	-	Yes	-	-	-	Yes
Material of handle		Polyvinyl chloride	2-component plastic	2-component plastic	Polyvinyl chloride	2-component plastic	2-component plastic	2-component plastic
Max. medium wire Ø cutting capacity (mm)		2	2	2	2.5	2.5	2.5	2.5
53068...	Ident. No.	400 ●	410 ●	420 ●	430 ●	440 ●	450 ●	460 ●

Prod. Gr. 535

GEDORE Pliers set, 3 pieces

Execution:
- Water pump pliers, 250 mm, 15-stage one-handed adjustment via push button, PVC-insulated handles
- Heavy-duty combination pliers, 180 mm, for continuous work in the toughest conditions, chrome-plated head, two-component handles
- Heavy-duty side cutters 160 mm with large amount of leverage, chrome-plated head, two-component handles

Technical data:
- Number of pieces in assortment/set: 3

53067...	Ident. No.	010 ●

Prod. Gr. 530

ORION Combination pliers

Application:
For gripping, holding and cutting.

Execution:
- Serrated gripping surfaces
- Polished head

Length (mm)		180
Surface		Plain
Material of handle		Polyvinyl chloride
Max. medium wire Ø cutting capacity (mm)		2
53233...	Ident. No.	180 ●

Prod. Gr. 593

ATORN Heavy-duty combination pliers

Application:
For gripping, holding and cutting.

Execution:
- For hard, soft and piano wire
- Serrated gripping surfaces
- Inductively hardened blades
- **Ident. No. 730:**
  - Tempered tool steel
  - VDE type according to DIN EN 60900

Advantage:
- 35% less force required when cutting piano wire

Technical data:
- Length: 200 mm

Ident. No. 520

Ident. No. 720

Ident. No. 730

Surface		Plain	Chrome plated	Chrome plated
VDE certified		-	-	Yes
Material of handle		Polyvinyl chloride	2-component plastic	2-component plastic
Max. medium wire Ø cutting capacity (mm)		3.8	3.8	2.2
53236...	Ident. No.	520 ●	720 ●	730 ●

Prod. Gr. 5HZ

ATORN Heavy-duty combination pliers
Optimised power joint

Application:
for gripping, holding and cutting.

Execution:
- power joint with up to 30% power saving
- secure retention of workpieces with 4-point involute burner hole
- special tool steel for hard and soft wire
- serrated gripping surfaces, inductively hardened blades
- **Ident. No. 010:** with opening spring for optimal handling (simple to disassemble)
- **Ident. No. 020:** VDE type according to DIN EN 60900

Advantage:
- Safe, ergonomic and effortless work thanks to 2-component handles with slip guard

Technical data:
- Length: 180 mm
- Material of handle: 2-component plastic
- Max. medium wire diameter cutting capacity: 3.5 mm

Ident. No. 010

Ident. No. 020

Surface		Chrome plated	Chrome plated
VDE certified		-	Yes
53232...	Ident. No.	010 ●	020 ●

Prod. Gr. 5HZ

Heavy-duty combination pliers (ISO 5746)

Application:
For gripping, holding and cutting.

Execution:
- Special tool steel, forged and oil-hardened
- Blades also inductively hardened for hard and soft wire
- Gripping zones for flat and round material
- Long cutting edges for thicker cables

Advantage:
- For extremely heavy-duty use, 35% less force required thanks to improved lever ratios
- **Ident. No. 600–720:** Safe, ergonomic and fatigue-free working thanks to two-component handles

Ident. No. 510

Ident. No. 610

Ident. No. 650

Ident. No. 710

Length (mm)	Surface	VDE certified	Material of handle	Max. medium wire Ø cutting capacity (mm)	53068... Ident. No.	
180	Plain	-	Polyvinyl chloride	2.5	500	●
200	Plain	-	Polyvinyl chloride	2.8	510	●
225	Plain	-	Polyvinyl chloride	3	520	●
180	Plain	-	2-component plastic	2.5	600	●
200	Plain	-	2-component plastic	2.8	610	●
225	Plain	-	2-component plastic	3	620	●
180	Chrome plated	-	2-component plastic	2.5	650	●
200	Chrome plated	-	2-component plastic	2.8	660	●
180	Chrome plated	Yes	2-component plastic	2.5	700	●
200	Chrome plated	Yes	2-component plastic	2.8	710	●
225	Chrome plated	Yes	2-component plastic	3	720	●

Prod. Gr. 535

Flat-nose pliers (ISO 5745)

Execution:
- Chrome-vanadium electric steel, forged, oil-hardened
- Flat, short, wide jaws
- Serrated gripping surfaces

- **Ident. No. 090:** VDE type according to DIN EN 60900

Advantage:
- **Ident. No. 050–090:** Safe, ergonomic and fatigue-free working thanks to two-component handles

Technical data:
- Design: Short

Ident. No. 010–030

Ident. No. 050

Ident. No. 090

Length (mm)		140	160	180	140	160	160
Surface		Plain	Plain	Plain	Plain	Plain	Chrome plated
VDE certified		-	-	-	-	-	Yes
Material of handle		Polyvinyl chloride	Polyvinyl chloride	Polyvinyl chloride	2-component plastic	2-component plastic	2-component plastic
53069...	Ident. No.	010 ●	020 ●	030 ●	050 ●	060 ●	090 ●

Prod. Gr. 535

Round-nose pliers (ISO 5745)

Application:
For bending grommets with different radii for wire-shaped materials.

Execution:
- Chrome-vanadium electric steel, forged, oil-hardened
- Round, short jaws, finely ground

- **Ident. No. 180:** VDE type according to DIN EN 60900

Advantage:
- **Ident. No. 160–180:** Safe, ergonomic and fatigue-free working thanks to two-component handles

Ident. No. 100

Ident. No. 160

Ident. No. 180

Length (mm)		160	160	161
Surface		Plain	Plain	Chrome plated
VDE certified		-	-	Yes
Material of handle		Polyvinyl chloride	2-component plastic	2-component plastic
Design		Short	Short	Short
53069...	Ident. No.	100 ●	160 ●	180 ●

Prod. Gr. 535

Snipe nose pliers

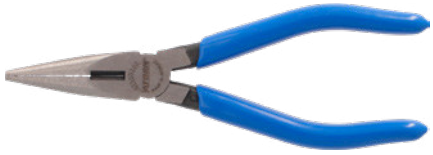
Application:
For gripping, holding and cutting.

Execution:
- Serrated gripping surfaces
- Blades inductively hardened for hard and soft wire

- **Ident. No. 500–520, 710–720, 910, 920:** Flat, round jaws, shape A
- **Ident. No. 500–730:** Special tool steel, oil-hardened
- **Ident. No. 530, 730, 915, 930:** Flat, round jaws, shape B, 45°

- **Ident. No. 910–930:**
  - Tempered tool steel
  - VDE type according to DIN EN 60900

Advantage:
- **Ident. No. 710–930:** Safe, ergonomic and effortless work thanks to 2-component handles



Ident. No. 500

Ident. No. 530

Ident. No. 720

Ident. No. 730

Ident. No. 910

Ident. No. 930

Length (mm)			140	160	200	160	200	160	200
Surface			Plain	Plain	Plain	Chrome plated	Chrome plated	Chrome plated	Chrome plated
VDE certified			-	-	-	-	-	Yes	Yes
Material of handle			Polyvinyl chloride	Polyvinyl chloride	Polyvinyl chloride	2-component plastic	2-component plastic	2-component plastic	2-component plastic
	Design								
53092...	Straight	Ident. No.	500 ●	510 ●	520 ●	710 ●	720 ●	910 ●	920 ●
53092...	Curved	Ident. No.	-	-	530 ●	715 ●	730 ●	915 ●	930 ●

Prod. Gr. 5HZ

Snipe nose pliers (ISO 5745)
with cutting edge

Application:
Suitable for more delicate gripping and cutting tasks.

Execution:
- Vanadium electric steel, forged, oil-hardened

- Pointed, flat, round jaws
- Serrated gripping surfaces
- Blades also inductively hardened
- **Ident. No. 300–340:** VDE type according to DIN EN 60900

Advantage:
- Elastic tips, hold their shape, even in the event of twisting
- **Ident. No. 100–340:** Safe, ergonomic and fatigue-free working thanks to two-component handles

Ident. No. 020

Ident. No. 040

Ident. No. 210

Ident. No. 220

Ident. No. 300

Ident. No. 320

Ident. No. 340

					Design	Straight		Curved	
Length (mm)	Surface	VDE certified	Material of handle	Max. medium wire Ø cutting capacity (mm)	53070... Ident. No.		53070... Ident. No.	
140	Plain	-	Polyvinyl chloride	1.6	010	●	-	-
160	Plain	-	Polyvinyl chloride	1.6	020	●	015	●
200	Plain	-	Polyvinyl chloride	2.2	030	●	040	●
140	Plain	-	2-component plastic	1.6	100	●	-	-
160	Plain	-	2-component plastic	1.6	110	●	-	-
200	Plain	-	2-component plastic	2.2	120	●	130	●
160	Chrome plated	-	2-component plastic	1.6	205	●	200	●
200	Chrome plated	-	2-component plastic	2.2	210	●	220	●
160	Chrome plated	Yes	2-component plastic	1.6	300	●	310	●
200	Chrome plated	Yes	2-component plastic	2.2	320	●	340	●

Prod. Gr. 535

ORION® Snipe nose pliers

Application:
Suitable for more delicate gripping and cutting tasks.

Execution:
- Flat, round jaws, pointed, straight shape
- Serrated gripping surface
- With blade

Length (mm)			200
Surface			Plain
Material of handle			Polyvinyl chloride
	Design		
53095...	Straight	Ident. No.	200 ●

Prod. Gr. 593

KNIPEX Telephone pliers (ISO 5745)

Execution:
- Chrome-vanadium electric steel, forged, oil-hardened
- Cross-toothed gripping surfaces

Advantage:
- **Ident. No. 110:**
  - Safe, ergonomic and fatigue-free working thanks to two-component handles
  - Can also be used as soldering pointed pliers thanks to particularly narrow, fine tips

Ident. No. 100

Length (mm)		160	160
Jaw design		Flat, pointed	Pointed
Surface		Plain	Chrome plated
Material of handle		Polyvinyl chloride	2-component plastic
53071...	Ident. No.	100 ●	110 ●

Prod. Gr. 535

KNIPEX Electrical installation pliers

Application:
For gripping flat and round material, for bending, deburring, cutting cables, stripping and crimping.

Execution:
- Special-grade tool steel, forged, oil-hardened
- Crimp nest for wire end ferrules 0.5-2.5 mm²
- Cable shears with precision cutters
- Bolted joint: precise, clearance-free plier movement

Technical data:
- Length: 255 mm
- Material of handle: 2-component plastic
- Min./max. stripper size: 0.75-2.5 mm²
- Max. medium wire diameter cutting capacity: 15 mm

Ident. No. 110

Ident. No. 120

Ident. No. 125

Surface		Plain	Chrome plated	Chrome plated
Opening spring		Yes	Yes	No
VDE certified		-	Yes	Yes
53074...	Ident. No.	110 ●	120 ●	125 ●

Prod. Gr. 535

ATORN Langbeck flat nose-pliers

Application:
For gripping and holding in confined areas.

Execution:
- Special tool steel, oil-hardened
- Long, slim, flat jaws
- Serrated gripping surfaces

Advantage:
- **Ident. No. 710:** Safe, ergonomic and effortless work thanks to 2-component handles

Technical data:
- Length: 160 mm

Ident. No. 510

Ident. No. 710

Surface		Plain	Chrome plated
Material of handle		Polyvinyl chloride	2-component plastic
53045...	Ident. No.	510 ●	710 ●

Prod. Gr. 5HZ

ATORN VDE Langbeck flat nose-pliers

Application:
For gripping and holding in confined areas.

Execution:
- Tempered tool steel
- Long, slim, flat jaws
- Serrated gripping surfaces
- VDE type according to DIN EN 60900

Advantage:
- Safe, ergonomic and effortless work thanks to 2-component handles

Length (mm)		160
Surface		Chrome plated
VDE certified		Yes
Material of handle		2-component plastic
53046...	Ident. No.	910 ●

Prod. Gr. 5HZ

KNIPEX Langbeck pliers (ISO 5745)
without cutting edge

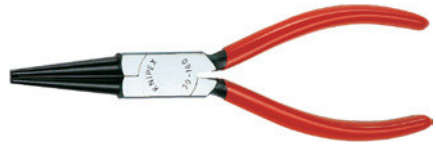
Application:
Ident. No. 010–050, 100–200: For gripping and holding in confined areas.
Ident. No. 060, 210: For bending grommets with different radii for wire-shaped materials.

Execution:
- Chrome-vanadium electric steel, forged, oil-hardened
- Heavy-duty and low-wear
- **Ident. No. 010–050, 100–200:** Serrated gripping surfaces
- **Ident. No. 060, 210:** Smooth-ground gripping surfaces
- **Ident. No. 200–210:** VDE type according to DIN EN 60900

Advantage:
- **Ident. No. 100–210:** Safe, ergonomic and fatigue-free working thanks to two-component handles

Ident. No. 010, 040

Ident. No. 020, 050



Ident. No. 060

Ident. No. 100

Ident. No. 200

Ident. No. 210

Length (mm)	Surface	VDE certified	Material of handle	Jaw design	53072... Ident. No.	
140	Plain	-	Polyvinyl chloride	Flat	010	●
140	Plain	-	Polyvinyl chloride	Pointed	020	●
160	Plain	-	Polyvinyl chloride	Flat	040	●
160	Plain	-	Polyvinyl chloride	Pointed	050	●
160	Plain	-	Polyvinyl chloride	Round	060	●
140	Chrome plated	-	2-component plastic	Pointed	100	●
160	Chrome plated	-	2-component plastic	Pointed	110	●
160	Chrome plated	Yes	2-component plastic	Flat	200	●
160	Chrome plated	Yes	2-component plastic	Round	210	●

Prod. Gr. 535

ATORN Snipe nose pliers and spark-plug connector pliers, long version

Application:

Ident. No. 500–520: For gripping and holding in difficult-to-reach areas.

Ident. No. 540: For holding and loosening round, conical and angular objects.

Execution:

- Special tool steel, oil-hardened
- Pulling round materials and handling particularly delicate workpieces
- **Ident. No. 500:** Long, straight, flat, round jaws
- **Ident. No. 500–520:** Finely serrated with special profile
- **Ident. No. 520:** Long, bent by 35°, flat, round jaws
- **Ident. No. 540:**
  - Long, bent by 90°, flat, round jaws
  - Finely serrated, with burner hole and special tip shape for diameters of 15-30 mm

Advantage:

- The optimum position of the pivot point ensures secure and controlled gripping
- **Ident. No. 540:** The long design prevents the risk of burns from the hot cylinder block

Ident. No. 500

Ident. No. 520

Ident. No. 540

Length (mm)			280
Surface			Chrome plated
Material of handle			Polyvinyl chloride
	Design		
53054...	Straight	Ident. No.	500 ●
53054...	Curved	Ident. No.	520 ●
53054...	Curved gripping ring	Ident. No.	540 ●

Prod. Gr. 5HZ

ATORN Long-nose round pliers

with long, round jaws

Application:

For bending grommets with different radii for wire-shaped materials.

Execution:

- Special tool steel, oil-hardened
- Long, slim, round jaws
- For bending eyelets with a diameter from 2.5 to 7.5 mm

Advantage:

- **Ident. No. 710:** Safe, ergonomic and effortless work thanks to 2-component handles

Ident. No. 510

Ident. No. 710

Length (mm)		160	160
Surface		Plain	Chrome plated
Material of handle		Polyvinyl chloride	2-component plastic
Design		Long	Long
53066...	Ident. No.	510 ●	710 ●

Prod. Gr. 5HZ

ATORN VDE Langbeck round-nose pliers

with long, round jaws

Application:

For bending grommets with different radii for wire-shaped materials.

Execution:

- Tempered tool steel
- Long, slim, round jaws
- For bending eyelets with a diameter from 2.5 to 7.5 mm
- VDE type according to DIN EN 60900

Advantage:

- Safe, ergonomic and effortless work thanks to 2-component handles

Length (mm)		160
Surface		Chrome plated
VDE certified		Yes
Material of handle		2-component plastic
Design		Long
53067...	Ident. No.	900 ●

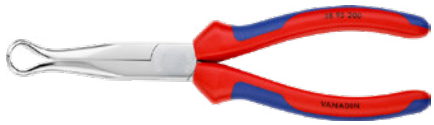
Prod. Gr. 5HZ

Mechanic's pliers

Application:
Ident. No. 010–020: For gripping and holding in difficult-to-reach areas.
Ident. No. 030: for gripping and holding in difficult-to-reach areas.

Execution:
- **Ident. No. 010–020:**
  - Vanadium electric steel, forged, oil-hardened
  - Flat-round, long jaws
  - Cross-toothed gripping surfaces
  - The pliers jaws and tips have a high level of bending strength
- **Ident. No. 030:**
  - vanadium electric steel, forged, oil-hardened
  - flat-round, long jaws
  - cross-toothed gripping surfaces
  - special curved jaws angled 45° for gripping round parts
  - pliers jaws and tips have a high flexural strength

Ident. No. 010


Ident. No. 030

Length (mm)		200	200	200
Surface		Chrome plated	Chrome plated	Chrome plated
Material of handle		2-component plastic	2-component plastic	2-component plastic
Design		Straight	Offset | 45°	Offset
53074...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 535

Cone pliers (ISO 5743)

Execution:
- Special tool steel, forged, oil-hardened
- Straight, serrated gripping jaws
- Black atramentised pliers
- Head thickness: 3.5 mm

Length (mm)		200
Surface		Plain
Material of handle		Polyvinyl chloride
Gripper Ø, closed (mm)		6/10
Head design		Straight
53075...	Ident. No.	200 ●

Prod. Gr. 535

ATORN Pliers wrench

Application:
For gentle screwing of delicate surfaces

Execution:
- Smooth jaws with stepless parallel movement for gentle gripping or powerful pressing
- Push-button fine adjustment of all widths across flats for comfortable arm positioning
- Strong clamping force thanks to >10:1 lever ratio
- Slightly open the mouth for fast, ratchet-style tightening or loosening of nuts
- Protected scale for presetting the desired width across flats

Advantage:
- Powerful, precisely adjustable screw tool for parallel, full-surface, play-free and secure gripping of multiple edges without damage

Technical data:
- Surface: Chrome plated

Ident. No. 400

Ident. No. 410

Length (mm)		180	250	250	180	300
Width across flats		40 mm	52 mm	52 mm	40 mm	68 mm
Material of handle		Polyvinyl chloride	Polyvinyl chloride	3-component plastic	3-component plastic	Polyvinyl chloride
53075...	Ident. No.	390 ●	400 ●	410 ●	395 ●	430 ●

Prod. Gr. 5HZ

Pliers wrench (ISO 5743)

Application:
For clearance-free, safe gripping of parallel surfaces.

Execution:
- Chrome-vanadium electric steel, forged, oil-hardened
- Flat, parallel gripping jaws
- Replaces a complete set of wrenches thanks to infinitely variable gripping of all wrench sizes

Advantage:
- Quick direct adjustment to workpiece via pushbutton
- The stroke between the gripping jaws enables rapid tightening and loosening of bolted connections using the ratchet principle
- Also suitable for bending sheet metal or breaking tiles
- High degree of clamping force due to 10x more manual force
- **Ident. No. 090–110:** Safe, ergonomic and fatigue-free working thanks to two-component handles

Technical data:
- Surface: Chrome plated

Ident. No. 002

Ident. No. 010

Ident. No. 020

Ident. No. 030

Ident. No. 100

Ident. No. 110

Length (mm)	Width across flats	Material of handle	53076... Ident. No.	
125	23 mm	Polyvinyl chloride	002	●
150	27 mm	Polyvinyl chloride	005	●
180	40 mm	Polyvinyl chloride	010	●
250	52 mm	Polyvinyl chloride	020	●
300	68 mm	Polyvinyl chloride	030	●
400	85 mm	Polyvinyl chloride	040	●
150	27 mm	2-component plastic	090	●
180	40 mm	2-component plastic	100	●
250	51 mm	2-component plastic	110	●

Prod. Gr. 535

Protective jaws for pliers wrench

Suitable for size 250 mm

Application:
For working on particularly sensitive surfaces

Execution:
- Easy to slip on, made of plastic
- suitable for size 250 mm, 2018 model

Delivery:
Set of 3 pairs

Technical data:
- Width across flats: 52 mm
- Surface: Polyvinyl chloride

53076...	Ident. No.	210 ●

Prod. Gr. 535

Quick-adjustment locking pliers

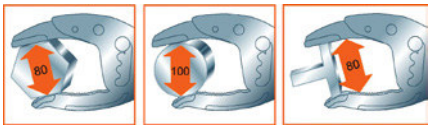
Application:
For flexible clamping of round and flat material.

Execution:
- Chrome-vanadium alloy
- Jaw width 18 mm

Advantage:
- Optimum flexibility thanks to 4-way opening quick-adjustment mechanism
- One-handed adjustment wheel integrated in the handle
- Ergonomic soft opening system

Length (mm)		250
Min./max. clamping width		0-100 mm
Surface		Chrome plated
53419...	Ident. No.	010 ●

Prod. Gr. 5HZ



Adjustable locking pliers

Top straight jaw, bottom prism jaw or half-round jaws, with wire cutter

Application:
For clamping round and flat material.

Execution:
- One-hand, quick release lever with return spring and pinch guard.
- Carbon-nitrided knurled thumb screw with fine thread for precise adjustment of the clamping width and clamping pressure.
- **Ident. No. 110–130:**
  - Wire groove in upper jaw - wires can be gripped and routed from the front
  - Forged and hardened jaws at the top, straight at the bottom with prism, made of chrome-vanadium.
- **Ident. No. 140–160:**
  - Fine toothing in the front jaw area.
  - Forged and hardened jaws half-round form, made of chrome-vanadium.
  - Ground wire cutter for cutting welding wires, but also for cutting nails

Technical data:
- Surface: Nickel plated

Ident. No. 120

Ident. No. 150

Length (mm)		180	250	300	180	250	300
Jaw design		With prism	With prism	With prism	With wire cutters	With wire cutters	With wire cutters
Min./max. clamping width		0-30 mm	0-35 mm	0-50 mm	0-35 mm	0-50 mm	0-65 mm
53420...	Ident. No.	110 ●	120 ●	130 ●	140 ●	150 ●	160 ●

Prod. Gr. 5HZ

ATORN Welder's, clamping, parallel clamping, wide jaw locking pliers

with steel jaws

Application:

Ident. No. 200: For clamping profile or flat material edge-to-edge for welding.

Ident. No. 210–220: For clamping profile and flat material.

Ident. No. 230: For clamping edges and surfaces.

Execution:

- One-hand, quick release lever with return spring and pinch guard.
- **Ident. No. 200:**
  - Large clamping range, easy and flexible clamping - very good vibration absorption
  - Simple and efficient clamping force adjustment, ideal for delicate surfaces
- Carbonated knurled thumb screw with fine thread for precise adjustment of the clamping width and clamping pressure.
- **Ident. No. 200–210:** Forged chrome-vanadium jaws.
- **Ident. No. 210:** Jaw size when closed: 55 x 85 mm, jaw width: 12 mm
- **Ident. No. 210–220:** Ideal for bulky workpieces or for clamping behind bars.
- **Ident. No. 210–230:** Carbon-nitrided knurled thumb screw with fine thread for precise adjustment of the clamping width and clamping pressure.
- **Ident. No. 220:**
- Movable, forged jaws made of chrome-vanadium.
- Due to the alignment jaws with the large support plates, an excellent clamping effect is achieved even with unbalanced bodies.
- Jaw size when closed: 55 x 85 mm, plate: 30 mm
- **Ident. No. 230:**
  - Chrome-vanadium jaws.
  - Ideal for clamping, bending and crimping thin and soft sheet metal.
  - Jaw width: 80 mm; jaw thickness: 3 mm

Technical data:

- Surface: Nickel plated

Ident. No. 200

Ident. No. 210

Ident. No. 220

Ident. No. 230

Length (mm)		280	280	280	180
Jaw design		Discontinued	Discontinued	Round	Flat, wide
Min./max. clamping width		0-60 mm	0-90 mm	0-91 mm	0-45 mm
53420...	Ident. No.	200 ●	210 ●	220 ●	230 ●

Prod. Gr. 5HZ

HAZET Automatic locking pliers

Application:

For clamping round and flat material.

Execution:

- Chrome-vanadium steel
- **Ident. No. 070:** Long pointed jaws

Advantage:

- One-handed operation and with automatic adjustment
- Simple and safe unlocking function – pliers remain closed until release actuated
- Variable adjustment of clamping force

Technical data:

- Surface: Nickel plated

Ident. No. 060

Ident. No. 070

Ident. No. 100

Length (mm)		161	192	230
Min./max. clamping width		0-32 mm	0-44 mm	0-44 mm
53421...	Ident. No.	060 ●	070 ●	100 ●

Prod. Gr. 569

GEDORE Locking pliers

WERKZEUGE FÜRS LEBEN

Application:

For clamping round and flat material.

Execution:

- Chrome-vanadium steel
- Forged, tempered jaws
- With longitudinal groove in the upper jaw
- With adjusting screw and release lever

Technical data:

- Surface: Nickel plated

Length (mm)		175	240	280
Min./max. clamping width		0-25 mm	0-32 mm	0-46 mm
53422...	Ident. No.	175 ●	250 ●	280 ●

Prod. Gr. 530

STAHLWILLE® Wire-twisting pliers

Application:
For quick and simple twirling of wires for screw retainers.

Execution:
- Chrome-vanadium steel
- Burnished and polished head
- Roughened jaws for a secure hold, angled at 40°
- With additional blade
- For wires up to 1.6 mm

Advantage:
- For clockwise and anti-clockwise rotation
- With automatic return

Technical data:
- Surface: Burnished

Length (mm)		230	280
53137...	Ident. No.	010 ●	020 ●

Prod. Gr. 531

ATORN Water pump pliers with large gripping range
with box joint and double guide

Execution:
- 30% larger gripping area
- enhanced self-clamping with optimised jaw design
- fine adjustment graduations owing to quick-snap ratchet principle
- spring-driven sliding block ensures quicker engagement
- opposing toothing at the back of the jaws ensures aggressive gripping
- Inductively hardened, serrated jaws
- **Ident. No. 400:** VDE type according to DIN EN 60900

Ident. No. 025

Ident. No. 250

Ident. No. 400

Length (mm)		180	250	300	180	250	250
Max. clamping width (mm)		42	50	70	42	50	50
Surface		Plain	Plain	Plain	Chrome plated	Chrome plated	Chrome plated
Material of handle		Polyvinyl chloride	Polyvinyl chloride	Polyvinyl chloride	2-component plastic	2-component plastic	2-component plastic
VDE certified		-	-	-	-	-	Yes
53413...	Ident. No.	018 ●	025 ●	030 ●	180 ●	250 ●	400 ●

Prod. Gr. 5HZ

ATORN Water pump pliers (ISO 8976)
with box joint

Application:
For gripping pipes, screws or other workpieces.

Execution:
- Chrome-vanadium steel, high-quality tempering
- Box joint, extremely robust thanks to double guide
- Safety pinching guard to prevent crushing injuries
- Painted red
- Knurled handles with yellow plastic coating

Advantage:
- Self-clamping on workpiece, non-slip and effort-less work

Length (mm)		160	250	315
Max. clamping width (mm)		20	35	45
53416...	Ident. No.	490 ●	500 ●	510 ●

Prod. Gr. 5HZ

KNIPEX Pipe gripping pliers with and without protective jaws
(Siphon pliers, connector pliers)

Application:
Ident. No. 004: For gripping pipes and for tightening and loosening pipe connections.
Ident. No. 009: For gripping pipes and for tightening and loosening plastic pipe connections.

Execution:
- **Ident. No. 004:**
  - Chromium-vanadium electric steel, forged, oil-hardened
  - Adjustable hinge, toothed gripper jaws
- **Ident. No. 009:**
  - Chrome-vanadium electric steel, forged, oil-hardened
  - Adjustable hinge, replaceable plastic protective jaws

Ident. No. 004

Ident. No. 009

Length (mm)		250	250
Max. clamping width (mm)		80	75
Surface		Plain	Plain
Material of handle		Polyvinyl chloride	Polyvinyl chloride
53075...	Ident. No.	004 ●	009 ●

Prod. Gr. 535

Accessories for		53075 009
53075... Spare protective jaws for pipe gripping pliers 2 pairs	Ident. No.	105 ●

Smart Grip water pump pliers (ISO 8976)

Execution:
- Chrome-vanadium electric steel, forged, oil-hardened
- Box joint, excellent stability thanks to double guide and pinch guard in all settings
- Grey atramentised pliers

Advantage:
- Optimum one-handed operation for right and left-handed use thanks to fully automatic adjustment to the workpiece size
- Self-locking on pipes and nuts, energy-saving work process

Length (mm)		250
Max. clamping width (mm)		36
Surface		Plain
Material of handle		Polyvinyl chloride
53077...	Ident. No.	025 ●

Prod. Gr. 535

Cobra QuickSet pliers (ISO 8976)

with box joint

Execution:
- Chrome-vanadium electric steel, forged, oil-hardened
- Box joint, excellent stability thanks to double guide and pinch guard in all settings
- To activate the push function again, open the pliers all the way and push the button
- Ref. no. 270 with automatic adjustment by means of a protected spring

Advantage:
- To adjust, simply push the pliers onto the work-piece and the locking piece directly engages with initial pressure
- Self-locking on pipes and nuts, energy-saving work process

Length (mm)		250
Max. clamping width (mm)		46
Surface		Black atramentised
Material of handle		Polyvinyl chloride
53078...	Ident. No.	250 ●

Prod. Gr. 535

Ear clamp pliers

Application:
For pressing 1-ear and 2-ear hose clamps (Oetiker system or similar)

Execution:
- Optimal lever position for energy-saving crimping
- No damage to the pressing points due to rounded cutting edge
- Ref.: No. 110 – with lateral cut for use in confined spaces

Technical data:
- Length: 220 mm
- Surface: Grey atramentised

Ident. No. 100

Ident. No. 110

Max. clamping width (mm)		15	18
53079...	Ident. No.	100 ●	110 ●

Prod. Gr. 535

Cobra Hightech water pump pliers

Patented slip joint with double slide

Application:
Ident. No. 001: for gripping pipes, screws or other workpieces.
Ident. No. 002–100: For gripping pipes, screws or other workpieces.

Execution:
- **Ident. No. 001:**
  - chromium-vanadium electric steel, forged, oil-hardened
  - box joint, excellent stability thanks to double guide and pinch guard in all settings
  - grey atramentised pliers
  - Cobra XS – Bites like a larger model: the smallest fully functional water pump pliers in the world
  - Handles with embossed, rough surface
  - Particularly compact design, very slim head
- **Ident. No. 002–040, 060–080:** Grey atramentised pliers
- **Ident. No. 002–100:**
  - Chrome-vanadium electric steel, forged, oil-hardened
  - Box joint, excellent stability thanks to double guide and pinch guard in all settings
- **Ident. No. 020, 040:** Polished head
- **Ident. No. 050:** Chrome-plated pliers
- **Ident. No. 100:** VDE type according to DIN EN 60900

Advantage:
- **Ident. No. 001:**
  - adjust to workpiece using pushbutton
  - self-locking on pipes and nuts, energy-saving work process
  - excellent leverage, optimum force transmission
- **Ident. No. 002–100:**
  - Direct adjustment to workpiece via pushbutton
  - Self-locking on pipes and nuts, energy-saving work process
  - Favourable leverage, optimum force transmission
- **Ident. No. 020, 040–050, 100:** Safe, ergonomic and fatigue-free working thanks to two-component handles

Ident. No. 001

Ident. No. 002–010, 030, 060, 080

Ident. No. 020, 040

Ident. No. 050

Ident. No. 070

Ident. No. 100

Length (mm)	Max. clamping width (mm)	Surface	Material of handle	VDE certified	53081... Ident. No.	
100	24	Plain	Steel	-	001	●
125	27	Plain	Polyvinyl chloride	-	002	●
150	30	Plain	Polyvinyl chloride	-	005	●
180	36	Plain	Polyvinyl chloride	-	010	●
180	36	Plain	2-component plastic	-	020	●
250	50	Plain	Polyvinyl chloride	-	030	●
250	50	Plain	2-component plastic	-	040	●
250	50	Chrome plated	2-component plastic	-	050	●
250	50	Chrome plated	2-component plastic	Yes	100	●
300	60	Plain	Polyvinyl chloride	-	060	●
400	95	Plain	Polyvinyl chloride	-	070	●
560	120	Plain	Polyvinyl chloride	-	080	●

Prod. Gr. 535

ATORN Slip joint pliers

Execution:
- Chrome-vanadium steel, drop-forged
- Inductively hardened jaw
- With box joint and 13 detent positions

Advantage:
- Pinch guard provides added safety
- Self-clamping with optimised jaw design
- Non-slip and gentle to edges due to play-free force fit

Length (mm)		260
Width across flats		36 mm
Surface		Chrome plated
Material of handle		Polyvinyl chloride
53417...	Ident. No.	500 ●

Prod. Gr. 5HZ

KNIPEX Alligator® water pump pliers (ISO 8976)
with box joint

Application:
For gripping pipes, screws or other workpieces.

Execution:
- Chrome-vanadium electric steel, forged, oil-hardened
- Box joint, excellent stability thanks to double guide and pinch guard in all settings
- **Ident. No. 500–530:** PVC-dipped handles
- **Ident. No. 710:** VDE type according to DIN EN 60900

Advantage:
- Self-locking on pipes and nuts, energy-saving work process
- Slim head and joint area provides excellent access to the workpiece
- Consistently safe gripping and excellent resistance to wear thanks to gripping surfaces with specially hardened teeth
- Robust design, resistant to soiling
- **Ident. No. 600–710:** Safe, ergonomic and fatigue-free working thanks to two-component handles

Ident. No. 530

Ident. No. 600–620

Ident. No. 710

Ident. No. 500–520

Length (mm)		180	250	300	400	180	250	300	250
Max. clamping width (mm)		36	50	60	90	50	50	60	50
Surface		Plain	Plain	Plain	Plain	Chrome plated	Chrome plated	Chrome plated	Chrome plated
Material of handle		Polyvinyl chloride	Polyvinyl chloride	Polyvinyl chloride	Polyvinyl chloride	2-component plastic	2-component plastic	2-component plastic	2-component plastic
VDE certified		-	-	-	-	-	-	-	Yes
53081...	Ident. No.	500 ●	510 ●	520 ●	530 ●	600 ●	610 ●	620 ●	710 ●

Prod. Gr. 535

ORION® Water pump pliers (ISO 8976)

with box joint

Execution:
- Chrome-vanadium steel
- Painted red
- Serrated gripping surfaces

Technical data:
- Surface: Plain
- Material of handle: Steel

Length (mm)		250	300
Max. clamping width (mm)		40	50
53418...	Ident. No.	250 ●	300 ●

Prod. Gr. 593

VBW Pipe wrench, Swedish form (DIN 5234)

Chromium-vanadium steel

Application:
For gripping pipes and pipe collars.

Execution:
- Swedish type, head angled by 90°
- Teeth inductively hardened
- Painted red
- **Ident. No. 010–020:**
  - Fully forged, high-quality tempering
  - Ribbed handle
  - Wide head
- **Ident. No. 030–040:** Wide, ground jaw

Advantage:
- Self-clamping on the workpiece
- Safety pinching guard to prevent crushing injuries
- Nuts cannot be lost

Technical data:
- Material of handle: Steel

Size in inches		1	1.5	2	3	4
Length (mm)		310	425	540	685	815
Max. clamping width (mm)		49	65	84	110	140
53430...	Ident. No.	010 ●	015 ●	020 ●	030 ●	040 ●

Prod. Gr. 544

ATORN Pipe wrench (DIN 5234)

Chromium-vanadium steel, Swedish form

Application:
For gripping pipes and pipe collars.

Execution:
- Chrome-vanadium steel, forged, tempered
- Swedish form, head angled by 90°
- Teeth also inductively hardened

Advantage:
- Teeth offset against the direction of rotation
- Pinching guard
- Adjustment nut can be locked

Technical data:
- Surface: Cathodic dip painting
- Material of handle: Steel

Size in inches		1	1.5	2
Length (mm)		310	425	560
Max. clamping width (mm)		49	68	94
53430...	Ident. No.	600 ●	610 ●	620 ●

Prod. Gr. 5HZ

ATORN Elbow pipe wrench (DIN 5234)

Chromium-vanadium steel, Swedish form

Application:
For gripping pipes and pipe collars.

Execution:
- Forged and tempered
- Swedish form, head angled by 45°
- Teeth also inductively hardened

Advantage:
- Teeth offset against the direction of rotation
- Pinching guard
- Adjustment nut can be locked

Technical data:
- Surface: Cathodic dip painting
- Material of handle: Steel

Size in inches		1	1.5	2
Length (mm)		320	445	565
Max. clamping width (mm)		55	81	94
53431...	Ident. No.	600 ●	610 ●	620 ●

Prod. Gr. 5HZ

ATORN Elbow pipe wrench (DIN 5234)

Swedish form

Application:
For gripping pipes and pipe collars.

Execution:
- Chrome-vanadium steel, forged, tempered
- Swedish form, S-shaped jaws
- Teeth also inductively hardened

Advantage:
- Teeth offset against the direction of rotation
- Pinching guard
- Adjustment nut can be locked

Technical data:
- Surface: Cathodic dip painting
- Material of handle: Steel

Size in inches		1	1.5	2
Length (mm)		320	440	560
Max. clamping width (mm)		55	68	85
53434...	Ident. No.	600 ●	610 ●	620 ●

Prod. Gr. 5HZ

VBW Chain pipe wrench

Application:
For holding and turning pipes.

Execution:
- Special steel
- Hardened interchangeable jaws with serration on both sides
- Strong, forged handle
- Heavy-duty steel chain
- Painted red

Advantage:
- Powerful thanks to maximum lever action

Technical data:
- Surface of the handle: Lacquered

Size in inches		1.5	2.5	4	6
Length (mm)		510	710	915	1065
Chain length (mm)		380	490	610	850
53440...	Ident. No.	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 544

RIDGID Heavy-duty pipe wrenches

Robust cast iron construction

Execution:
- Double T-handle with moving, forged hook jaws.
- Self-cleaning thread
- Single-handed actuation entirely possible

Size in inches		5	6
Length (mm)		900	1200
Max. clamping width (mm)		125	150
53437...	Ident. No.	140 ●	150 ●

Prod. Gr. 5JR

ATORN Straight circlip pliers

for internal circlips

Application:
For mounting and removing inner retaining rings in drill holes.

Execution:
- Chrome-vanadium steel
- Polished joint
- Burnished tips
- Straight tips in accordance with DIN 5256 C

Advantage:
- Hardened and wear-resistant tips to securely hold the rings

Technical data:
- Head design: Straight
- Surface: Plain
- Material of handle: Polyvinyl chloride

Type		J 0	J 1	J 2	J 3	J 4
Length (mm)		140	140	180	225	310
Suitable for min./max. Ø		8-13 mm	12-25 mm	19-60 mm	40-100 mm	85-140 mm
53136...	Ident. No.	500 ●	510 ●	520 ●	530 ●	540 ●

Prod. Gr. 5HZ

ATORN Circlip pliers, angled
for internal circlips

Application:
For mounting and removing inner retaining rings in drill holes.

Execution:
- Chrome-vanadium steel
- Polished joint
- Burnished tips
- Angled tips in accordance with DIN 5256 D

Advantage:
- Hardened and wear-resistant tips to securely hold the rings

Technical data:
- Head design: Angled 90°
- Surface: Plain
- Material of handle: Polyvinyl chloride

Type		J 01	J 11	J 21	J 31	J 41
Length (mm)		140	140	180	225	310
Suitable for min./max. Ø		8-13 mm	12-25 mm	19-60 mm	40-100 mm	85-140 mm
53137...	Ident. No.	500 ●	510 ●	520 ●	530 ●	540 ●

Prod. Gr. 5HZ

ATORN Straight circlip pliers
for external circlips

Application:
For mounting and removing outer retaining rings on shafts.

Execution:
- Chrome-vanadium steel
- Polished joint
- Burnished tips
- Straight tips in accordance with DIN 5254 A

Advantage:
- Hardened and wear-resistant tips to securely hold the rings

Technical data:
- Head design: Straight
- Surface: Plain
- Material of handle: Polyvinyl chloride

Type		A 0	A 1	A 2	A 3	A 4
Length (mm)		140	140	180	225	310
Suitable for min./max. Ø		3-10 mm	10-25 mm	19-60 mm	40-100 mm	85-140 mm
53145...	Ident. No.	510 ●	520 ●	530 ●	540 ●	550 ●

Prod. Gr. 5HZ

ATORN Circlip pliers, angled
for external circlips

Application:
For mounting and removing outer retaining rings on shafts.

Execution:
- Chrome-vanadium steel
- Polished joint
- Burnished tips
- Angled tips in accordance with DIN 5254 B

Advantage:
- Hardened and wear-resistant tips to securely hold the rings

Technical data:
- Head design: Angled 90°
- Surface: Plain
- Material of handle: Polyvinyl chloride

Type		A 01	A 11	A 21	A 31	A 41
Length (mm)		140	140	180	225	310
Suitable for min./max. Ø		3-10 mm	10-25 mm	19-60 mm	40-100 mm	85-140 mm
53148...	Ident. No.	510 ●	520 ●	530 ●	540 ●	550 ●

Prod. Gr. 5HZ

ATORN Circlip pliers sets

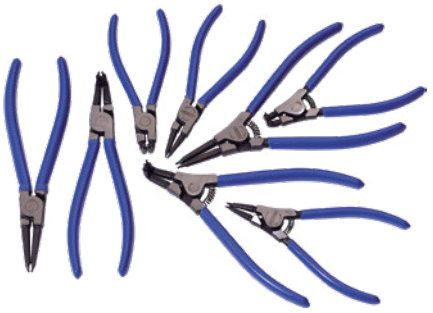
Application:
For mounting and removing inner and outer retaining rings.

Execution:
- Chrome-vanadium steel
- Polished joint
- Burnished tips

Advantage:
- Hardened and wear-resistant tips to securely hold the rings

Delivery:
Ident. No. 010: In cardboard box with 1 each: J 1, J 2, J 11, J 21, A 1, A 2, A 11, A 21
Ident. No. 020: In tool roll with 1 each: J 2, J 21, A 2, A 21
Ident. No. 030: In tool roll with 1 each: J 1, J 2, J 11, J 21, A 1, A 2, A 11, A 21

Technical data:
- Material of handle: Polyvinyl chloride



Ident. No. 010

Ident. No. 020

Ident. No. 030

Number of pieces in assortment/set (PCS)		8	4	8
Container		Carton	Pocket package	Pocket package
53135...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 5HZ

KNIPEX Circlip pliers (DIN 5256)
for internal circlips

Application:
For mounting and removing inner retaining rings in drill holes.

Execution:
- Chrome-vanadium steel, forged, oil-hardened
- Polished head

Advantage:
- Non-slip, robust tips

Technical data:
- Surface: Black atramentised
- Material of handle: Polyvinyl chloride

Ident. No. 050

Ident. No. 100

Type	Length (mm)	Suitable for min./ max. Ø	Head design	53091... Ident. No.	
J 0	140	8-13 mm	Straight	010	●
J 1	140	12-25 mm	Straight	020	●
J 2	180	19-60 mm	Straight	030	●
J 3	225	40-100 mm	Straight	040	●
J 4	320	85-140 mm	Straight	050	●
J 01	130	8-13 mm	Angled 90°	060	●
J 11	130	12-25 mm	Angled 90°	070	●
J 21	170	19-60 mm	Angled 90°	080	●
J 31	210	40-100 mm	Angled 90°	090	●
J 41	300	85-140 mm	Angled 90°	100	●

Prod. Gr. 535

KNIPEX Circlip pliers (DIN 5254)
for external circlips

Application:
For mounting and removing outer retaining rings on shafts.

Execution:
- Chrome-vanadium steel, forged, oil-hardened
- Polished head

Advantage:
- Non-slip, robust tips

Technical data:
- Surface: Black atramentised
- Material of handle: Polyvinyl chloride

Ident. No. 140

Type	Length (mm)	Suitable for min./ max. Ø	Head design	53091... Ident. No.	
A 0	140	3-10 mm	Straight	110	●
A 1	140	10-25 mm	Straight	120	●
A 2	180	19-60 mm	Straight	130	●
A 3	210	40-100 mm	Straight	140	●

Type	Length (mm)	Suitable for min./ max. Ø	Head design	53091... Ident. No.	
A 4	320	85-140 mm	Straight	150	●
A 01	125	3-10 mm	Angled 90°	160	●
A 11	125	10-25 mm	Angled 90°	170	●
A 21	170	19-60 mm	Angled 90°	180	●
A 31	200	40-100 mm	Angled 90°	190	●
A 41	300	85-140 mm	Angled 90°	200	●

Prod. Gr. 535

Ident. No. 180

Circlip pliers sets

for internal and external circlips

Application:
for mounting and removing inner and outer circlips.

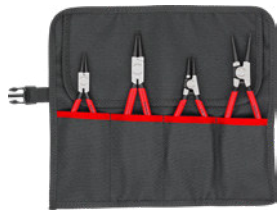
Execution:
- chrome vanadium steel, forged, oil-hardened
- polished head
- non-slip, robust tips

Delivery:
Ident. No. 250: in roll-up pouch with 1x: J 1, J 2, A 1, A 2
Ident. No. 260: in roll-up pouch with 1x: J 1, J 2, J 11, J 21, A 1, A 2, A 11, A 21

Technical data:
- Material of handle: Polyvinyl chloride

Number of pieces in assortment/set (PCS)		4	8
Container		Roll	Pocket package
53091...	Ident. No.	250 ●	260 ●

Prod. Gr. 535



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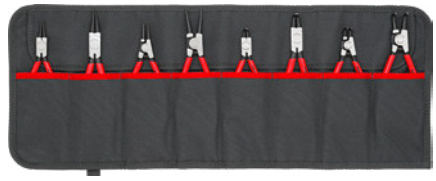


Ident. No. 260

Precision circlip pliers with inlaid spring steel wire tips

for internal circlips

Application:
For mounting and removing inner retaining rings in drill holes.

Execution:
- Chrome-vanadium electric steel, forged, oil-hardened
- Inlaid tips, spring steel wire, drawn

Advantage:
- Safe working processes with inlaid tips
- For heavy-duty use, even in continuous operation, up to 10x longer service life compared to turned tips

Technical data:
- Surface: Grey atramentised
- Material of handle: Polyvinyl chloride

Type	Length (mm)	Suitable for min./ max. Ø	Head design	53091... Ident. No.	
J 0	140	8-13 mm	Straight	500	●
J 1	140	12-25 mm	Straight	510	●
J 2	180	19-60 mm	Straight	520	●
J 3	225	40-100 mm	Straight	530	●
J 4	320	85-140 mm	Straight	540	●
J 01	130	8-13 mm	Angled 90°	550	●
J 11	130	12-25 mm	Angled 90°	560	●
J 21	170	19-60 mm	Angled 90°	570	●
J 31	210	40-100 mm	Angled 90°	580	●
J 41	300	85-140 mm	Angled 90°	590	●

Prod. Gr. 535

Ident. No. 540

Ident. No. 590

Precision circlip pliers with inserted spring steel wire tips (DIN 5254)

for external circlips

Application:
For mounting and removing outer retaining rings on shafts.

Execution:
- Chrome-vanadium electric steel, forged, oil-hardened
- Inlaid tips, spring steel wire, drawn

Advantage:
- Safe working processes with inlaid tips
- For heavy-duty use, even in continuous operation, up to 10x longer service life compared to turned tips

Technical data:
- Surface: Grey atramentised
- Material of handle: Polyvinyl chloride

Ident. No. 640

Ident. No. 690

Type	Length (mm)	Suitable for min./ max. Ø	Head design	53091... Ident. No.	
A 0	140	3-10 mm	Straight	600	●
A 1	140	10-25 mm	Straight	610	●
A 2	180	19-60 mm	Straight	620	●
A 3	210	40-100 mm	Straight	630	●
A 4	320	85-140 mm	Straight	640	●
A 01	125	3-10 mm	Angled 90°	650	●
A 11	125	10-25 mm	Angled 90°	660	●
A 21	170	19-60 mm	Angled 90°	670	●
A 31	200	40-100 mm	Angled 90°	680	●
A 41	300	85-140 mm	Angled 90°	690	●

Prod. Gr. 535

Precision circlip pliers sets

for internal and external circlips

Application:
For mounting and removing inner and outer retaining rings.

Execution:
- Chrome-vanadium electric steel, forged, oil-hardened
- Inlaid tips, spring steel wire, drawn
- Grey atramentised pliers

Advantage:
- **Ident. No. 700–710:**
  - Safe working processes with inlaid tips
  - For heavy-duty use, even in continuous operation, up to 10x longer service life compared to turned tips

Delivery:
Ident. No. 700: in roll-up pouch with 1x: J 1, J 2, A 1, A 2

Ident. No. 705: in roll-up pouch with 1x: J 2, J 21, A 2, A 21

Ident. No. 710: In plastic case with foam inlay with 1x: J 1, J 2, J 11, J 21, A 1, A 2, A 11, A 21

Ident. No. 715: In textile roll bag with 1 piece each J1, J2, J11, J21, A1, A2, A11, A21

Technical data:
- Material of handle: Polyvinyl chloride

Ident. No. 700

Ident. No. 710

Ident. No. 715

Number of pieces in assortment/set (PCS)		4	4	8	8
Container		Roll	Pocket package	Plastic case	Pocket package
53091...	Ident. No.	700 ●	705 ●	710 ●	715 ●

Prod. Gr. 535

Circlip pliers (DIN 5256)
For internal circlips

Application:
For mounting and removing inner retaining rings in drill holes.

Execution:
- Rolled steel, high-strength
- Interchangeable tips made from special tool steel, oil-hardened
- Powder-coated black
- With unlockable locking mechanism

Technical data:
- Surface: Powder-coated
- Material of handle: Steel

Ident. No. 800

Ident. No. 820

Type		J 5	J 6	J 51	J 61
Length (mm)		550	586	550	586
Suitable for min./max. Ø		122-300 mm	252-400 mm	122-300 mm	252-400 mm
Head design		Straight	Straight	Angled 90°	Angled 90°
53091...	Ident. No.	800 ●	810 ●	820 ●	830 ●

Prod. Gr. 535

Accessories for			53091 800	53091 810	53091 820
53091...	Spare tip	Ident. No.	900 ●	910 ●	920 ●

Accessories for			53091 830
53091...	Spare tip	Ident. No.	930 ●

Circlip pliers (DIN 5254)
For external circlips

Application:
For mounting and removing outer retaining rings on shafts.

Execution:
- Rolled steel, high-strength
- Interchangeable tips made from special tool steel, oil-hardened
- Powder-coated black
- With unlockable locking mechanism

Technical data:
- Surface: Powder-coated
- Material of handle: Steel

Ident. No. 840

Ident. No. 860

Type		A 5	A 6	A 51	A 61
Length (mm)		550	586	550	586
Suitable for min./max. Ø		122-300 mm	252-400 mm	122-300 mm	252-400 mm
Head design		Straight	Straight	Angled 90°	Angled 90°
53091...	Ident. No.	840 ●	850 ●	860 ●	870 ●

Prod. Gr. 535

Accessories for			53091 840	53091 850	53091 860
53091...	Spare tip	Ident. No.	940 ●	950 ●	960 ●

Accessories for			53091 870
53091...	Spare tip	Ident. No.	970 ●

Pincers (ISO 9243)

Application:
For removing nails or for pinching wire.

Execution:
- Special tool steel, oil-hardened
- Polished head

Technical data:
- Surface of the handle: Black atramentised

Length (mm)		160	180	200	250
53302...	Ident. No.	500 ●	510 ●	520 ●	530 ●

Prod. Gr. 5HZ

Pincers (ISO 9243)

Application:
For driving in and removing nails or for pinching wire.

Execution:
- Special tool steel, oil-hardened
- Polished head

Advantage:
- With a striking face for driving in nails

Technical data:
- Material of handle: Polyvinyl chloride

Length (mm)		180	200
53304...	Ident. No.	500 ●	510 ●

Prod. Gr. 5HZ

ATORN Mechanic's nippers (ISO 9242)

Application:
For twisting and pinching wire or for pulling out nails.

Execution:
- Special tool steel, oil-hardened
- Blackened pliers
- Polished head
- Permanently sharp, inductively hardened precision blades

Advantage:
- Optimum cutting performance thanks to excellent leverage

Technical data:
- Material of handle: Polyvinyl chloride

Length (mm)		220	250	280
53299...	Ident. No.	220 ●	250 ●	280 ●

Prod. Gr. 5HZ

VBW TopCut concreters' nippers (ISO 9242)

Mechanic's nippers

Application:
For twisting and pinching wire or for pulling out nails.

Execution:
- Special tool steel, drop-forged, oil-hardened
- Black atramentised pliers
- Polished head
- Inductively hardened blades for excellent wear resistance

Advantage:
- Opening angle is limited for one-handed closure
- Less cutting force required thanks to optimum blade geometry

Length (mm)		224	250	280
53300...	Ident. No.	510 ●	520 ●	530 ●

Prod. Gr. 544

KNIPEX Heavy-duty concreters' nippers, nickel-plated (ISO 9242)

Application:
For twisting and pinching wire or for pulling out nails.

Execution:
- Special-grade tool steel, forged, oil-hardened
- Fully nickel-plated pliers
- Blades additionally hardened

Advantage:
- 25% less force required compared to standard long-handled pincers of the same size thanks to the high-ratio joint, which relieves strain
- Also suitable for tying deep-set iron bars thanks to the particularly narrow design
- Strong damping of the cutting impact after cutting binding wire relieves strain on tendons and muscles

Length (mm)		250	300
53300...	Ident. No.	025 ●	030 ●

Prod. Gr. 535

ATORN Heavy-duty end cutting nippers (ISO 5748)

Application:
For cutting and pinching soft wire, hard wire and piano wire.

Execution:
- Flat heavy-duty joint for good accessibility
- Precision cutting requires less energy
- Optimised joint geometry for even easier cutting
- Tool steel with induction-hardened cutting edges
- Ground and polished head
- Three-component handles with thumb recess and anti-slip protection
- Cutting performance for piano wire: 2.2 mm (with length 160 mm) and 2.5 mm (with length 200 mm)

Technical data:
- Material of handle: 3-component plastic

Length (mm)		160	200
Max. medium wire Ø cutting capacity (mm)		3.4	3.8
53281...	Ident. No.	016 ●	020 ●

Prod. Gr. 5HZ

Heavy-duty end cutting nippers (ISO 5748)

Application:
For cutting and pinching soft and hard wire, and piano wire.

Execution:
- Chrome-vanadium heavy-duty steel, forged, oil-hardened
- Blades also inductively hardened
- Black atramentised pliers
- Polished head

Advantage:
- High cutting capacity with less force required thanks to optimum coordination of cutting angle and transmission ratio

Technical data:
- Material of handle: Plastic

Length (mm)		140	160
Max. medium wire Ø cutting capacity (mm)		4	4.5
53063...	Ident. No.	500 ●	510 ●

Prod. Gr. 535

ATORN Side cutters
Swedish form

Execution:
- Swedish form
- Special tool steel, oil-hardened
- Inductively hardened blades

Advantage:
- **Ident. No. 700–730:** Safe, ergonomic and effortless work thanks to 2-component handles

Length (mm)	Surface	Max. hard wire Ø cutting capacity (mm)	Max. medium wire Ø cutting capacity (mm)	Material of handle	53249... Ident. No.	
130	Plain	1.5	2.3	Polyvinyl chloride	400	●
145	Plain	1.8	2.5	Polyvinyl chloride	510	●
165	Plain	2.0	2.8	Polyvinyl chloride	520	●
180	Plain	2.7	3.8	Polyvinyl chloride	530	●
130	Chrome plated	1.6	2	2-component plastic	700	●
140	Chrome plated	1.8	2.5	2-component plastic	710	●
165	Chrome plated	2.3	3.0	2-component plastic	720	●
180	Chrome plated	2.5	3.2	2-component plastic	730	●

Prod. Gr. 5HZ

Ident. No. 400–530

Ident. No. 700–730

ATORN VDE side cutters
Swedish form

Execution:
- Swedish form
- Tempered tool steel
- Inductively hardened blades
- VDE type according to DIN EN 60900

Advantage:
- Safe, ergonomic and effortless work thanks to 2-component handles

Technical data:
- Surface: Chrome plated
- VDE certified: Yes
- Material of handle: 2-component plastic

Length (mm)		130	140	160	180
Max. hard wire Ø cutting capacity (mm)		1.6	1.8	2.0	2.5
Max. medium wire Ø cutting capacity (mm)		2	2.5	2.8	3.2
53250...	Ident. No.	900 ●	910 ●	920 ●	930 ●

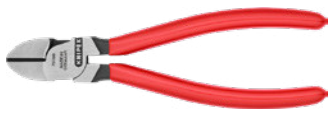
Prod. Gr. 5HZ

Side cutters (ISO 5749)

Execution:
- Vanadium electric steel, forged, oil-hardened
- Blades also inductively hardened
- **Ident. No. 305–330:**
  - Ref.: 325 - Only suitable for soft wire - also precisely cuts thin copper wires, even at the cutting tips.
  - VDE type according to DIN EN 60900

Advantage:
- **Ident. No. 105–330:** Safe, ergonomic and fatigue-free working thanks to two-component handles

Ident. No. 005, 030



Ident. No. 020

Ident. No. 120

Ident. No. 210

Ident. No. 320

Length (mm)	Surface	VDE certified	Max. hard wire Ø cutting capacity (mm)	Max. medium wire Ø cutting capacity (mm)	Max. soft wire Ø cutting capacity (mm)	Material of handle	53095... Ident. No.	
110	Plain	-	1.2	2.0	3	Polyvinyl chloride	002	●
125	Plain	-	1.5	2.3	3	Polyvinyl chloride	005	●
140	Plain	-	1.8	2.8	4	Polyvinyl chloride	010	●
160	Plain	-	2	3	4	Polyvinyl chloride	020	●
180	Plain	-	2.5	3	4	Polyvinyl chloride	030	●
125	Plain	-	1.5	2.3	3	2-component plastic	105	●
140	Plain	-	1.8	2.8	4	2-component plastic	110	●
160	Plain	-	2	3	4	2-component plastic	120	●
180	Plain	-	2.5	3	4	2-component plastic	130	●
125	Chrome plated	-	1.5	2.3	3	2-component plastic	205	●
140	Chrome plated	-	1.8	2.8	4	2-component plastic	210	●
160	Chrome plated	-	2	3	4	2-component plastic	220	●
180	Chrome plated	-	2.5	3	4	2-component plastic	230	●
125	Chrome plated	Yes	1.5	2.3	3	2-component plastic	305	●
140	Chrome plated	Yes	1.8	2.8	4	2-component plastic	310	●
160	Chrome plated	Yes	2	3	4	2-component plastic	320	●
180	Chrome plated	Yes	2.5	3	4	2-component plastic	330	●

Prod. Gr. 535

ORION® Side cutters

Execution:
- Inductively hardened cutting edges

Technical data:
- Surface: Plain
- Material of handle: Polyvinyl chloride

Length (mm)		140	160
53251...	Ident. No.	140 ●	160 ●

Prod. Gr. 593

ATORN Heavy-duty side cutters

With optimised power joint

Application:
for easy cutting of wires and cables.

Execution:
- power joint with up to 20% power saving
- special tool steel, oil-hardened
- inductively hardened blades
- **Ident. No. 016–020:** with opening spring for optimal handling (simple to disassemble)
- **Ident. No. 160–200:** VDE type according to DIN EN 60900

Advantage:
- Safe, ergonomic and effortless work thanks to 2-component handles
- Excellent cutting performance with low force required thanks to optimised leverage
- For heavy-duty long-term use

Technical data:
- Surface: Chrome plated
- Material of handle: 2-component plastic

Ident. No. 018

Ident. No. 180

Length (mm)		160	180	200	160	180	200
VDE certified		-	-	-	Yes	Yes	Yes
Max. medium wire Ø cutting capacity (mm)		3.5	3.8	4.2	3.5	3.8	4.2
53256...	Ident. No.	016 ●	018 ●	020 ●	160 ●	180 ●	200 ●

Prod. Gr. 5HZ

ATORN Heavy-duty side cutters

Execution:
- Special tool steel, oil-hardened
- Inductively hardened blades

Advantage:
- Excellent cutting performance with low force required thanks to optimised leverage
- For heavy-duty long-term use

Technical data:
- Surface: Plain
- Material of handle: Polyvinyl chloride

Length (mm)		160	180	200
Max. hard wire Ø cutting capacity (mm)		2.5	2.7	3.0
Max. medium wire Ø cutting capacity (mm)		3.5	3.8	4.2
53254...	Ident. No.	510 ●	520 ●	530 ●

Prod. Gr. 5HZ

KNIPEX Heavy-duty side cutters

Application:
For cutting wires and cables.

Execution:
- Chrome-vanadium heavy-duty steel, forged, oil-hardened
- Precision blades also inductively hardened for all types of wires
- **Ident. No. 700–740:** VDE type according to DIN EN 60900

Advantage:
- With forged articulated axis for extreme, long-lasting use
- Optimum coordination of cutting angle, transmission ratio and ergonomic handle shape ensure an excellent cutting rate with little force needed
- 20% less force required compared to standard side-cutters
- **Ident. No. 600–740:** Safe, ergonomic and fatigue-free working thanks to two-component handles

Ident. No. 500–530

Ident. No. 620

Ident. No. 700–730

Ident. No. 740

Length (mm)	Surface	VDE certified	Max. medium wire Ø cutting capacity (mm)	Material of handle	53095... Ident. No.	
160	Plain	-	3.4	Polyvinyl chloride	500	●
200	Plain	-	4.2	Polyvinyl chloride	520	●
250	Plain	-	4.6	Polyvinyl chloride	530	●
160	Plain	-	3.4	2-component plastic	600	●
180	Plain	-	3.8	2-component plastic	610	●
200	Plain	-	4.2	2-component plastic	620	●
250	Plain	-	4.6	2-component plastic	630	●
160	Chrome plated	Yes	3.4	2-component plastic	700	●
180	Chrome plated	Yes	3.8	2-component plastic	710	●
200	Chrome plated	Yes	4.2	2-component plastic	720	●
250	Chrome plated	Yes	4.6	2-component plastic	730	●
250	Chrome plated	Yes	4.5	Polyvinyl chloride	740	●

Prod. Gr. 535

KNIPEX Plastic side cutters (ISO 5743)

Application:
For smooth cutting off of sprues on plastic components or soft materials such as lead.

Execution:
- Vanadium electric steel, forged, oil-hardened
- Surface-ground cutting surfaces without chamfer
- With opening spring

Technical data:
- Surface: Plain
- Material of handle: Polyvinyl chloride

Ident. No. 010

Ident. No. 020

Ident. No. 120

Ident. No. 220

Length (mm)		140	160	180	160	160
Head design		Straight	Straight	Straight	Angled 45°	Angled 85°
53097...	Ident. No.	010 ●	020 ●	030 ●	120 ●	220 ●

Prod. Gr. 535

Power flush cutter

Application:
For flush cutting of soft materials such as Plastic, aluminium, copper

Execution:
- Leverage for easy cutting
- With locking button
- Ergonomic 2-component grip sleeves
- Flush ground cutting edges ensure a smooth cut without overhang
- Cutting performance for soft wire 6 mm

Technical data:
- Length: 200 mm
- Surface: Grey atramentised
- Material of handle: 2-component plastic

53097...	Ident. No.	300 ●

Prod. Gr. 535

CoBolt compact bolt cutters

Application:
Ident. No. 010–050: For cutting soft and hard wire, bolts, nails and rivets.
Ident. No. 060: for cutting soft and hard wire, bolts, nails and rivets.

Execution:
- **Ident. No. 010–050:**
  - Chrome-vanadium heavy-duty steel, forged, oil-hardened
  - Blades also inductively hardened
- **Ident. No. 060:**
  - chromium-vanadium heavy-duty steel, forged, oil-hardened
  - blades also inductively hardened

Advantage:
- **Ident. No. 010–050:** The cutting forces are 20 times greater than the manual force applied; 60% less force is required compared to heavy-duty side cutters of the same length
- **Ident. No. 020, 050:** Safe, ergonomic and fatigue-free working thanks to two-component handles
- **Ident. No. 030:** With recess close to the joint for cutting thicker wires
- **Ident. No. 050:** With opening spring and lock
- **Ident. No. 060:**
  - cutting forces are 20 times greater than the manual force applied; 60% less force is required compared to heavy-duty side cutters of the same length
  - recess close to the joint for cutting thicker wires

Technical data:
- Max. piano wire diameter cutting capacity: 3.6 mm
- Max. soft wire diameter cutting capacity: 6 mm
- Surface: Black atramentised

Ident. No. 010

Ident. No. 020

Ident. No. 050

Length (mm)		205	215	205	205	250
Material of handle		Polyvinyl chloride	2-component plastic	Polyvinyl chloride	2-component plastic	Polyvinyl chloride
Head design		Straight	Straight	Recess close to joint	Locking mechanism	Recess close to joint
53098...	Ident. No.	010 ●	020 ●	030 ●	050 ●	060 ●

Prod. Gr. 535

Bolt cutters

Application:
Ident. No. 046–090: For cutting steel wires up to max. 44 HRC

Execution:
- **Ident. No. 025:**
  - With opening spring and fastening
  - Comfort grip cover with slip guard
  - Lightweight and handy with enormous cutting capacity
- **Ident. No. 046–090:**
  - Interchangeable face mill
  - Forged, robust blades with additional inductively hardened cutting edges, cutting hardness approx. 62 HRC
  - Powerful elbow joint and impact-resistant, powder-coated steel tube handle
  - ERGO grip sleeves make them comfortable to use
  - Easy adjustment using double eccentric screws

Ident. No. 025

Ident. No. 046–090

Length (mm)		250	460	620	780	900
Max. piano wire Ø cutting capacity (mm)		3	5	7	8	9
Max. soft wire Ø cutting capacity (mm)		5	8	9	11	13
Surface		Burnished	-	-	-	-
Material of handle		1-component plastic	-	-	-	-
53230...	Ident. No.	025 ●	046 ●	062 ●	078 ●	090 ●

Prod. Gr. 5HZ

KNIPEX Bolt end cutters

Application:
Ident. No. 010–040: For cutting bolts, tie rods and steel wire.
Ident. No. 050: For cutting structural steel mats.

Execution:
- Blade: Chrome-vanadium heavy-duty steel, forged, oil-hardened
- Joint: Special tool steel, forged
- Pivot arms: Steel pipe, powder-coated
- Grey-atramentised top

Advantage:
- Forged stop with comfortable damper
- Extremely flat top and joint area ensure excellent accessibility
- Pivot arm at ergonomic angle for fatigue-free working
- Robust and excellent non-slip two-component handles
- Precise adjustments (12x) and re-adjustments using eccentric screws

Technical data:
- Material of handle: 2-component plastic

Ident. No. 020

Ident. No. 050

Length (mm)		460	610	760	910	950
Max. piano wire Ø cutting capacity (mm)		4	7	8	9	6
Max. soft wire Ø cutting capacity (mm)		8	9	11	13	9
53273...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 535

VBW Bolt end cutters

Application:
For cutting bolts, tie rods and steel wire.

Execution:
- Forged cutting blade
- Steel pipe arms
- Inductively hardened blades
- Handle ends encased in rubber

Technical data:
- Surface: Plain
- Material of handle: Plastic

Length (mm)		460	610	760	910
Max. piano wire Ø cutting capacity (mm)		6	8	9	10
Max. soft wire Ø cutting capacity (mm)		8	9	11	13
53324...	Ident. No.	200 ●	210 ●	220 ●	230 ●

Prod. Gr. 544

ATORN Cable cutters

Application:
For cutting single and multi-conductor copper and aluminium cables.

Execution:
- Hardened, precision-ground blades
- Polished head
- Slim, riveted joint
- Not suitable for steel wire or hard-drawn copper wire

Advantage:
- Safe, ergonomic and effortless work thanks to 2-component handles

Technical data:
- Material of handle: 2-component plastic

Length (mm)		160	210
Max. medium wire Ø cutting capacity (mm)		10	12
53093...	Ident. No.	310 ●	320 ●

Prod. Gr. 5HZ

ATORN Ratchet cable cutters
One-handed operation

Application:
For cutting multi-strand copper and aluminium cables.

Execution:
- Excellent lever transmission and step-by-step cutting for optimal power transmission
- Simple one-hand operation
- Copper up to 600 MCM/300 mm², aluminium up to 750 MCM/380 mm²
- Unlocking option in each cutting position
- All parts are made of high-strength steel, black oxide surface

Advantage:
- Excellent handling of cables with diameters from 6 mm to 34 mm, as the total tool length is only 260 mm
- The ergonomically shaped, soft multi-component handle ensures optimal power transmission

Technical data:
- Length: 260 mm
- Max. medium wire diameter cutting capacity: 34 mm
- Surface: Burnished
- Material of handle: 2-component plastic

53093...	Ident. No.	700 ●

Prod. Gr. 5HZ

ATORN VDE cable cutters

Application:
For cutting single and multi-conductor copper and aluminium cables.

Execution:
- Chrome-plated pliers
- Fine blade for smooth and easy cuts
- Adjustable, ground, screwed precision joint
- Not suitable for steel wire or hard-drawn copper wire
- VDE type according to DIN EN 60900

Advantage:
- Safe, ergonomic and effortless work thanks to 2-component handles
- One-handed operation with integrated spring and lock
- Angled head relieves strain on the wrist and provides a clear view

Technical data:
- VDE certified: Yes
- Material of handle: 2-component plastic

Length (mm)		180	220
Max. medium wire Ø cutting capacity (mm)		18	25
53093...	Ident. No.	410 ●	420 ●

Prod. Gr. 5HZ

ATORN Cable and electrician's scissors

Application:
For cutting finely stranded copper conductors

Execution:
- INOX stainless steel cutting blades
- With notch for stripping insulation
- Toothed cutting edge prevents the cable from slipping out when cutting
- Cutting edge hardness of 56 HRC.
- Ergonomic 2-component handles

Technical data:
- Length: 140 mm
- Max. medium wire diameter cutting capacity: 16 mm
- Material of handle: 2-component plastic

53093...	Ident. No.	500 ●

Prod. Gr. 5HZ

ATORN Cable cutters

Application:
For cutting single or multi-wire copper or aluminium conductors

Execution:
- INOX stainless steel blades
- Self-opening through internal spring
- Sharp cut – no crushing or deformation of conductors
- Ergonomically shaped plastic handles
- Hardened and precision-ground

Technical data:
- Material of handle: Plastic

Ident. No. 600

Ident. No. 610

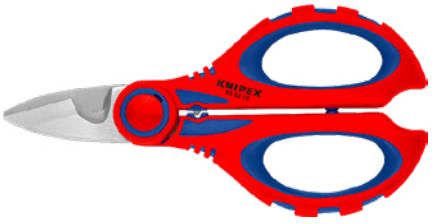
Length (mm)		134	168
Max. medium wire Ø cutting capacity (mm)		6	10
53093...	Ident. No.	600 ●	610 ●

Prod. Gr. 5HZ

KNIPEX Electrician's scissors

Execution:
- Precision grinding with fine toothing and cable cutters
- Multi-component handle, fibre glass-reinforced
- With crimp function for wire end ferrules in the handle

Delivery:
With plastic belt pouch



Length (mm)		161
53099...	Ident. No.	002 ●

Prod. Gr. 535

Cable cutters with adjustable screw joint, self-locking

Application:
For cutting, stripping and removing insulation on copper and aluminium cables.

Execution:
- Special-grade tool steel, forged, oil-hardened
- Hardened, precision-ground blades
- Not suitable for steel wire and hard-drawn copper wire
- Adjustable screw joint, self-locking
- **Ident. No. 020:** VDE type according to DIN EN 60900

Advantage:
- Cuts smoothly and cleanly without crushing
- Easy one-handed cutting
- Pinch guard prevents crushing injuries
- **Ident. No. 015–020:** Safe, ergonomic and fatigue-free working thanks to two-component handles

Technical data:
- Length: 165 mm
- Max. medium wire diameter cutting capacity: 15 mm

Ident. No. 010

Ident. No. 015

Ident. No. 020

VDE certified		-	-	Yes
Surface		Plain	Burnished	Chrome plated
Material of handle		Polyvinyl chloride	2-component plastic	2-component plastic
53100...	Ident. No.	010 ●	015 ●	020 ●

Prod. Gr. 535

Cable cutters
Twin cutting edges

Application:
For cutting single and multi-conductor copper and aluminium cables.

Execution:
- Special-grade tool steel, forged, oil-hardened
- Hardened, precision-ground blades
- Not suitable for steel wire and hard-drawn copper wire
- Adjustable screw joint, self-locking
- **Ident. No. 110:** VDE type according to DIN EN 60900

Advantage:
- Cuts smoothly and cleanly without crushing
- Pinch guard prevents crushing injuries
- Low force required thanks to favourable transmission ratios and optimised blade geometry
- By splitting the cutting process into pre-cut (insulating sheath with front blade area) and post-cut (conductor in rear blade area), cables up to 20 mm in diameter can be cut with one hand
- **Ident. No. 105–110:** Safe, ergonomic and fatigue-free working thanks to two-component handles

Technical data:
- Length: 200 mm
- Max. medium wire diameter cutting capacity: 20 mm

Ident. No. 100

Ident. No. 110

VDE certified		-	-	Yes
Surface		Plain	Plain	Chrome plated
Material of handle		Polyvinyl chloride	2-component plastic	2-component plastic
53100...	Ident. No.	100 ●	105 ●	110 ●

Prod. Gr. 535

VDE cable cutters, 1,000 V

Application:
For cutting single- and multi-core copper and aluminium cables

Execution:
- Cutting without deformation of conductor
- Protective insulation individually tested in accordance with EN/IEC 60900
- Optimal grip geometry, minimal hand forces required
- **Ident. No. 010:** Single-wire conductors up to 8 mm, multi-wire conductors up to 16 mm²
- **Ident. No. 020:** Single-wire conductors up to 12 mm, multi-wire conductors up to 35 mm²
- **Ident. No. 030:** Single-wire conductors up to 22 mm, multi-wire conductors up to 95 mm²

Technical data:
- VDE certified: Yes
- Material of handle: 2-component plastic

Ident. No. 020

Model		KT 8	KT 12	KT 22
Length (mm)		185	225	245
Max. medium wire Ø cutting capacity (mm)		16	35	95
53299...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 543

Cable cutters
Short model

Application:
For cutting single and multi-conductor copper and aluminium cables.

Execution:
- Not suitable for steel wire and piano wire
- Pivot arms: Aluminium pipe
- Hardened, precision-ground blades
- Blade top: Special grade chrome-vanadium electric steel, forged, oil-hardened

Length (mm)		500
Max. medium wire Ø cutting capacity (mm)		27
Material of handle		2-component plastic
53101...	Ident. No.	005 ●

Prod. Gr. 535

Cable cutters

Application:
For cutting copper and aluminium cables.

Execution:
- Special-grade tool steel, oil-hardened
- Hardened, precision-ground blades
- Not suitable for steel wire and piano wire
- **Ident. No. 110–120, 140:** VDE type according to DIN EN 60900

Advantage:
- Cut smoothly and cleanly without crushing
- Simple to use thanks to low weight and compact design; even possible to use in confined spaces
- With pinching guard to prevent crushing injuries
- **Ident. No. 010–120:**
  - One-handed operation using ratchet principle, low force required thanks to optimum transmission ratios
  - 2-speed gear ring drive for simple cutting
- **Ident. No. 130–140:**
  - One-handed and two-handed operation using ratchet principle, low force required thanks to optimum transmission ratios
  - 3-speed gear ring drive for simple cutting

Technical data:
- Material of handle: 2-component plastic

Ident. No. 020

Ident. No. 120

Ident. No. 130

Ident. No. 140

Length (mm)		250	280	250	280	320	320
Max. medium wire Ø cutting capacity (mm)		32	52	32	52	60	60
VDE certified		-	-	Yes	Yes	-	Yes
53102...	Ident. No.	010 ●	020 ●	110 ●	120 ●	130 ●	140 ●

Prod. Gr. 535

ATORN Wire rope cutters

Application:
For cutting finely stranded cords, hard wires and cables.

Execution:
- Extra-strong shearing blade
- Adjustable, ground, screwed precision joint

Advantage:
- Angled head for improved view of the working area
- One-handed operation with integrated spring and lock
- Safe, ergonomic and effortless work thanks to 2-component handles

Technical data:
- Length: 190 mm
- Max. medium wire diameter cutting capacity: 7 mm
- Surface: Plain
- Material of handle: 2-component plastic

53300...	Ident. No.	019 ●

Prod. Gr. 5HZ

Wire rope and cable cutters

Application:
For cutting wire cables, steel cables, wires of all types and wire gauze.

Execution:
- Knife and pin made from hardened high-quality steel, pressed sheet steel handles
- Case-hardened blades

Advantage:
- Even cutting without pinching or prior tying of cables thanks to triangular cutting
- One-hand operation
- Easy cutting thanks to optimum lever action

Model C 7

Length (mm)		190
Max. medium wire Ø cutting capacity (mm)		5
Surface		Plain
Material of handle		Polyvinyl chloride
53340...	Ident. No.	010 ●

Prod. Gr. 546

Mitre snips

For synthetic and rubber profiles

Application:
For cutting plastic, rubber, soft wood profiles and flat-band cables with no pinching.

Execution:
- Special tool steel, rolled, oil-hardened
- Blade: Standard trapezoid blade, interchangeable
- With opening spring and catch

Advantage:
- Interchangeable cutting support with angle stop for 45° cuts and markings for 60°, 75° and 90° cuts

Length (mm)		215
Surface		Chrome plated
Material of handle		Polyvinyl chloride
53138...	Ident. No.	010 ●

Prod. Gr. 535

Precision electronics ESD side cutters

Execution:
- glossy polished steel surface: proven and reliable finish.
- no risk to circuitry or components due to chrome flaking off
- ESD-compatible 2-component handles with wide and non-slip contact surface
- inductively hardened blades facilitate easy and sharp cutting with maximum service life
- inserted double leaf springs and wear-resistance guarantee uniform action
- box joint design for optimal maintenance-free guidance of jaws -
- silky-smooth action, long service life, blade overlap prevented.

Technical data:
- Surface: Plain
- Material of handle: 2-component plastic

Ident. No. 030

Length (mm)	Max. soft wire Ø cutting capacity	Head design	53028... Ident. No.	
120	1.5	Pointed head | With small grind	010	●
125	1.5	Oval | With grind	020	●
125	1.5	Oval | With grind and wire clamp	030	●
125	1.5	Pointed head | Mini bevel	040	●
140	2.0	Oval | With grind	050	●
125	1.5	Pointed head | With grind	060	●
125	1.5	Pointed head | No grind	070	●

Prod. Gr. 5HZ

ATORN ESD precision electronics angled and pointed cutters

Execution:
- angle cutting pliers ideal for horizontal and vertical application
- Glossy polished steel surface: proven and reliable finish.
- no risk to circuitry or components due to flaking off of chrome
- ESD-compatible 2-component handles with wide and non-slip contact surface
- inductively hardened blades facilitate easy and sharp cutting with maximum service life
- double leaf springs inserted and wear-resistant guarantee uniform action
- Box joint design for optimal maintenance-free guidance of jaws – silky-smooth action and long service life, overlapping of blades avoided.

Technical data:
- Length: 120 mm
- Max. soft wire diameter cutting capacity: 1.2
- Head design: Straight | With small grind
- Surface: Plain
- Material of handle: 2-component plastic

53028...	Ident. No.	080 ●

Prod. Gr. 5HZ

ATORN ESD precision electronics long-nose, flat and round-nose pliers

Execution:
- glossy polished steel surface: proven and reliable finish.
- no risk to circuitry or components due to chrome flaking off
- ESD-compatible 2-component handles with wide and non-slip contact surface
- box joint design for optimal maintenance-free guidance of jaws -
- silky-smooth action and long service life.
- inserted double leaf springs and wear-resistance guarantee uniform action
- **Ident. No. 100:** pointed pliers with straight, short and smooth jaws
- **Ident. No. 110:** pointed pliers with curved, short and smooth jaws
- **Ident. No. 120:** flat nose pliers with short and smooth jaws
- **Ident. No. 130:** Round-nose pliers with short and smooth jaws
- **Ident. No. 140:** pointed pliers with long, straight jaws with cut

Technical data:
- Surface: Plain
- Material of handle: 2-component plastic

Ident. No. 100

Ident. No. 110

Ident. No. 120

Ident. No. 130

Ident. No. 140

Length (mm)		130	130	130	130	155
Jaw design		Flat, round | Smooth	Flat, pointed | Smooth	Flat, wide | Smooth	Round | Smooth	Flat, pointed | Fine grooves
53028...	Ident. No.	100 ●	110 ●	120 ●	130 ●	140 ●

Prod. Gr. 5HZ

ATORN Electronics gripping pliers

Application:
Ident. No. 010, 030–040: For highly precise assembly tasks in electronics and precision mechanics fields.
Ident. No. 020: For bending grommets with different radii for wire-shaped materials.

Execution:
- C-45 steel, 44-48 HRC arm hardness

Advantage:
- Glare-free, phosphated surface for safe work
- With low-friction double-opening spring and 2-component handles for effortless, ergonomic work

Technical data:
- Length: 125 mm
- Surface: Phosphated
- Material of handle: 2-component plastic

Ident. No. 010

Ident. No. 020

Ident. No. 030

Ident. No. 040

Head design		Flat	Round	Pointed head	Pointed head | Straight
53027...	Ident. No.	010 ●	020 ●	030 ●	040 ●

Prod. Gr. 5HZ

ATORN Electronics side cutters

Execution:
- C-60 steel, blade hardness from 63-65 HRC
- Inductively hardened blades
- Largest cuttable diameter (copper): 0.2-2 mm

Advantage:
- Glare-free, phosphated surface for safe work
- With low-friction double-opening spring and 2-component handles for effortless, ergonomic work

Technical data:
- Length: 112 mm
- Max. soft wire diameter cutting capacity: 1.3 mm
- Surface: Phosphated
- Material of handle: 2-component plastic

Ident. No. 100

Ident. No. 110

Ident. No. 120

Ident. No. 130

Head design		With grind	With grind and wire clamp	No grind	Wire clamp
53027...	Ident. No.	100 ●	110 ●	120 ●	130 ●

Prod. Gr. 5HZ

ATORN Electronics pliers and cutter set
in textile bag

Application:
For cutting, holding and gripping.

Execution:
- C45/C60 steel
- Consisting of: Flat-nose pliers, round-nose pliers, needlenose pliers (straight and bent), side cutters with and without bevel

Advantage:
- Glare-free, phosphated surface for safe work
- With low-friction double-opening spring and 2-component handles for effortless, ergonomic work

Delivery:
Set in zipped case

Number of pieces in assortment/set		6
Surface		Phosphated
Material		Tool steel
Included in delivery		1x flat-nose pliers 125 mm, 1x round-nose pliers 125 mm, 1x pointed pliers 125 mm, bent by 30°, 1x straight pointed pliers 125 mm, 1x diagonal cutters 112 mm with bevel, 1x diagonal cutters 112 mm without bevel
53027...	Ident. No.	300 ●

Prod. Gr. 5HZ

KNIPEX Electronics pliers set
For working on electronic components

Execution:
- Pliers length: 115 mm
- **Ident. No. 010:**
  - Elasticated rubber strap pliers holder, with zip
  - Comes with: 1 pair of electronics side cutters with and without chamfer, 1 pair of electronics gripping pliers with flat, flat/round and round jaws, 1 pair of electronics end-cutting nippers and precision tweezers
- **Ident. No. 020:** Comes with: 1 pair of electronics gripping pliers, 1 pair of electronics side-cutters, WERA electronics screwdriver PH 0/PH

1/0.40 x 2.5/0.50 x 3.0/0.60 x 3.5/0.80 x 4.0

Advantage:
- **Ident. No. 020:** ESD design, discharges electricity

Delivery:
Ident. No. 010: In durable plastic case
Ident. No. 020: In practical storage box made from impact-resistant plastic with foam inlay

Technical data:
- Surface: Chrome plated
- Material: Tool steel

Ident. No. 010

Ident. No. 020

Number of pieces in assortment/set (PCS)		7	8
53103...	Ident. No.	010 ●	020 ●

Prod. Gr. 535

electronics gripping pliers (ISO 9655)

Application:
For gripping, holding and bending during precision assembly work.

Execution:
- Ball bearing chrome steel
- Smooth, ground gripping surfaces
- Carefully deburred edges
- Pushed-through precision joint
- Low-friction double spring for smooth, even opening action

Advantage:
- Mirror-finished surface with fine oil film to protect against rust, no interference in the circuit by flaking chrome parts

- **Ident. No. 070–080:** ESD version, discharges electricity

Technical data:
- Material of handle: 2-component plastic

Ident. No. 010

Ident. No. 020

Ident. No. 030

Ident. No. 040

Ident. No. 050

Ident. No. 060

Ident. No. 070

Ident. No. 080

Length (mm)		115	115	115	115	145	145	115	115
Head design		Flat	Pointed	Round | Pointed	Angled 45° | Pointed	Long | Pointed	Long | Pointed | Angled 45°	Flat | Long	Long | Pointed
53104...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●	060 ●	070 ●	080 ●

Prod. Gr. 535

Electronics end cutting nippers

Application:
For precision cutting tasks in electronics and precision mechanics fields.

Execution:
- Ball bearing chrome steel
- Blades also inductively hardened
- Pushed-through precision joint
- Low-friction double spring for smooth, even opening action

Advantage:
- Mirror-finished surface with fine oil film to protect against rust, no interference in the circuit by flaking chrome parts

- Safe, ergonomic and fatigue-free working thanks to two-component handles
- **Ident. No. 060:** ESD design, discharges electricity

Technical data:
- Surface: Plain
- Material of handle: 2-component plastic

Ident. No. 010

Ident. No. 020

Ident. No. 030

Ident. No. 040

Ident. No. 050

Ident. No. 060

Length (mm)		115	115	120	115	120
Max. soft wire Ø cutting capacity (mm)		2	1.4	1.5	1.3	0.6
Head design		With small bevel	Without bevel	With small bevel	Without bevel	With small bevel
53105...	Ident. No.	010 ●	060 ●	030 ●	040 ●	050 ●

Prod. Gr. 535

Electronics side cutters

Application:
Ident. No. 010–050, 060–100: For delicate cutting tasks in electronics and precision mechanics fields.
Ident. No. 055: For delicate cutting tasks in electronics and precision engineering.

Execution:
- Ball bearing chrome steel
- Blades also inductively hardened
- Low-friction double spring for smooth, even opening action
- **Ident. No. 010–050, 060–100:** Robust, box and clearance-free joint
- **Ident. No. 055:** Robust, clearance-free box joint

Advantage:
- **Ident. No. 010–050, 060–100:**
  - Mirror-finished surface with fine oil film to protect against rust, no interference in the circuit by flaking chrome parts
  - Safe, ergonomic and fatigue-free working thanks to two-component handles
- **Ident. No. 055:**
  - Mirror-finished surface with fine oil film to protect against rust, no interference in the circuit from flaking chrome parts
  - Safe, ergonomic and effortless work thanks to 2-component handles
- **Ident. No. 070–100:** ESD design, discharges electricity

Technical data:
- Surface: Plain
- Material of handle: 2-component plastic

Ident. No. 010

Ident. No. 020

Ident. No. 030

Ident. No. 040

Ident. No. 045

Ident. No. 050

Ident. No. 055

Ident. No. 060

Ident. No. 070

Ident. No. 080

Ident. No. 090

Ident. No. 100

Length (mm)	Max. soft wire Ø cutting capacity (mm)	Head design	53106... Ident. No.	
116	1.6	Round | With small bevel	010	●
115	1.6	Round | With small bevel | Wire clamp	020	●
115	1.3	Without bevel | Round	030	●
115	1.3	With small bevel | Pointed	040	●
115	1.0	With small bevel | Pointed | Flat	045	●
115	1.3	Without bevel | Pointed	050	●
130	1.6	Pointed head | Without bevel	055	●
115	0.8	Pointed | With small bevel	060	●
115	1.6	With small bevel | Round	070	●
115	1.6	Round | With small bevel	080	●
115	1.3	Pointed | With small bevel	090	●
115	1.3	Without bevel | Round | Long	100	●

Prod. Gr. 535

Electronics pliers

Application:
Ident. No. 040: For highly precise assembly tasks in electronics and precision mechanics fields.

Execution:
- Chrome-vanadium ball-bearing steel, forged
- Burnished pliers (anti-glare), polished head
- Smooth double spring for gentle, even opening action
- Bolted joint and precision-made joint surfaces
- **Ident. No. 040:** Smooth-ground gripping surfaces, edges finely rounded
- **Ident. No. 110–130:** Extremely precisely ground, sharp blades

Advantage:
- Weighs 20% less than conventional electronics pliers and enables safe, ergonomic and fatigue-free working thanks to 2-C handles
- **Ident. No. 040:** Dissipative handles

Technical data:
- Surface: Plain
- Material of handle: 2-component plastic

Ident. No. 040

Ident. No. 110

Ident. No. 130

Length (mm)		135	125	125
Max. soft wire Ø cutting capacity (mm)		-	1.7	1.5
Head design		Flat	Round | With small bevel	With bevel | Pointed
53120...	Ident. No.	040 ●	110 ●	130 ●

Prod. Gr. 535

Electronics Super-Knips

Application:
Ident. No. 010–100: For precision cutting tasks in electronics and precision mechanics fields.
Ident. No. 150: for precision cutting tasks in electronics and precision engineering fields.

Execution:
- Joint with stainless steel rivet
- **Ident. No. 010–030, 090–100:** Polished head
- **Ident. No. 010–030, 150:** INOX stainless steel
- **Ident. No. 010–060:** Blades also inductively hardened
- **Ident. No. 010–100:**
  - Ground, very sharp blades without chamfer for flush cutting
  - With opening spring and opening limiter
- **Ident. No. 040–080:** Special tool steel, burnished
- **Ident. No. 090–100:** INOX surgical stainless steel, air-hardened
- **Ident. No. 150:**
  - polished head
  - ground, very sharp blades without chamfer for flush cutting
  - blades also inductively hardened
  - with opening spring and opening limiter
  - VDE-design , tested according to DIN EN 60900

Advantage:
- **Ident. No. 010–100:**
  - Safe, ergonomic and fatigue-free working thanks to two-component handles
  - Precisely shaped tips also cut close-fitting wires from a diameter of 0.2 mm
  - Extremely smooth action for fatigue-free working
- **Ident. No. 020, 060, 080:** With wire clamp – no uncontrolled displacement of wire sections
- **Ident. No. 050:** Also suitable for cutting fibre glass cables
- **Ident. No. 070–100:** ESD design, discharges electricity
- **Ident. No. 150:**
  - safe, ergonomic and effortless work thanks to 2-component handles
  - precisely shaped tips also cut close-fitting wires from a diameter of 0.2 mm
  - extremely smooth action for effortless work

Technical data:
- Length: 125 mm
- Material of handle: 2-component plastic

Ident. No. 010

Ident. No. 020

Ident. No. 030

Ident. No. 040

Ident. No. 050

Ident. No. 060

Ident. No. 070–090

Ident. No. 100

Ident. No. 150

Max. soft wire Ø cutting capacity (mm)	Head design	Surface	53107... Ident. No.	
1.6	Without bevel | Without wire clamp	Plain	150	●
1.6	Without bevel | Wire clamp	Plain	100	●
1	Without bevel | Without wire clamp | Angled 60°	Plain	030	●
1	Without bevel | Without wire clamp | Pointed	Burnished	040	●
1.6	Without bevel | Without wire clamp	Burnished	050	●
1.6	Without bevel | Wire clamp	Burnished	060	●
1.6	Without bevel | Without wire clamp | Narrow	Burnished	070	●
1.6	Without bevel | With wire clamp, burnished	Burnished	080	●
1.6	Without bevel | Without wire clamp | Narrow	Plain	090	●

Prod. Gr. 535

Electronics side cutters

With opening spring, without blade bevel

Application:
Ident. No. 125–135: For cutting soft copper wires.
Ident. No. 145–165: for cutting soft copper wires.

Execution:
- **Ident. No. 125–135:**
  - Special tool steel, anti-glare
  - Hardened blades
  - Smooth-running joint
  - blade angle 21°, blade length 10 mm, head width 13.5 mm
- **Ident. No. 145:** blade angle 50°
- **Ident. No. 145–165:**
  - special tool steel, anti-glare
  - hardened blades
  - smooth-running joint
- **Ident. No. 155–165:**
  - particularly sharp cutting edges for difficult tasks
  - head angle 21°, blade length 8 mm, head width 10 mm

Technical data:
- Surface: Burnished
- Material of handle: 2-component plastic

Ident. No. 135

Ident. No. 145

Ident. No. 125

Length (mm)		138	138	135	133	133
Max. soft wire Ø cutting capacity (mm)		1	1.3	1.3	1.3	1
Head design		Wire clamp	Without wire clamp	Without wire clamp	Without wire clamp	Wire clamp
53028...	Ident. No.	125 ●	135 ●	145 ●	155 ●	165 ●

Prod. Gr. 543

ATORN tweezers
made of special steel

Execution:
- Universal tweezers for many areas of application
- Hardened tips
- Sharp, smooth and strong

Technical data:
- Surface: Nickel plated
- Material: Tool steel

Ident. No. 610

Ident. No. 620

Ident. No. 630

Ident. No. 640

Ident. No. 650

Length (mm)	Tweezer design	53002... Ident. No.	
110	Short tip	610	●
120	Swiss pattern	620	●
120	Pinpoint	630	●
130	Strong tip	640	●
130	Fine, long tip	650	●

Prod. Gr. 5HP

ATORN tweezers
made of special steel

Execution:
- With rounded tips and grooves at the gripper ends

Technical data:
- Surface: Nickel plated
- Material: Tool steel

Ident. No. 710

Ident. No. 720

Ident. No. 730

Ident. No. 740

Length (mm)	Tweezer design	53002... Ident. No.	
120	Rounded tip	710	●
140	Rounded tip, grooves on end of gripper	720	●
160	Rounded tip, grooves on end of gripper	730	●
180	Rounded tip, grooves on end of gripper	740	●

Prod. Gr. 5HP

ATORN Tweezers, antimagnetic
made of special steel

Execution:
- Rustproof
- Fine matt-polished, glare-free

Advantage:
- Non-magnetic

Technical data:
- Surface: Plain
- Material: Tool steel

Ident. No. 810

Ident. No. 820

Ident. No. 830

Ident. No. 840

Ident. No. 850

Ident. No. 860

Ident. No. 870

Ident. No. 880

Length (mm)	Tweezer design	53002... Ident. No.	
120	Fine tip	810	●
140	Fine tip	820	●
130	Strong, fine tip	830	●

Length (mm)	Tweezer design	53002... Ident. No.	
120	Laterally straight, super-fine tip	840	●
120	Laterally curved, super-fine tip	850	●
120	Strong, flat, rounded tip	860	●
120	Fine, straight tip	870	●
120	Angled, fine, extra-strong tip	880	●

Prod. Gr. 5HP

ATORN Tweezers set, 8 pieces
made of special steel

Execution:
- Rustproof
- Fine matt-polished, glare-free
- Set of 8 pieces in plastic pouch, equipped with:
- 1x each gripping pincers with fine tip, 120 mm and 140 mm long
- 1x gripping pincers, 130 mm, with strong, fine tip
- 1x gripping pincers, 120 mm, laterally straight, with super-fine tip
- 1x gripping pincers, 120 mm, laterally curved, with super-fine tip
- 1x gripping pincers, 120 mm, with sturdy, flat, rounded tip
- 1x gripping pincers, 120 mm, with fine, straight tip
- 1x gripping pincers, 120 mm, with angled, fine, extra-sturdy tip
- Set comprising no. 53002 810-880

Advantage:
- Non-magnetic

Delivery:
In plastic bag

Technical data:
- Surface: Plain
- Material: Tungsten carbide
- Number of pieces in assortment/set: 8

53002...	Ident. No.	900 ●

Prod. Gr. 5HP

ATORN Tweezers
made of special steel

Execution:
- Rustproof
- Fine matt-polished, glare-free

Ident. No. 210

Ident. No. 220

Ident. No. 230

Ident. No. 240

Ident. No. 250

Ident. No. 260

Length (mm)	Tweezer design	Surface	Material	53003... Ident. No.	
155	Angled, serrated tip	Nickel plated	Tool steel	210	●
145	Straight | Rounded tip | Toothed	Nickel plated	Tool steel	220	●
200	Straight | Rounded tip | Toothed	Nickel plated	Tool steel	230	●
145	Straight | Rounded tip | Toothed	Plain	Special stainless steel	240	●
155	Angled, serrated, pointed curved tip	Nickel plated	Tool steel	250	●
155	Angled, serrated, pointed curved tip | Serrated gripping surfaces	Coated	Tool steel	260	●

Prod. Gr. 5HP

ATORN Extra long gripping tweezers

Execution:
- Steel tweezers, surface bright nickel-plated
- Butt round tips with teeth for perfect grip
- Heavy and robust

Technical data:
- Tweezer design: Blunt | Round tip
- Surface: Nickel plated

Ident. No. 110

Ident. No. 120

Ident. No. 130

Length (mm)		200	250	300
53004...	Ident. No.	110 ●	120 ●	130 ●

Prod. Gr. 5HP

ATORN Gripping and fitting tweezers
made of stainless steel or plastic

Execution:
- **Ident. No. 510–620:** With gripper for pulling out seized components up to 10 mm
- **Ident. No. 630:** Black plastic

Advantage:
- **Ident. No. 510–620:** Non-magnetic
- **Ident. No. 630:** Heat-resistant up to 220°C

Ident. No. 510

Ident. No. 520

Ident. No. 530

Ident. No. 610

Ident. No. 620

Ident. No. 630

Length (mm)	Tweezer design	Surface	Material	53003... Ident. No.	
145	Flat, wide jaws	Plain	Stainless steel	510	●
145	Flat, wide jaws | Curved jaws	Plain	Stainless steel	520	●
145	Flat, wide jaws | Soft coating	Plain	Stainless steel	530	●
120	Pointed jaws	Plain	Titan	610	●
145	Round, straight, finely serrated tip	Lacquered	Stainless steel	620	●
120	Flat, wide jaws | Straight	-	Plastic	630	●

Prod. Gr. 5HP

ATORN Magnifying tweezers
made of special steel

Execution:
- Special steel, rustproof

Advantage:
- With magnifying glass (30 mm diameter), 3-4x magnification

Delivery:
In a case

Technical data:
- Length: 110 mm
- Tweezer design: Pointed head
- Surface: Plain
- Material: Tool steel

53003...	Ident. No.	410 ●

Prod. Gr. 5HP

ATORN SMD tweezers with ESD coating

Application:
Work on energised components

Execution:
- Precision tweezers , non-magnetic with ESD coating
- Made from rust-proof steel, resistant to acid

Ident. No. 210

Ident. No. 220

Ident. No. 230

Ident. No. 240

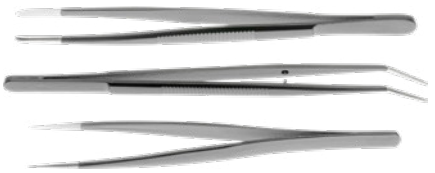
Ident. No. 250

Ident. No. 260

Length (mm)	Tweezer design	53004... Ident. No.	
130	Pointed jaws	210	●
110	Short tip	220	●
120	Pointed jaws | Curved jaws	230	●
135	Narrow head | Pointed jaws	240	●
155	Curved tip | Serrated gripping surfaces	250	●
145	Wide jaws | Blunt | Serrated gripping surfaces	260	●

Prod. Gr. 5HP

ATORN SMD tweezers set of 3 pieces with ESD coating



Application:
Work on energised components

Execution:
- Precision tweezers , non-magnetic with ESD coating
- Made from rust-proof steel, resistant to acid
- Set of 3 pieces, equipped with:
- 1x gripping pincers, 130 mm, with pointed jaws
- 1x gripping pincers, 155 mm, with bent tip and serrated gripping surfaces
- 1x gripping pincers, 145 mm, with wide jaws, blunt and serrated gripping surfaces

Technical data:
- Number of pieces in assortment/set: 3 PCS
- ESD-capable: Yes

53004...	Ident. No.	300
		●

Prod. Gr. 5HP

ATORN Fitting tweezers
Stainless steel

Execution:
- Stainless steel
- For diameters of 2.5-5 mm

Technical data:
- Length: 145 mm
- Surface: Plain
- Material: Stainless steel

Ident. No. 420

Ident. No. 430

Ident. No. 440

Suitable for		Vertical components	Horizontal components	Diagonally positioned components
53003...	Ident. No.	420	430	440
		●	●	●

Prod. Gr. 5HP

ATORN Tweezers sets, 5 or 10 pieces
Stainless steel

Execution:
- **Ident. No. 700:**
  - Set of 5 pieces in pincers pouch, equipped with:
  - 1x each assembly pincers for vertically, horizontally and diagonally positioned components, 145 mm long
  - 1x gripping pincers, 145 mm, for flat components
  - 1x desoldering pincers, 145 mm, for stuck components
  - Set consisting of 5 pieces, in tweezers pouch, equipped with electronic tweezers no. 53003 420-520
- **Ident. No. 710:**
  - 10-piece set in tweezers pouch, fitted with:
  - 2 pairs of precision tweezers, 130 and 105 mm long, fine and very fine tips
  - 1 pair of pointed tweezers, hardened, 145 mm long
  - 1 pair of gripping tweezers with rounded grip ends, 145 mm long
  - 1 pair of assembly tweezers, angled, 155 mm long
  - 1 pair of electronics tweezers no. 53003 420-520

Technical data:
- Surface: Plain
- Material: Stainless steel

Ident. No. 700

Ident. No. 710

Number of pieces in assortment/set (PCS)		5	10
53003...	Ident. No.	700	710
		●	●

Prod. Gr. 5HP

ATORN Insulated tweezers, PVC-coated

Stainless steel

Application:
For precise gripping of very small live parts.

Execution:
- Insulated version

Technical data:
- Surface: Plastic-coated
- Material: Stainless steel

Length (mm)		155	145	130
Tweezer design		Curved, narrow, finely serrated tip	Straight, blunt, wide, finely serrated tip	Straight tip
53003...	Ident. No.	810 ●	820 ●	830 ●

Prod. Gr. 5HP

Ident. No. 810

Ident. No. 820

Ident. No. 830

ATORN Cross tweezers

made of special steel

Application:
For precise gripping and automatic holding of the smallest parts.

Execution:
- Special steel, nickel-plated
- With hand guard, particularly suitable for soldering

Advantage:
- Cross-over tweezers, self-locking

Technical data:
- Surface: Nickel plated
- Material: Tool steel

Length (mm)		160	155
Tweezer design		Angled tip	Straight, flat tip
53003...	Ident. No.	310 ●	320 ●

Prod. Gr. 5HP

Ident. No. 310

Ident. No. 320

KNIPEX VDE insulated tweezers

Application:
For precise gripping of very small live parts.

Execution:
- Dip-insulated
- Certified to IEC 60900
- **Ident. No. 100:** Matt gripping surfaces for optimum hold
- **Ident. No. 110–120:** Finely serrated gripping surfaces
- **Ident. No. 130:** Serrated gripping surfaces

Technical data:
- Material: Stainless steel A2/steel
- VDE certified: Yes

Ident. No. 100

Ident. No. 110

Ident. No. 120

Ident. No. 130

Length (mm)		130	150	150	145
Tweezer design		Fine, straight tip	Fine, straight tip	Angled tips	Rounded tip, grooves on end of gripper
53023...	Ident. No.	100 ●	110 ●	120 ●	130 ●

Prod. Gr. 535

ATORN Wire stripping pliers

with spiral spring

Execution:
- With coiled opening spring
- With adjusting screw and locking nut
- **Ident. No. 650:** Special tool steel, oil-hardened
- **Ident. No. 700:**
- Tool steel, tempered
- VDE type according to DIN EN 60900

Advantage:
- Safe, ergonomic and effortless work thanks to 2-component handles with hand guard

Length (mm)		160	160
Min./max. stripper size		5-10 mm²	0.5-6 mm²
VDE certified		No	Yes
Surface		Chrome plated	Chrome plated
Material of handle		2-component plastic	2-component plastic
53572...	Ident. No.	650 ●	700 ●

Prod. Gr. 5HZ

Ident. No. 650

Ident. No. 700

Wire stripping pliers

Application:
Ident. No. 010: For cutting and stripping single and multi-strand conductors and fine-wired conductors.
Ident. No. 015–030: For stripping single and multi-strand conductors and fine-wired conductors.

Execution:
- Special tool steel, oil-hardened
- With opening spring
- **Ident. No. 030:** VDE type according to DIN EN 60900

Advantage:
- Easy to adjust to the required wire or flex diameter using knurled thumb screw with jam nut

Ident. No. 010

Ident. No. 015

Ident. No. 020

Ident. No. 030

Length (mm)		160	140	160	160
Min./max. stripper size		1.5-5 mm²	0.01-0.75 mm²	1.5-5 mm²	1.5-5 mm²
VDE certified		No	No	No	Yes
Surface		Plain	Plain	Plain	Chrome plated
Material of handle		Polyvinyl chloride	2-component plastic	2-component plastic	2-component plastic
53110...	Ident. No.	010	015	020	030
		●	●	●	●

Prod. Gr. 535

Cable and sheath stripping knives
VDE tested

Execution:
- Insulating multi-component handle, VDE type according to DIN EN 60900
- **Ident. No. 010:** Robust, fixed blade with straight edge
- **Ident. No. 020:**
  - Robust, fixed hook blade, crescent-shaped
  - With sliding shoe on the tip - prevents damage when stripping wires

Technical data:
- VDE certified: Yes
- Material of handle: 2-component plastic

Ident. No. 010

Ident. No. 020

Length (mm)		190	180
53604...	Ident. No.	010	020
		●	●

Prod. Gr. 535

Working and electrician's knifes

Application:
Ident. No. 010: For universal cutting of a wide range of materials.
Ident. No. 020: For cutting and stripping PVC cables.

Execution:
- Non-slip
- **Ident. No. 010:**
  - Rustproof blade with serrated edge
  - Blue plastic grip cover
  - Blade is locked via pushbutton
- **Ident. No. 010, 030:** Blade stopper
- **Ident. No. 020:**
  - Rustproof blade with 2 stripping notches
  - Red plastic grip cover
  - Blade with lock
- **Ident. No. 030:**
  - Smooth rustproof blade
  - Black plastic grip cover

Ident. No. 010

Ident. No. 020

Ident. No. 030

Length (mm)		190	191	189
53603...	Ident. No.	010	020	030
		●	●	●

Prod. Gr. 5HZ

Cable knives
with fixed blade

Application:

with stainless steel blade

Length (mm)		190
Material of handle		Wood
53610...	Ident. No.	010
		●

Prod. Gr. 598

ORION® Cable knives

Application:
Ident. No. 005: For cutting cables.
Ident. No. 010: For cutting and stripping cables.

Execution:
- Foldable
- **Ident. No. 010:** Blade with double scraper

Ident. No. 005

Ident. No. 010

Length (mm)		191	185
Material of handle		Wood	Plastic
53615...	Ident. No.	005 ●	010 ●

Prod. Gr. 598

ORION® Cable knives
with blade and awl

Application:
For cutting cables and poking holes.

Execution:
- Two-piece

Length (mm)		170
Material of handle		Wood
53617...	Ident. No.	010 ●

Prod. Gr. 598

ORION® Cable knives

Application:
Ident. No. 010–026: For stripping sheathing from all common types of round cables, including waterproof cables.

Execution:
- **Ident. No. 010–026:** Cutting depth is adjusted using the adjusting screw on the end of the handle
- **Ident. No. 022:** For ribbon cables and flat cables
- **Ident. No. 026:** Optimum safety through retractable hooked blade
- **Ident. No. 028:** For fine-strand and solid conductors with PVC insulation. Also with stripping station in housing for 0.5-6 mm²

Advantage:
- **Ident. No. 010–026:** The rotating inner blade automatically adjusts to the long cut after the round cut

Ident. No. 010–020

Ident. No. 022

Ident. No. 024

Ident. No. 026

Ident. No. 028

Design		No pre-cutter	No pre-cutter	With hook blade	With straight blade	With hook blade	With spring
Length (mm)		140	140	185	185	145	145
Min./max. cable Ø		4-16 mm	8-28 mm	4-28 mm	4-28 mm	4-28 mm	4-28 mm
Material of handle		2-component plastic	2-component plastic	2-component plastic	2-component plastic	1-component plastic	1-component plastic
53631...	Ident. No.	010 ●	020 ●	022 ●	024 ●	026 ●	028 ●

Prod. Gr. 598

JOKARI original – Wire stripping and insulation stripping tools

Application:
Ident. No. 010: For unsheathing and stripping insulation from circular cables.
Ident. No. 021: For unsheathing circular cables and stripping flexible and solid conductors.
Ident. No. 040: For stripping all standard round cables.

Execution:
- High-quality, wear-proof polyamide housing
- **Ident. No. 021:** Contoured blade for stripping wires 0.2/0.3/0.8/1.5/2.5/4.0 mm²
- **Ident. No. 040:** Adjustable cutting depth using the adjusting screw on the end of the handle

Advantage:
- Titanium-nitride-coated blades for increased cutting speed and longer service life
- **Ident. No. 010–021:** No need to adjust the blades to the cutting depth
- **Ident. No. 040:**
  - Automatically adjusts to round and longitudinal cut
  - Secure grip on the handle thanks to soft inlay on the handle

Ident. No. 010

Ident. No. 021

Ident. No. 040

Model		No. 12	No. 15 Secura	No. 28 H Secura
Length (mm)		120	125	170
Min./max. cable Ø		8-13 mm	8-13 mm	8-28 mm
Material of handle		Plastic	Plastic	1-component plastic
53562...	Ident. No.	010 ●	021 ●	040 ●

Prod. Gr. 543

ORION® coax, round cable stripping tool and data cable stripper

Application:
Ident. No. 050: Stripping of all common coaxial cables in just 2 steps.
Ident. No. 060: For round and wet room cabling, facilitates flush stripping including in hard-to-reach places.
Ident. No. 070: For stripping data lines and stranded wires.
Ident. No. 080: removes coating from round cables, strips insulation and cuts them

Execution:
- **Ident. No. 050:** Adjustment of cutting depth not necessary. Length 110 mm. For cables from 4.8-7.5 mm
- **Ident. No. 060:** Adjustment of cutting depth not necessary. Length 120 mm. For cables from 8-13 mm
- **Ident. No. 070:** Adjustable inner blade and side cutter. For cables from 4-10 mm and stranded wires from 0.2-0.8 mm
- **Ident. No. 080:**
  - round cut, longitudinal cut, stripping, cutting – all with one tool
  - hooked blade can be locked in any position
  - multi-functional with optimised cable routing

Ident. No. 050

Ident. No. 060

Ident. No. 070

Ident. No. 080

Min./max. cable Ø		4.8-7.5 mm	8-13 mm	4-10 mm	8-13 mm
Min./max. stripper size		-	-	-	6-0.5 mm²
Material of handle		1-component plastic	1-component plastic	2-component plastic	1-component plastic
53592...	Ident. No.	050 ●	060 ●	070 ●	080 ●

Prod. Gr. 598

Weidmüller – Stripping tool

Ergonomic handle design for effortless work

Application:
For unsheathing round PVC cables.

Execution:
- Self-clamping retaining bracket
- Variable cutting depth adjustment
- Adjustment option for spiral-shaped cutting of hard insulation
- **Ident. No. 010:** For round cable diameter from 6-25 mm
- **Ident. No. 030:** For round cable diameter from 8-173 mm

Advantage:
- Blade can be rotated for longitudinal cuts

Technical data:
- Material of handle: Plastic

Ident. No. 010

Ident. No. 030

Model		AM 25	AM 16
Length (mm)		135	53
53564...	Ident. No.	010 ●	030 ●

Prod. Gr. 543

Accessories for		53564 010
53564... Spare blades (2x)	Ident. No.	100 ●

Stripping tool

Execution:
- Impact-resistance plastic housing
- Spring bow and adjustable cutting depth
- For round cable from 6 to 29 mm in diameter

Technical data:
- Length: 135 mm
- Material of handle: Plastic

53565...	Ident. No.	010 ●

Prod. Gr. 535

Automatic wire stripping pliers

Application:
For automatic stripping of all standard cable cross-sections and insulation materials.

Execution:
- Blade: Special tool steel, oil-hardened, interchangeable
- Housing: Plastic, glass fibre reinforced
- With wire cutters for copper and aluminium conductors up to max. 2.5 mm²
- With adjustable length stop from 6.0-18.0 mm

Advantage:
- The conductors are not damaged – automatically adapts to different cross-sections
- Light, manageable design for ease of use
- Streamlined head shape for use in difficult-to-reach work areas

Length (mm)		180
Min./max. stripper size		0.2-6 mm²
Material of handle		Plastic
53111...	Ident. No.	010 ●

Prod. Gr. 535

ORION Automatic wire stripping pliers

Self-adjusting

Application:
For automatic stripping of fine-strand and solid conductors with PVC insulation.

Execution:
- Interchangeable high-quality, hardened steel inserts
- Fully insulated, robust design made from fibre glass-reinforced polyamide
- With ergonomic handles and additional locking option
- Length stop adjustable from 5-12 mm
- ref. no. 510 : For unsheathing and stripping
- Side-cutters up to maximum 3 mm in diameter

Advantage:
- Also suitable for use in hard-to-reach areas thanks to the narrow jaws
- The external insulation is not damaged thanks to a special gauging system

Length (mm)		170
Min./max. stripper size		0.2-6 mm²
Material of handle		1-component plastic
53580...	Ident. No.	500 ●

Prod. Gr. 598

ATORN Automatic wire stripping pliers

Application:
For automatic stripping of conductors with PVC insulation.

Execution:
- With cable cutters and longitudinal stop
- With 3-stage insulation thickness adjustment

Advantage:
- The blades automatically adjust to the conductor cross-section

Length (mm)		200
Min./max. stripper size		0.08-6 mm²
Material of handle		Plastic
53585...	Ident. No.	010 ●

Prod. Gr. 5HZ

Accessories for		53585 010
53585... Spare blade suitable for ATORN wire-stripping tool	Ident. No.	011 ○

Weidmüller stripax automatic wire stripping pliers

Execution:
- Housing made from fibre glass-reinforced polyamide
- Maximum stripping length: 25 mm
- With integrated cable cutters for cross-sections up to 6 mm²
- **Ident. No. 010:** Suitable for PVC-insulated, fine-wire conductors
- **Ident. No. 020:** Suitable for PVC insulated, fine-strand and solid conductors.
- **Ident. No. 030:** Particularly suitable for UL-specified conductors and halogen-free insulation materials.

Advantage:
- The conductors are not damaged thanks to the special, self-adjusting stripping blade

Ident. No. 010

Ident. No. 030

Model		stripax	stripax 16	stripax ultimate
Length (mm)		190	190	190
Min./max. stripper size		0.08-10 mm²	6-16 mm²	0.14-6 mm²
Material of handle		Plastic	Plastic	Plastic
53584...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 543

Accessories for		53584 010	53584 030
53584... Replacement blade for wire stripping pliers art. no. 53584010	Ident. No.	101 ●	130 ●

ATORN Automatic wire-stripping tool
with quick adjustment

Application:
For stripping solid and fine-wire conductors

Execution:
- Intelligent self-adjustment for all cross-sectional areas
- Length positioner for adjustable stripping length from 3 to 21 mm
- Solid conductors up to 6 mm², fine wires up to 16 mm²
- Cutting function with integrated hand protection
- Stripping knife can be replaced quickly and without tools
- Extremely durable thanks to fibreglass-reinforced polyamide
- No damage or splaying of conductors

Advantage:
- Process a wide variety of cable materials using just one tool. Wire-stripping blades are available in straight, V and U shapes.

Technical data:
- Length: 202 mm
- Min./max. stripper size: 0.03-16 mm²
- Material of handle: 2-component plastic

53581...	Ident. No.	010 ●

Prod. Gr. 5HZ

KNIPEX Automatic wire stripping pliers
Patented

Application:
Ident. No. 005: For automatic stripping of single and multi-strand conductors and fine-wire conductors with plastic or rubber insulation.
Ident. No. 010: For automatic stripping of single and multi-strand conductors and fine-wire conductors with an array of insulation materials.

Execution:
- Blade: Special tool steel, oil-hardened
- Housing: Plastic, glass fibre reinforced
- **Ident. No. 005:**
  - With adjustable longitudinal stop
  - Cutting depth can be adjusted for different insulation materials
  - With wire cutter for copper and aluminium multi-strand conductors up to 10 mm² and solid-wire conductors up to 6 mm²
- **Ident. No. 010:**
  - With deep-set wire cutter for copper and aluminium multi-strand conductors up to 10 mm² and solid-wire conductors up to 6 mm²
  - With adjustable length stop

Ident. No. 005

Ident. No. 010

Length (mm)		200	195
Min./max. stripper size		0.03-10 mm²	0.03-10 mm²
Material of handle		Plastic	Plastic
53112...	Ident. No.	005 ●	010 ●

Prod. Gr. 535

Accessories for		53112 005	53112 010
53112... Replacement blades block	Ident. No.	095 ●	100 ●

ATORN Pliers for wire end ferrules

Execution:
- polished head

Advantage:
- Marked semi-circular profiles for reliably crimping together ferrules and conductors

- **Ident. No. 003–004:** Safe, ergonomic and effortless work thanks to 2-component handles

Ident. No. 001

Ident. No. 003

Ident. No. 004

Length (mm)		145	145	180
Suitable for min./max. Ø		0.25-2.5 mm	0.25-2.5 mm	0.25-16 mm
Material of handle		Polyvinyl chloride	2-component plastic	2-component plastic
53145...	Ident. No.	001 ●	003 ●	004 ●

Prod. Gr. 5HZ

ATORN Wire end ferrule assortment

Execution:
- With crimping pliers 0.5-4 mm²
- With voltage tester
- With 100 each insulated wire end ferrules 0.5/0.75/1.5/2.5 mm² and 50 each wire end ferrules 4 mm²

Technical data:
- Number of pieces in assortment/set: 7

53125...	Ident. No.	010 ●

Prod. Gr. 5HZ

ATORN Crimping pliers

Application:

Ident. No. 007: For crimping wire end ferrules with and without insulation (plastic collars)

Ident. No. 010: For crimping insulated and uninsulated wire end ferrules

Ident. No. 020: For crimping wire end ferrules with and without insulation.

Ident. No. 100: for crimping insulated cable lugs and connectors

Execution:
- Lever system with unlockable force stop function
- Adjustable crimping pressure
- **Ident. No. 007:**
  - According to DIN 46288 T.1 and T.4 from 0.5 to 4 mm² in a universal pressure die
  - Omega spring ensures optimum, effortless power transmission

- **Ident. No. 007–020:** Trapezoidal crimping
- **Ident. No. 100:** Crimp die with 1.0/2.5/6.0 mm²

Advantage:
- Ergonomic plastic handles for effortless work

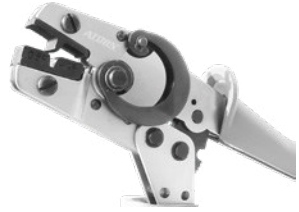
Technical data:
- Material of handle: Plastic

Ident. No. 007

Ident. No. 010

Ident. No. 020

Ident. No. 100



Length (mm)		204	205	205	245
Suitable for min./max. Ø		0.5-4 mm	0.5-6 mm	6-16 mm	1.0-6 mm
53508...	Ident. No.	007 ●	010 ●	020 ●	100 ●

Prod. Gr. 5HZ

ATORN Crimping set with interchangeable crimping jaws

Application:
Set of 5 pairs of interchangeable hardened crimp dies.

Execution:
- Fast, safe, tool-free replacement using spring-loaded locking pins
- Insert for wire end ferrules: In accordance with DIN 46288 T.1 and T.4 from 0.5 to 6.0 mm², with and without plastic collar
- Insert for wire end ferrules: In accordance with DIN 46288 T.1 and T.4 from 6.0 to 16.0 mm², with and without plastic collar
- Insert for insulated connectors: In accordance with DIN 60352 T.2 from 0.5 to 6.0 mm²
- Insert for flat plug-in sleeves and flat plugs: In accordance with DIN 60352 T.2 from 0.5 to 6.0 mm²
- Insert for insulated connectors: In accordance with DIN 60352 T.2 from 0.75 to 10.0 mm²
- Lever system with unlockable force stop function ensures DIN-compliant, secure crimping
- Adjustable crimping pressure
- Ergonomic plastic handles for effortless work

Delivery:
In robust case with foam insert

Technical data:
- Number of pieces in assortment/set: 6 PCS
- Included in delivery: Crimping pliers
- Wire end ferrules with and without plastic collars in accordance with DIN 46288 T.1 and T.4 from 0.5 mm² to 6.0 mm²
- Insulated connectors in accordance with DIN 60352 T.2 from 0.5 mm² to 6.0 mm²
- Flat plug-in sleeves and flat plugs in accordance with DIN 60352 T.2 from 0.5 mm² to 6.0 mm²
- Wire end ferrules with and without plastic collars in accordance with DIN 46288 T.1 and T.4 from 6.0 mm² to 16.0 mm²
- Non-insulated connectors in accordance with DIN 60352 T.2 from 0.75 mm² to 10.0 mm²

53508...	Ident. No.	200
		●

Prod. Gr. 5HZ

KNIPEX Lever-action crimping pliers

Execution:
- Crimping pressure is factory-set for precision, can be adjusted
- **Ident. No. 010:** For crimping insulated cable lugs and plug connectors.
- **Ident. No. 020:** Application: For crimping wire end ferrules.
- **Ident. No. 020–050:** Special grade chrome-vanadium electric steel, oil-hardened
- **Ident. No. 030:** For coax, BNC and TNC plug connectors RG 58/59/62/71
- **Ident. No. 040:** For crimping uninsulated cable lugs and plug connectors.
- **Ident. No. 050:** For crimping wire end ferrules.

Advantage:
- Consistently high crimping quality thanks to precision sockets and unlockable force stop function
- Manual force reduced by up to 30% compared to standard crimping pliers thanks to the lever ratio

Ident. No. 030

Length (mm)		250	250	250	250	250
Suitable for min./max. Ø		0.5-6 mm	10-25 mm	3-10 mm	0.5-10 mm	35-50 mm
Material of handle		1-component plastic	1-component plastic	1-component plastic	1-component plastic	1-component plastic
53115...	Ident. No.	010	020	030	040	050
		●	●	●	●	●

Prod. Gr. 535

KNIPEX Lever-action crimping pliers
One-handed operation

Execution:
- Special grade chrome-vanadium electric steel, oil-hardened
- **Ident. No. 010:** Crimping uninsulated butt connectors.
- **Ident. No. 020:** Crimping uninsulated cable lugs and butt connectors.
- **Ident. No. 030:** For crimping uninsulated, open plug connectors.
- **Ident. No. 050:** Crimping insulated cable lugs and plug connectors.
- **Ident. No. 060:** For crimping wire end ferrules.

Advantage:
- Consistently high crimping quality thanks to precision sockets and unlockable force stop function
- Safe, ergonomic and fatigue-free working thanks to two-component handles for one-handed operation
- Knee lever creates additional force for fatigue-free working
- Good handling thanks to excellent handle adjustment, light weight and compact design

Ident. No. 010

Ident. No. 030

Model		PreciForce 1	PreciForce 2	PreciForce 3	PreciForce **5**	PreciForce 6
Length (mm)		220	220	220	220	220
Suitable for min./max. Ø		1.5-10 mm	0.5-10 mm	0.1-2.5 mm	0.5-6 mm	0.25-6 mm
Material of handle		2-component plastic	2-component plastic	2-component plastic	2-component plastic	2-component plastic
53116...	Ident. No.	010	020	030	050	060
		●	●	●	●	●

Prod. Gr. 535

ATORN Precision crimping tool with positioner and hexagonal pressing 0.08 to 16 mm²

with automatic cross-section adjustment

Application:
For processing wire end ferrules with and without an insulating collar and twin wire end ferrules in accordance with DIN 46228 | EN 50027

Execution:
- Very large application range from 0.08 to 16 mm² without adjustment
- Low manual force – 30% reduction compared to older tools
- Positions even small wire end ferrules in the right place quickly and easily using the swivel positioner (locator).
- Even six-edge precision crimping over the full length of the sleeve
- Save time by simple insertion even in confined spaces.
- Unlocking latching mechanism for securing the entire crimping process
- Ergonomic soft-grip handles, narrow gripping width
- Made entirely of high-strength steel, particularly stressed parts are specially tempered

Technical data:
- Length: 213 mm
- Suitable for min./max. diameter: 0.08-16 mm
- Material of handle: 2-component plastic

53113...	Ident. No.	200 ●

Prod. Gr. 5HZ

ATORN Crimping pliers with rotating crimping insert

For wire end ferrules

Application:
Ident. No. 210: For processing wire end ferrules with and without insulating collars
Ident. No. 211: For processing wire end ferrules with and without insulating collars, square crimping
Ident. No. 212: For processing wire end ferrules with and without insulating collars, trapezoidal crimping

Execution:
- **Ident. No. 210:**
  - 360° rotation for interchangeable crimping inserts
  - Insert the wire end ferrule from the front or from the side
  - Crimping area can be adjusted in intervals with 45° locking mechanism
  - Integrated, releasable latching mechanism ensures complete crimping
  - Highly heat-treated steel with a black oxide surface
  - Square or trapezoidal crimping possible thanks to interchangeable inserts
  - Automatically adjusts to the conductor cross-section
- **Ident. No. 211:** Square crimping of 0.08-16 mm²
- **Ident. No. 211–212:**
  - Tool-free interchangeable crimping insert, 360° rotation
  - High-strength, specially heat-treated steel
- **Ident. No. 212:** Trapezoidal crimping of 0.08-16 mm²

Advantage:
- **Ident. No. 210:**
  - Wide range of applications from 0.08 to 16 mm²/ twin sleeves from 2 x 0.25 to 2 x 10 mm²
  - Small and handy - can be used with minimal manual force, even in hard-to-reach places
- **Ident. No. 211–212:** Precision crimping over the full length of the ferrule

Delivery:
Ident. No. 210: Crimping insert not included - please order separately

Technical data:
- Suitable for min./max. diameter: 0.08-16 mm

Ident. No. 210

Ident. No. 211

Ident. No. 212

Length (mm)		180	-
Material of handle		2-component plastic	-
53113...	Ident. No.	210 ●	212 ●

Prod. Gr. 5HZ

Accessories for		53113 210
53113... Square crimping insert for wire end ferrule pliers	Ident. No.	211 ●
53113... Trapezoidal crimping insert for wire end ferrule pliers	Ident. No.	212 ●

ATORN Crimping pliers that accommodate interchangeable crimping inserts from the front or side

For wire end ferrules and cable lugs

Application:

Ident. No. 220, 230: For processing wire end ferrules and cable lugs with and without insulation

Ident. No. 221–223: Suitable for crimping pliers with accommodation for interchangeable inserts

Execution:

- **Ident. No. 220:** For inserting interchangeable crimping inserts from the front (tool-free)
- **Ident. No. 220, 230:**
  - Unlocking latching mechanism ensures complete and high-quality crimping
  - Precision-manufactured with optimal crimping force preset at the factory
  - Highly heat-treated steel with a black oxide surface
  - Highly tempered steel with a black oxide surface
- **Ident. No. 220–220, 230–230:** Ergonomically designed soft handles with slip guard
- **Ident. No. 221:**
  - For processing red/blue/yellow insulated DIN cable lugs
  - Pin-type cable lugs, male blade, female blade, male bullet, female bullet, butt and parallel connectors
  - With 3 profiles - P 1: red 0.5-1.0 mm²/P 2: blue 1.5-2.5 mm²/P 3: 4.0-6.0 mm²
- **Ident. No. 222:**
  - For processing uninsulated cable lugs
  - Eyelet and pin-type cable lugs and connectors without insulation and "miniature" cable lugs
  - With 4 profiles - P 1: 0.1-0.5 mm²/P 2: 0.5-2.5 mm²/P 3: 4.0-6.0 mm²/P 4: 10 mm²
- **Ident. No. 223:**
  - For processing insulated and uninsulated wire end ferrules
  - With and without insulating collars in accordance with DIN 46228
  - With 6 profiles - P 1: 0.14-0.75 mm²/P 2: 1.0-1.5 mm²/P 3: 2.5 mm²/P 4: 4.0 mm²/P 5: 6.0 mm²/P 6: 10.0 mm²
- **Ident. No. 230:** For inserting interchangeable crimping inserts from the side (tool-free)

Advantage:

- **Ident. No. 220, 230:** Versatile application thanks to interchangeable dies
- **Ident. No. 221–223:** Precision crimping over the full length of the ferrule

Delivery:

Ident. No. 220, 230: Crimping insert not included - please order separately

Notes:

Ident. No. 230: The tool's factory settings are optimal. No adjustment of the crimping force required.

Ident. No. 220

Ident. No. 221

Ident. No. 222

Ident. No. 223

Ident. No. 230

Length (mm)		220	-	-	-	210
Suitable for min./max. Ø		0.14-10 mm	0.5-6 mm	0.1-10 mm	0.14-10 mm	0.14-10 mm
Material of handle		2-component plastic	-	-	-	2-component plastic
53113...	Ident. No.	220 ●	221 ●	222 ●	223 ●	230 ●

Prod. Gr. 5HZ

Accessories for		53113 220	53113 230
53113... Crimping insert set for insulated DIN cable lugs In pairs, for 0.5 to 6 mm²	Ident. No.	221 ●	221 ●
53113... Crimping insert set for uninsulated DIN cable lugs In pairs, for 0.1 to 10 mm²	Ident. No.	222 ●	222 ●
53113... Crimping insert set for uninsulated and insulated wire end ferrules In pairs, for 0.14 to 10 mm²	Ident. No.	223 ●	223 ●

KNIPEX Crimping tool for wire end ferrules, square or hexagonal crimping

Self-adjusting

Application:

For crimping wire end ferrules with self-adjustment function.

Execution:

- Special grade chrome-vanadium electric steel, oil-hardened
- **Ident. No. 010:** Self-adjusting square crimping
- **Ident. No. 020:**
  - Also for twin wire end ferrules up to 2x10 mm²
  - Self-adjusting hexagon crimping for cramped connection sizes
  - Reversing lever for 16 mm²

Advantage:

- 20% less force applied when crimping
- Reduced handle width and improved ergonomics, with 2-component handles
- Consistently high crimping quality thanks to force stop function (can be unlocked)
- Crimping pressure is factory-set for precision
- Knee lever creates additional force for fatigue-free working

Ident. No. 020

Length (mm)		180	182
Suitable for min./max. Ø		0.08-16 mm	0.08-16 mm
Material of handle		2-component plastic	2-component plastic
53117...	Ident. No.	010 ●	020 ●

Prod. Gr. 535

Crimping pliers with MultiCrimp interchangeable magazine

Application:
For crimping a range of connectors and sheaths.

Execution:
- Pliers: Special grade chrome-vanadium electric steel, oil-hardened
- Round magazine: Plastic, glass fibre reinforced
- Application 1: Uninsulated, open plug-in connectors from 0.5 to 6 mm²
- Application 2: Insulated cable lugs and plug connectors from 0.5 to 6 mm²
- Application 3: Wire end ferrules from 0.25 to 6 mm²
- **Ident. No. 110:**
  - Application 4: Uninsulated cable lugs and plug connectors from 0.5 to 10 mm²
  - Application 5: Uninsulated, butt connectors from 1.5 to 10 mm²

Advantage:
- Only one tool required for the most common crimping applications
- Fast and simple to replace the crimping inserts without the need for additional tools
- Secure and protected storage of replaceable inserts in a round magazine

Length (mm)			250	250
Suitable for min./max. Ø			0.5-6 mm	0.5-10 mm
Material of handle			2-component plastic	2-component plastic
53117...	3 replaceable inserts	Ident. No.	100 ●	-
53117...	5 replaceable inserts	Ident. No.	-	110 ●

Prod. Gr. 535

Crimping pliers for wire end ferrules
Self-adjusting

Execution:
- Special grade chrome-vanadium electric steel, oil-hardened
- Burnished pliers
- Front insertion of the wire end ferrules into the tool
- Crimping pressure is factory-set for precision, can be adjusted

Advantage:
- Self-adjusting to the required wire end ferrule size
- Consistently high crimping quality thanks to force stop function (can be unlocked)
- Knee lever creates additional force for fatigue-free working
- Light, wieldy design for ease of use
- Safe, ergonomic and fatigue-free working thanks to two-component handles

Length (mm)		190
Suitable for min./max. Ø		0.08-10/16 mm
Material of handle		2-component plastic
53118...	Ident. No.	010 ●

Prod. Gr. 535

Crimping pliers

Application:
Ident. No. 005–025: For crimping wire end ferrules with and without plastic collars.
Ident. No. 050–055: For crimping PVC and polyamide-insulated connectors.

Execution:
- **Ident. No. 005:**
  - Conductor inserted from the front
  - Short lever travel
- **Ident. No. 005–016:** Only one countersink required for the entire area
- **Ident. No. 010, 020–055:** Lateral conductor insertion
- **Ident. No. 015:** Rotating countersink for inserting the sleeves from the front or from the side
- **Ident. No. 016:**
  - Rotating countersink with lock
  - Trapezoidal crimping
- **Ident. No. 025:** Crimping to European standard EN 60947-1
- **Ident. No. 050–055:**
  - For cable lugs, pin-type cable lugs, parallel and series connectors and plug-in connectors
  - With stop for precise positioning of contacts

Advantage:
- Force stop function guarantees high-quality crimping, unlocking option in the event of incorrect operation

Technical data:
- Material of handle: 2-component plastic

Ident. No. 010

Ident. No. 025

Ident. No. 050

Ident. No. 055

Model		PZ 3	PZ 4	PZ 6 roto	PZ 6 roto L	PZ 16	PZ 50	CTI 6 G	CTI 6
Length (mm)		200	200	200	200	200	250	250	250
Suitable for min./max. Ø		0.5-6 mm	0.5-4 mm	0.14-6 mm	0.14-6 mm	6-16 mm	25-50 mm	0.5-6 mm	0.5-6 mm
53510...	Ident. No.	005 ●	010 ●	015 ●	016 ●	020 ●	025 ●	050 ●	055 ●

Prod. Gr. 543

Weidmüller Wire end ferrule and cable lug assortments

Execution:
- **Ident. No. 010:**
  - Large set with 2,200 insulated wire end ferrules with DIN colour coding in robust all-purpose case
  - For conductor cross-sections from 0.5-16 mm²/ AWG 20-5
- **Ident. No. 015:**
  - Small set with 685 insulated wire end ferrules with DIN colour coding in robust all-purpose case
  - For conductor cross-sections from 0.5 to 16 mm²/AWG 20-5
- **Ident. No. 020:**
  - Large set with 600 insulated ring and pin terminals, butt connectors and female blade connectors from 0.5 to 6 mm², assorted
  - Insulation made of polycarbonate
- **Ident. No. 025:**
  - Small set with 180 insulated ring and pin terminals, butt connectors, female blade connectors from 0.5 to 6 mm², assorted
  - Polycarbonate insulation

Delivery:
Ident. No. 010, 020: In tough all-purpose case
Ident. No. 015, 025: In robust all-purpose case

Ident. No. 010

Ident. No. 015

Ident. No. 020

Ident. No. 025

53127...	Wire end ferrule assortment, large	Ident. No.	010 ●
53127...	Wire end ferrule assortment, small	Ident. No.	015 ●
53127...	Crimp connector assortment, large	Ident. No.	020 ●
53127...	Crimp connector assortment, small	Ident. No.	025 ●

Prod. Gr. 543

HellermannTyton Heat-shrink tubing assortment

Execution:
- Heat shrink temperature from 90°C, with 3:1 heat shrink rate
- Dielectric strength of 20 kV, self-extinguishing
- **Ident. No. 030:**
  - Set with 220 heat-shrink tubes
  - 8 sizes as heat shrink hose segments
  - For conductors of 1.5–18 mm diameter
- **Ident. No. 040:**
  - Set with 975 colourful heat-shrink tubing sections
  - 17 universal heat-shrink tubing in 5 different sizes
  - Suitable for conductors of 1 - 20 mm diameter

Delivery:
In tough all-purpose case

53127...	Heat-shrink tubing assortment, black	Ident. No.	030 ●
53127...	Heat-shrink tubing assortment, colourful	Ident. No.	040 ●

Prod. Gr. 543

Ident. No. 030

Ident. No. 040

Weidmüller cable tie pliers

Application:
For clamping and cutting cable ties.

Execution:
- Light metal housing
- For plastic cable ties 2.4-4.8 mm in width

Length (mm)		160
53529...	Ident. No.	010 ●

Prod. Gr. 543

SapiSelco Cable ties
With plastic or metal latch

Application:
For quick, universal joining of cables and a wide range of other parts.

Execution:
- Made of halogen- and silicone-free polyamide 6.6 (Nylon)
- Self-extinguishing and resistant to most chemicals
- With UNI EN ISO 14001 certificate and additional seven approval certificates

Advantage:
- Temperature range -40°C to +85°C

Delivery:
100 pieces in poly bag

Ident. No. 110–160, 170

Ident. No. 165

Ident. No. 210–260

Ident. No. 267

Ident. No. 410–450

Length x width				100 x 2.5 mm	200 x 2.5 mm	140 x 3.5 mm	280 x 3.5 mm	200 x 4.5 mm	360 x 4.5 mm	360 x 7.5 mm	450 x 7.5 mm	540 x 7.5 mm	550 x 9 mm
	Design	Colour											
53529...	With plastic latch	Natural	Ident. No.	110 ●	120 ●	130 ●	140 ●	145 ●	150 ●	160 ●	165 ●	167 ●	170 ●
53529...	With plastic latch	Black	Ident. No.	210 ●	220 ●	230 ●	240 ●	245 ●	250 ●	260 ●	275 ●	267 ●	-
53529...	Metal latch	Black	Ident. No.	410 ●	-	-	-	-	450 ●	-	-	-	-

Prod. Gr. 543

KNIPEX Crimping pliers

Application:
For cutting cables, stripping insulation and crimping.

Execution:
- Bolted hinge for high stability and uniform movement
- Made from special steel, high-strength. Multi-component grip covers
- **Ident. No. 010:** For uninsulated cable lugs and plug-in connectors
- **Ident. No. 020:** For insulated cable lugs and plug-in connectors and uninsulated, open plug-in connectors
- **Ident. No. 030:** For insulated cable lugs and cable connectors

Ident. No. 010

Ident. No. 020

Ident. No. 030

Length (mm)		230	240	230
Suitable for min./max. Ø		0.5-6 mm	0.75-6 mm	0.75-6 mm
53502...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 535

ATORN Machinist's hammer
With ultra-secure, three-component handle

Application:
For vibration-free striking that is gentle on joints.

Execution:
- Ergonomic and non-slip handling
- Forged protective handle collar and additional protective handle sleeve
- DIN 1041 hammer head, C45 steel, electric-inductively hardened

Advantage:
- With patented ultra-safe handle (aluminium core, polyamide and rubber component)

Technical data:
- Recoil-free
- Protective handle sleeve available: Yes

Weight of head (g)		300	500	1000	1500	2000
Length (mm)		300	320	360	360	400
51180...	Ident. No.	030 ●	050 ●	100 ●	150 ●	200 ●

Prod. Gr. 520

ATORN Machinist's hammers (DIN 1041)

German type

Application:
For processing all components in compliance with high safety standards

Execution:
- Ergonomic hickory handle DIN 5111, extremely rigid
- Extended hammer head eye with additional plastic protective handle sleeve
- DIN 1041 hammer head, C45 steel, forged, hardened, annealed
- Polished working surface

Advantage:
- Head and handle are connected via a safety ring wedge

Technical data:
- Recoil-free
- Material of long handle: Hickory
- Handle fastening: Splined
- Protective handle sleeve available: Yes

Weight of head (g)		200	300	400	500	600	800	1000	1500	2000
Length (mm)		280	300	310	320	330	350	360	380	400
51188...	Ident. No.	510 ●	520 ●	530 ●	540 ●	550 ●	560 ●	570 ●	580 ●	590 ●

Prod. Gr. 520

GEDORE ROTBAND-PLUS machinist's hammers (DIN 1041)

WERKZEUGE FÜRS LEBEN

DBGM patent no. 0703045

Execution:
- With long, hardened protective handle sheath
- Hammer head DIN 1041, forged, hardened and tempered
- Ergonomic Hickory wooden handle DIN 5111, extremely rigid

Advantage:
- With the safest possible connection; the protective handle sheath, ring-shaped wedge, fastening plate and wood screw turn the hammer head and handle into a single unit

Technical data:
- Recoil-free
- Material of long handle: Hickory
- Handle fastening: Bolted with locking plate
- Protective handle sleeve available: Yes

Ident. No. 430–450

Weight of head		100 g	200 g	300 g	400 g	500 g	600 g	800 g	1000 g	1.5 kg	2000 g
Length (mm)		260	280	300	310	320	330	350	360	380	400
51184...	Ident. No.	410 ●	420 ●	430 ●	440 ●	450 ●	460 ●	480 ●	500 ●	515 ●	520 ●

Prod. Gr. 558

Accessories for		51184 410	51184 420	51184 430	51184 440	51184 450	51184 460	51184 480
51184... Spare handle with sleeve, wedge and fastening plate Suitable for Rotband-Plus machinist's hammers	Ident. No.	610 ○	620 ●	630 ●	640 ●	650 ●	660 ●	680 ●

Accessories for		51184 500	51184 515	51184 520
51184... Spare handle with sleeve, wedge and fastening plate Suitable for Rotband-Plus machinist's hammers	Ident. No.	700 ●	715 ●	720 ●

ORION Machinist's hammers (DIN 1041)

German type

Execution:
- DIN 1041 hammer head, C45 steel, electric-inductively hardened
- Polished impact surfaces
- Ergonomically shaped ash handle, waterproofed, painted
- With safety ring wedge

Technical data:
- Material of long handle: Ash
- Handle fastening: Splined

Weight of head		100 g	200 g	300 g	400 g	500 g	600 g	800 g	1000 g	1.5 kg	2000 g
Length (mm)		260	280	300	310	320	330	350	360	380	400
51180...	Ident. No.	500 ●	510 ●	520 ●	530 ●	540 ●	550 ●	560 ●	570 ●	580 ●	590 ●

Prod. Gr. 593

PEDDINGHAUS ULTRATEC machinist's hammers

3-component handle

Execution:
- handle inseparably connected with the hammer head
- non-slip elastomer grip layer
- hammer head made from quality steel in line with DIN 1041
- handle with unbreakable fibre glass core and ergonomically shaped PP base layer

Advantage:
- reduced vibration for fatigue-free work

Technical data:
- Material of long handle: Three-component plastic
- Handle fastening: Glued

Weight of head		200 g	300 g	500 g	800 g	1000 g	1.5 kg	2000 g
Length (mm)		280	300	310	340	360	380	400
51186...	Ident. No.	102 ●	103 ●	105 ●	108 ●	110 ●	115 ●	120 ●

Prod. Gr. 520

OSCA Carpenter's roofing hammers (DIN 7239)

Execution:
- black head with black phosphated steel tube handle
- black non-slip rubber handle
- nail holder with strong permanent magnet
- head and handle securely bolted
- grooved impact track

Advantage:
- long-lasting indestructible professional design

Technical data:
- Weight: 0.96 kg
- Weight of head: 600 g
- Length: 310 mm
- Material of long handle: Steel

51190...	Ident. No.	001 ●

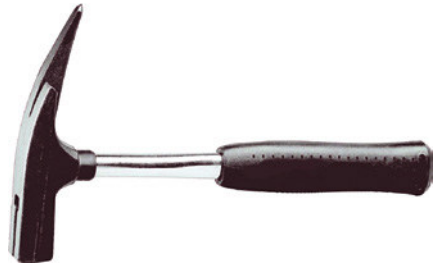
Prod. Gr. 520

ORION Roofing hammer (DIN 7239)

Southern German shape

Execution:
- Rubber handle
- Handle lock
- Nail holder and roughened face

Advantage:
- With extremely strong magnet



Weight (kg)		0.95
Weight of head (g)		600
Length (mm)		300
Material of long handle		Steel
51190...	Ident. No.	010 ●

Prod. Gr. 593

GEDORE Sledge hammers

German type

Execution:
- Forged hammer head to DIN 1042
- Ground head, painted black, polished work surfaces

Technical data:
- Handle fastening: Splined
- Material of long handle: Ash

Weight of head (kg)		3	5
Length (mm)		600	800
Weight (kg)		3.46	5.85
51194...	Ident. No.	030 ●	050 ●

Prod. Gr. 558

ORION Club hammers

German type

Execution:
- C45 steel, inductively hardened
- Painted black, polished work surfaces

Technical data:
- Recoil-free
- Handle fastening: Splined
- Material of long handle: Ash
- Protective handle sleeve available
- Impact insert, interchangeable

Weight of head		1000 g	1.25 kg	1.5 kg	2000 g
Length (mm)		260	280	280	300
Weight (kg)		1.19	1.41	1.725	2.24
51196...	Ident. No.	010 ●	020 ●	030 ●	040 ●

Prod. Gr. 593

ORION® Copper hammers

club hammer shape

Execution:
- Head made of 99.9 % copper, double-strengthened, cold-formed
- Ground impact surface and edges
- Weight inserted in head, DIN hammer eye
- Copper hardness: approx. 80-100 HB

Technical data:
- Material of long handle: Hickory
- Handle fastening: Splined

Ident. No. 025–150

Ident. No. 200–500

Weight of head		250 g	500 g	750 g	1000 g
Length (mm)		300	320	350	360
51199...	Ident. No.	025 ●	050 ●	075 ●	100 ●

Weight of head		1.5 kg	2000 g	3 kg	5 kg
Length (mm)		380	400	600	900
51199...	Ident. No.	150 ●	200 ●	300 ●	500 ●

Prod. Gr. 520

HAZET Hatchet, axe and pickaroon

With hickory wood handle

Application:
Ident. No. 500–520: For universal use in forestry and gardening work
Ident. No. 550: For moving and lifting wooden beams and tree trunks

Execution:
- Ergonomically shaped hickory wood handle, does not splinter
- Non-slip coating on the end of the handle
- **Ident. No. 500:** Tool head and wooden handle with double safety wedging
- **Ident. No. 500–520:** Head made of high-quality C60 tool steel
- **Ident. No. 520:**
  - Tool head and wooden handle with triple safety wedging
  - Impact protection sleeve to increase the service life in the event of missed strikes
- High splitting performance thanks to optimised head shape
- **Ident. No. 550:**
  - Professional double wedging between tool head and handle
  - Steel part forged and hardened

Advantage:
- **Ident. No. 500–520:** Easily penetrates wood thanks to the specially polished cutting edge (flap disc sanding technique)

Ident. No. 500

Ident. No. 520

Ident. No. 550

Length (mm)		400	550	420
51203...	Ident. No.	500 ●	520 ●	550 ●

Prod. Gr. 569

ORION® Composite rubber hammers (DIN 5128)

Execution:
- Painted handle
- Hard quality, approx. 90 Shore A

Technical data:
- Material of long handle: Ash

Head Ø (mm)		40	54	64	74	90
Length (mm)		300	320	330	350	360
Weight of head (g)		110	220	390	590	940
51204...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 520

ATORN Soft-face hammer with interchangeable hammer tips

Blue cellulose acetate hammer tips

Application:
For controlled position impacts on workpieces in machine vices or during assembly tasks.

Execution:
- High-quality die-cast zinc base
- With handle impact protection
- Blue cellulose acetate inserts
- Ergonomic wooden handle for a powerful impact

Advantage:
- Replaceable individual parts

Technical data:
- Recoil-free: No
- Material of long handle: Ash
- Impact insert, interchangeable: Yes
- Colour of hammer head insert: Blue
- Handle fastening: Pinned

Head Ø (mm)		25	30	40	50
Length of head (mm)		86	95	107	115
Length (mm)		270	280	325	340
51206...	Ident. No.	025 ●	030 ●	040 ●	050 ●

Prod. Gr. 520

Accessories for		51206 025	51206 030	51206 040	51206 050
51206... Replacement impact insert blue	Ident. No.	125 ●	130 ●	140 ●	150 ●
51206... Spare ash hammer handle	Ident. No.	525 ●	525 ●	540 ●	540 ●

ATORN Soft-face hammer with interchangeable hammer tips

Hammer tips made of Nylon, white

Application:
For controlled position impacts on workpieces in machine vices or during assembly tasks.

Execution:
- High quality die-cast zinc basic body
- With handle impact protection
- Inserts made of Nylon White, hard, very wear resistant, no splintering
- Ergonomic wooden handle for a powerful impact

Advantage:
- Replaceable individual parts

Technical data:
- Recoil-free: No
- Material of long handle: Ash
- Impact insert, interchangeable: Yes
- Colour of hammer head insert: White
- Handle fastening: Pinned

Head Ø (mm)		25	30	40	50
Length of head (mm)		86	95	107	115
Length (mm)		270	280	330	340
51206...	Ident. No.	225 ●	230 ●	240 ●	250 ●

Prod. Gr. 520

Accessories for		51206 225	51206 230	51206 240	51206 250
51206... Spare ash hammer handle	Ident. No.	525 ●	525 ●	540 ●	540 ●
51206... Spare hammer insert nylon, white	Ident. No.	325 ●	330 ●	340 ●	350 ●

ATORN Soft-face hammers

recoil-free

Application:
Powerful impact action on metal while being gentle on muscles and joints thanks to lack of recoil.

Execution:
- Impact heads made from shatterproof polyurethane, replaceable
- Powder-coated precision steel tube handle

Advantage:
- Ergonomic rubber handle
- Hammer body filled with cast iron shot for recoil-free working

Technical data:
- Recoil-free: Yes
- Material of long handle: Steel
- Impact insert, interchangeable: Yes
- Colour of hammer head insert: Blue
- Handle fastening: Welded
- Protective handle sleeve available

Head Ø (mm)		30	40	50
Length of head (mm)		116	126	136
Length (mm)		351	376	386
Weight (kg)		0.46	0.58	0.76
51208...	Ident. No.	300 ●	400 ●	500 ●

Prod. Gr. 520

Accessories for		51208 300	51208 400	51208 500
51208... Spare inserts PU, blue	Ident. No.	330 ●	440 ●	550 ●

wiha Soft-face hammers

recoil-free

Application:
Ideally suited for straightening workpieces on machine tables.

Execution:
- Polyurethane heads, yellow, shatterproof, medium-hard
- **Ident. No. 125–160:** With steel tube handle and rubber grip

Advantage:
- Gentle on arms and muscles as the recoil is reduced
- The metal shot in the hammer head doubles the impact effect compared to standard hammers

Technical data:
- Recoil-free: Yes
- Impact insert, interchangeable: Yes

Ident. No. 025–070

Ident. No. 125–160

Head Ø (mm)		25	30	35	40	45	50	60	70
Length of head (mm)		108	115	118	125	130	135	165	165
Length (mm)		320	350	355	375	380	385	420	430
Material of long handle		Hickory	Hickory	Hickory	Hickory	Hickory	Hickory	Hickory	Hickory
Handle fastening		Pinned	Pinned	Pinned	Pinned	Pinned	Pinned	Pinned	Pinned
Weight (kg)		0.32	0.46	0.58	0.76	1	1.25	2	2.6
51221...	Ident. No.	025 ●	030 ●	035 ●	040 ●	045 ●	050 ●	060 ●	070 ●

Head Ø (mm)		25	30	35	40	45	50	60
Length of head (mm)		108	115	118	125	130	135	165
Length (mm)		288	290	300	305	310	365	375
Material of long handle		Steel	Steel	Steel	Steel	Steel	Steel	Steel
Handle fastening		Welded	Welded	Welded	Welded	Welded	Welded	Welded
Weight (kg)		0.52	0.6	0.7	0.85	1.06	1.4	2.05
51221...	Ident. No.	125 ●	130 ●	135 ●	140 ●	145 ●	150 ●	160 ●

Prod. Gr. 539

Accessories for		51221 025	51221 030	51221 035	51221 040	51221 045	51221 050	51221 060
51221... Spare inserts PU, yellow Suitable for soft-face hammer art. no. 51221025 to 160	Ident. No.	225 ●	230 ●	235 ●	240 ●	245 ●	250 ●	260 ●
51221... Hickory spare handle Suitable for soft-face hammer art. no. 51221025 to 070	Ident. No.	425 ●	-	-	-	-	450 ●	460 ●
51221... Hickory spare handle Suitable for soft-face hammer art. no. 51215510 to 530	Ident. No.	-	430 ●	430 ●	440 ●	440 ●	-	-

Accessories for		51221 070	51221 125	51221 130	51221 135	51221 140	51221 145	51221 150
51221... Spare inserts PU, yellow Suitable for soft-face hammer art. no. 51221025 to 160	Ident. No.	270 ●	225 ●	230 ●	235 ●	240 ●	245 ●	250 ●
51221... Hickory spare handle Suitable for soft-face hammer art. no. 51221025 to 070	Ident. No.	460 ●	-	-	-	-	-	-
51221... Hickory spare handle Suitable for soft-face hammer art. no. 51215510 to 530	Ident. No.	-	-	-	-	-	-	-

Accessories for		51221 160
51221... Spare inserts PU, yellow Suitable for soft-face hammer art. no. 51221025 to 160	Ident. No.	260 ●
51221... Hickory spare handle Suitable for soft-face hammer art. no. 51221025 to 070	Ident. No.	-
51221... Hickory spare handle Suitable for soft-face hammer art. no. 51215510 to 530	Ident. No.	-

HALDER Supercraft soft-face hammers

recoil-free

Application:
For very powerful hammer blows. Positioning and joining of workpieces in a vice, mounting of sharp-edged workpieces.

Execution:
- Hammer inserts made of special nylon, white, hard, no splintering
- With break-proof steel tube handle and ergonomically shaped, non-slip rubber grip

Advantage:
- No recoil, gentle on joints, low noise
- Hammer inserts made of special nylon with maximum strength
- Handle sleeve prevents missed blows.

Technical data:
- Impact insert, interchangeable: Yes

Ident. No. 150

Head Ø (mm)		25	30	35	40	50	60
Length (mm)		270	290	295	300	310	325
51223...	Ident. No.	125 ●	130 ●	135 ●	140 ●	150 ●	160 ●

Prod. Gr. 521

Accessories for		51223 125	51223 130	51223 135	51223 140	51223 150	51223 160
51224... Spare inserts nylon, white Suitable for soft-face hammer art. no. 51224120 to 460	Ident. No.	225 ●	230 ●	235 ●	240 ●	250 ●	260 ●

HALDER Supercraft soft-face hammers

recoil-free

Application:
For very powerful hammer strikes. Positioning and joining of workpieces in a vice, assembly of sharp-edged workpieces.

Execution:
- Hammer inserts made of special nylon, white, hard, no splintering
- With vibration-damping, ergonomically shaped, highly robust and painted hickory handle

Advantage:
- No recoil, gentle on joints, low noise
- Hammer inserts made of special nylon with maximum strength
- Handle protection sleeve acts as an overstrike protector

Technical data:
- Recoil-free: Yes
- Material of long handle: Hickory
- Impact insert, interchangeable: Yes
- Handle fastening: Pinned

Ident. No. 150

Head Ø (mm)		20	25	30	35	40	50	60
Length of head (mm)		105	105	110	110	115	120	145
Length (mm)		300	305	330	335	360	370	370
Weight (kg)		0.245	0.325	0.46	0.56	0.715	0.99	1.705
51224...	Ident. No.	120 ●	125 ●	130 ●	135 ●	140 ●	150 ●	160 ●

Prod. Gr. 521

Accessories for		51224 120	51224 125	51224 130	51224 135	51224 140	51224 150	51224 160
51224... Spare inserts nylon, white Suitable for soft-face hammer art. no. 51224120 to 460	Ident. No.	220 ●	225 ●	230 ●	235 ●	240 ●	250 ●	260 ●
51224... Hickory spare handle Suitable for soft-face hammer art. no. 51224120 to 360	Ident. No.	325 ●	325 ●	330 ●	330 ●	340 ●	340 ●	360 ●

ORION Soft-face hammers

recoil-free with hickory handle

Application:
Ideally suited for straightening workpieces on machine tables.

Execution:
- Polyurethane heads, shatterproof, blue, medium-hard

Advantage:
- Gentle on arms and muscles as the recoil is reduced
- The metal shot in the hammer head doubles the impact effect compared to standard hammers

Technical data:
- Recoil-free: Yes
- Material of long handle: Hickory
- Impact insert, interchangeable: Yes
- Handle fastening: Pinned
- Protective handle sleeve available: No

Head Ø (mm)		30	40	50
Length of head (mm)		115	125	135
Length (mm)		350	375	385
Weight (kg)		0.45	0.75	1.25
51215...	Ident. No.	510 ●	520 ●	530 ●

Prod. Gr. 593

Accessories for		51215 510	51215 520	51215 530
51221... Spare inserts PU, yellow Suitable for soft-face hammer art. no. 51221025 to 160	Ident. No.	230 ●	240 ●	250 ●
51221... Hickory spare handle Suitable for soft-face hammer art. no. 51215510 to 530	Ident. No.	430 ●	440 ●	-
51221... Hickory spare handle Suitable for soft-face hammer art. no. 51221025 to 070	Ident. No.	-	-	450 ●

HALDER SIMPLEX soft-face hammers

With 1 composite rubber tip and 1 super plastic tip each

Application:
For medium-hard impacts when assembling sharp-edged workpieces

Execution:
- Soft-face hammer combined with rubber composition and superplastic
- Black rubber composition, medium-hard, very low wear, vibration damping, odourless
- Superplastic made of extruded, extremely homogeneous material, white, medium-hard, highly resistant and wear-proof.
- Housing made of malleable iron with integrated protective shaft sheath and high breakage resistance
- High-quality, vibration-damping, ergonomically shaped wooden handle; double-painted grip area

Advantage:
- All individual parts can be replaced and retrofitted, thus very economical

Technical data:
- Material of long handle: Robinia
- Handle fastening: Bolted

Ident. No. 050

Head Ø (mm)		30	40	50	60
Length of head (mm)		90	11	135	145
Length (mm)		300	330	350	405
Weight (kg)		0.345	0.64	1.13	1.5
51226...	Ident. No.	030 ●	040 ●	050 ●	060 ●

Prod. Gr. 521

HALDER Replacement hammer tips for SIMPLEX soft-face hammers

Application:
As spare insert for soft-face hammer SIMPLEX

Execution:
- **Ident. No. 130–180:** Very hard hammer insert, highly wear-resistant, no splintering even at sub-zero temperatures, resistant to oil and grease, especially for assembling sharp-edged workpieces
- **Ident. No. 230–260:** Hard hammer insert, resistant to oil and grease, for universal use
- **Ident. No. 330–380:** medium-hard hammer insert made of extruded, extremely homogeneous material, highly resistant and wear-proof
- **Ident. No. 430–480:** Very hard hammer insert, heat resistant, replaces conventional lead hammers

Ident. No. 130–180

Ident. No. 230–260

Ident. No. 330–380

Ident. No. 430–480

Head Ø (mm)				30	40	50	60	80
		Colour						
51230...	Nylon	White	Ident. No.	130 ●	140 ●	150 ●	160 ●	180 ●
51230...	Plastic	Red	Ident. No.	230 ●	240 ●	250 ●	260 ●	-
51230...	Super plastic	White	Ident. No.	330 ●	340 ●	350 ●	360 ●	380 ●
51230...	Soft metal	Alumetallic	Ident. No.	430 ●	440 ●	450 ●	460 ●	480 ●

Prod. Gr. 521

HALDER Replacement handle

Application:
As spare handle for SIMPLEX soft-face hammer

Execution:
- High-quality wooden handle, vibration damping
- Double-painted and ergonomically shaped grip area

Technical data:
- Material of long handle: Robinia

Suitable for hammer weight		30	40	40	50	80
Length (mm)		260	275	310	335	395
51234...	Ident. No.	030 ●	040 ●	050 ●	060 ●	080 ●

Prod. Gr. 521

ORION® Replacement handles for machinist's hammer (DIN 5111)

made of europlus hardwood, DIN 68340, quality class A

Application:
As spare handle for DIN hammer heads.

Execution:
- Double-curved shape according to DIN 5111
- Waxed, with embossing
- For hammers with eyes to DIN 1195

Technical data:
- Material of long handle: Robinia

Suitable for hammer weight (kg)		0.1	0.2	0.3	0.4	0.5	0.6	0.8	1	1.5	2
Length (mm)		260	280	300	310	320	330	350	360	380	400
51246...	Ident. No.	260 ●	280 ●	300 ●	310 ●	320 ●	330 ●	350 ●	360 ●	380 ●	400 ●

Prod. Gr. 520

Hammer handle wedges

Tapered, for machinist's hammers and mallets

Application:
For safely connecting the hammer handle and hammer head

Execution:
- Tapered steel sleeve with all-round groove
- Fit by pressing or pushing into the wooden handle when the handle is inserted in the hammer eye.
- **Ident. No. 010–200:**
  - Use with machinist's hammers
  - Ref. 080 suitable for 800 to 1000 g heads
- **Ident. No. 210–240:**
  - Use with mallets and sledgehammers
  - Ref. 210 suitable for 800 to 1000 g heads

Advantage:
- Safety and accident prevention

Delivery:
Ident. No. 010–200: Pack of 5/price = pack price

Ident. No. 010–200

Suitable for hammer weight (g)		100	200	300	400	500	600	800	1500	2000	800	1250	1500
Outer Ø (mm)		7	8	9	10	12	13	14	15	16	13	14	15
Length (mm)		8.8	9.1	9.9	10.8	13.1	14.8	15.5	16.4	17.8	14.8	15.5	16.4
Bore Ø (mm)		5	6	6	6	7	8	8	9	10	8	8	9.3
51252...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●	060 ●	080 ●	150 ●	240 ●	210 ●	220 ●	230 ●

Prod. Gr. 520

ORION® Plastic hammers

Execution:
- Made from cellulose acetate
- Hardness: medium, colour: yellow

Technical data:
- Recoil-free: No
- Material of long handle: Ash
- Impact insert, interchangeable: Yes
- Handle fastening: Splined

Head Ø (mm)		22	27	32	35	40	50
Length of head (mm)		73	88	96	103	105	115
Length (mm)		250	260	280	280	320	340
Weight (kg)		0.145	0.225	0.32	0.4	0.55	0.9
51207...	Ident. No.	522 ●	527 ●	532 ●	535 ●	540 ●	550 ●

Prod. Gr. 520

Accessories for		51207 522	51207 527	51207 532	51207 535	51207 540
51207... Replacement hammer heads, screw-in, yellow Suitable for soft-face hammer, art. no. 51207522 to 550	Ident. No.	722 ●	727 ●	732 ●	735 ●	740 ●

ORION® Flat chisels

Execution:
- Tempered impact head
- Painted shaft

Technical data:
- Material: Chrome-vanadium steel

Length (mm)		125	150	175	200	250	300
Width of cutting edge (mm)		15	18	21	24	25	26
Shank width x shank thickness		14 x 9 mm	17 x 11 mm	20 x 12 mm	23 x 13 mm	23 x 13 mm	23 x 13 mm
51256...	Ident. No.	510 ●	520 ●	530 ●	540 ●	550 ●	560 ●

Prod. Gr. 593

ORION® Cross-cut chisels

Execution:
- Tempered impact head
- Painted shaft

Technical data:
- Material: Chrome-vanadium steel

Length (mm)		125	150	175	200	250
Width of cutting edge (mm)		5	6	7	8	9
Shank width x shank thickness		14 x 9 mm	17 x 11 mm	17 x 11 mm	20 x 12 mm	23 x 13 mm
51258...	Ident. No.	510 ●	520 ●	530 ●	540 ●	550 ●

Prod. Gr. 593

Chisel sets

Execution:
- Tempered impact head
- Painted shaft
- Lengths: 120-150 mm
- Centre punch 120 x 10 mm
- **Ident. No. 010–015:**
  - 1 x flat chisel 150 x 12 x 16 and 125 x 10 x 12 mm
  - Cross-cut chisel 125 x 10 x 6 mm
  - each 1 drift punch 3 x 120, pin punch 4 x 150 mm
- **Ident. No. 510–515:**
  - 1 x flat chisel 150 x 11 x 10 and 125 x 11 x 10 mm
  - Cross-cut chisel 125 x 10 x 5 mm
  - each 1 drift punch 3 x 120 and 4 x 120 mm

Ident. No. 010

Ident. No. 015, 515

Ident. No. 510

Material				Chrome molybdenum	Chrome-vanadium steel
GEDORE	51262...	In holder with base	Ident. No.	010 ●	-
GEDORE	51262...	In metal case	Ident. No.	015 ●	-
ORION	51262...	In holder with base	Ident. No.	-	510 ●
ORION	51262...	In metal case	Ident. No.	-	515 ●

GEDORE = Prod. Gr. 558
ORION = Prod. Gr. 593

ORION® Mason's chisels

Execution:
- Tempered impact head
- Painted shaft

Technical data:
- Material: Chrome-vanadium steel

Length (mm)		200	300	400	500
Width of cutting edge (mm)		24	26	26	30
Shank width x shank thickness		16 x 16 mm	18 x 18 mm	18 x 18 mm	20 x 20 mm
51264...	Ident. No.	500 ●	520 ●	530 ●	540 ●

Prod. Gr. 593

ORION® Parting chisel

Execution:
- The shaft thickness dimension indicates the cutting edge thickness (2 or 3 mm); the cutting edge width is 10 mm
- Tempered impact head
- Shaft, hexagonal, 10 mm, painted

Length (mm)		125	125
Width of cutting edge (mm)		10	10
Shank width x shank thickness		10 x 2 mm	10 x 3 mm
Material		Chrome-vanadium steel	Chrome-vanadium steel
51267...	Ident. No.	500 ●	510 ●

Prod. Gr. 593

ORION® Electrician's chisel

Execution:
- Tempered impact head
- Painted shaft

Technical data:
- Material: Chrome-vanadium steel

Length (mm)		200	250	250	250
Width of cutting edge (mm)		10	10	12	14
Shank width x shank thickness		8 x 8 mm	8 x 8 mm	10 x 10 mm	12 x 12 mm
51268...	Ident. No.	500 ●	530 ●	540 ●	550 ●

Prod. Gr. 593

ORION® Drift punch (DIN 6458)

made of chromium-vanadium steel, hardened

Execution:
- Tempered impact head
- Drive cone or drive point, bare
- Painted shaft

Technical data:
- Length: 120 mm
- Material: Chrome-vanadium steel

Tip Ø (mm)		1	2	3	4	5	6	7	8	10
Shank Ø (mm)		10	10	10	10	10	12	12	12	12
51281...	Ident. No.	500 ●	510 ●	520 ●	530 ●	540 ●	550 ●	560 ●	570 ●	580 ●

Prod. Gr. 593

Drift punch sets

made of chromium-vanadium steel, hardened

Execution:
- Tempered impact head
- Drive cone or drive point, bare
- Painted shaft
- Contents: 5x drift punches with tip diameter: 1/2/3/4/5 mm
- and 1 x centre punch with diameter 4 mm

Technical data:
- Length: 120 mm
- Shank diameter: 10 mm

No. 51280

No. 51282 500

No. 51282 510

GEDORE	51280...	In metal case	Ident. No.	195 ●
ORION	51282...	In holder with base	Ident. No.	500 ●
ORION	51282...	In metal case	Ident. No.	510 ●

GEDORE = Prod. Gr. 558
ORION = Prod. Gr. 593

Pin punch (DIN 6450)

Application:
For driving split pins and studs out of clearance holes.

Execution:
- Tempered impact head
- Drive cone or drive point, bare
- Painted shaft

Technical data:
- Length: 150 mm
- Material: Chrome-vanadium steel

No. 51280

No. 51283

Tip Ø (mm)			2	3	4	5	6	7	8	10	2.5	3.5	4.5	12
Shank width x shank thickness			10 x 10 mm	10 x 10 mm	10 x 10 mm	10 x 10 mm	10 x 10 mm	12 x 12 mm	12 x 12 mm	12 x 12 mm	10 x 10 mm	10 x 10 mm	10 x 10 mm	12 x 12 mm
GEDORE	51280...	Ident. No.	220 ●	230 ●	240 ●	250 ●	260 ●	270 ●	280 ●	310 ●	-	-	-	-
ORION	51283...	Ident. No.	500 ●	520 ●	540 ●	560 ●	570 ●	580 ●	590 ●	595 ●	510 ●	530 ●	550 ●	597 ●

GEDORE = Prod. Gr. 558
ORION = Prod. Gr. 593

Pin punch sets

Application:
For driving split pins and studs out of clearance holes.

Execution:
- Chrome-vanadium steel, tempered
- Tempered impact head
- Drive cone or drive point, bare
- Painted shaft
- **No. 51280 395–51284 500:** Tip diameter: 3/4/5/6/7/8 mm
- **No. 51284 520:** Tip diameter: 3/4/5/6/8/10 mm

Technical data:
- Length: 150 mm

No. 51280

No. 51284 500

No. 51284 520

Composition of set				Supplied shaft cross-sections: 6 x 6 mm/8 x 2 mm	Supplied shaft cross-sections: 10-12 mm
GEDORE	51280...	In metal case	Ident. No.	395 ●	-
ORION	51284...	In holder with base	Ident. No.	-	500 ●
ORION	51284...	In metal case	Ident. No.	-	520 ●

GEDORE = Prod. Gr. 558
ORION = Prod. Gr. 593

Centre punch

Execution:
- Tempered impact head
- Bare tip
- Painted shaft

Technical data:
- Material: Chrome-vanadium steel

No. 51295

No. 51296

Length (mm)			120	100	120	150
Shank width x shank thickness			10 x 10 mm	8 x 8 mm	12 x 12 mm	12 x 12 mm
GEDORE	51295...	Ident. No.	010 ●	-	-	-
ORION	51296...	Ident. No.	500 ●	490 ●	510 ●	520 ●

GEDORE = Prod. Gr. 558
ORION = Prod. Gr. 593

GEDORE ROTBAND-PLUS sledgehammers

DBGM European patent no. 0703045

Execution:
- Forged hammer head to DIN 1042
- Ground head, painted black, polished work surfaces
- Ergonomic Hickory wooden handle DIN 5112, extremely rigid
- With long, hardened protective handle sheath

Advantage:
- With the safest possible connection; the protective handle sheath, ring-shaped wedge, fastening plate and wood screw turn the hammer head and handle into a single unit

Technical data:
- Recoil-free
- Handle fastening: Bolted with locking plate
- Material of long handle: Hickory
- Protective handle sleeve available: Yes
- Impact insert, interchangeable

Weight of head		3 kg	4 kg	5 kg	6000 g	8 kg
Length (mm)		600	700	900	800	900
Weight (kg)		3.46	4.82	6.125	7.125	9.3
51194...	Ident. No.	530 ●	540 ●	550 ●	560 ●	580 ●

Prod. Gr. 558

Accessories for		51194 530	51194 540	51194 550	51194 560	51194 580
51194... Spare handle with sleeve, wedge and fastening plate Suitable for Rotband-Plus sledgehammers	Ident. No.	730 ●	740 ●	750 ●	760 ●	780 ●

GEDORE Flat chisels

Execution:
- Hardened chrome-molybdenum-vanadium air-hardened steel 45CrMoV7
- Hardened and tempered evenly over the entire length
- Smooth-ground working ends with transparent varnish
- Inductively annealed impact heads
- Painted shaft

Technical data:
- Material: Chrome molybdenum

Flat chisel

Length (mm)		125	150	175	200	250
Width of cutting edge (mm)		15	18	21	24	25
Shank width x shank thickness		14 x 9 mm	17 x 11 mm	20 x 12 mm	23 x 13 mm	23 x 13 mm
51255...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 558

GEDORE Cross-cut chisels

Execution:
- Hardened and tempered evenly over the entire length
- Smooth-ground working ends with transparent varnish
- Inductively annealed impact heads
- Painted shaft

Technical data:
- Material: Chrome molybdenum

Cross-cut chisels

Length (mm)		125	150	175	200
Width of cutting edge (mm)		5	6	7	8
Shank width x shank thickness		14 x 9 mm	17 x 11 mm	17 x 11 mm	20 x 12 mm
51255...	Ident. No.	210 ●	220 ●	230 ●	240 ●

Prod. Gr. 558

RENNSTEIG Universal chisel hand guard

Application:
For mounting on chisel for improved grip and protection against injuries.

Execution:
- Made of PVC, black
- Suitable for all chisels with min. length 250 mm
- Suitable for flat-oval chisel cross-sections from 20x12 mm to 26x13 mm
- For octagonal chisel cross-section 16–18 mm

Technical data:
- Length: 110 mm

51269...	Ident. No.	100 ●

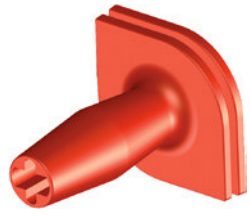
Prod. Gr. 522

GEDORE Chisel hand guard

Application:
For mounting on chisel for improved grip and protection against injuries.

Execution:
- Red PVC
- Suitable for all chisels with min. length 250 mm
- Ergonomic design
- Suitable for flat-oval chisel cross-section from 20 x 12 mm to 26 x 13 mm
- Suitable for octagonal chisel cross-section of 14-20 mm

Advantage:
- Optimum safety for your hands in the event of missed strikes thanks to larger, double protective plate
- Will not roll away thanks to the oval shape
- Your hands do not become fatigued – safe and secure grip maintained



Length (mm)		150
51269...	Ident. No.	010 ●

Prod. Gr. 558

RENNSTEIG Pin punch set

Application:
For driving split pins and studs out of clearance holes.

Execution:
- High-alloy tool steel, fully chrome-plated
- High hardness level above 59 HRC for longer service life
- Safety impact head
- Colour powder coating
- Tip diameter: 3/4/5/6/8/10 mm

Advantage:
- Rounded strike edge; no damage to workpiece

Delivery:
In metal case

Composition of set			Supplied shaft cross-sections: 10-12 mm
Length (mm)			150
51280...	In metal case	Ident. No.	500 ●

Prod. Gr. 522

RENNSTEIG Pin punch set
With guide sleeve, knurled, impact piece made of silver steel, zinc-chromated

Application:
For driving split pins and studs out of clearance holes.

Execution:
- Chrome-vanadium steel, hardened drive point
- Tip diameter: 0.9/1.4/1.8/2.4/2.8/3.4/3.9/5.9 mm
- Pin punch lengths: 80-102 mm

Delivery:
In steel metal case

Composition of set			Supplied shaft cross-sections: 6-8 mm
Number of pieces in assortment/set			8
51285...	With steel sheet metal box	Ident. No.	010 ●

Prod. Gr. 522

ORION Scriber

Execution:
- **Ident. No. 010:**
  - CrV steel, hardened and bronzed
  - One-piece construction
  - With straight tip
- Knurled handle
- **Ident. No. 020:**
  - One-sided, straight, chrome-plated
  - Inlaid cemented carbide tip
  - Plastic handle

Ident. No. 010

Ident. No. 020

Length (mm)		180	175
Shank Ø (mm)		5	9
51310...	Ident. No.	010 ●	020 ●

Prod. Gr. 523

ORION Scriber with straight and bent tip

Execution:
- **No. 51315:**
  - CrV steel, hardened and bronzed
  - One-piece construction
  - With straight and 90° bent tip
- Knurled handle
- **No. 51320:**
  - Hardened steel tips, nickel-plated surface
  - Ergonomically shaped plastic handle in centre
  - Angled side with 70° bend

No. 51315

No. 51320

Length (mm)		160	220
Shank Ø (mm)		5	9
51315...	Ident. No.	500 ●	-
51320...	Ident. No.	-	020 ●

Prod. Gr. 523

ATORN Carbide scriber

with interchangeable carbide needle and attachment clip

Execution:
- HM needle regrindable
- Nickel-plated metal housing with attachment clip
- Knurled handle
- Retractable pencil system

Length (mm)		146
Ø of needle (mm)		2
51331...	Ident. No.	500 ●

Prod. Gr. 523

Scriber with carbide marker

Execution:
- With carbide needle
- Hexagon metal shaft, chrome-plated
- With clip
- Nail firmly soldered in place
- Can be ground

Length (mm)		150
Ø of needle (mm)		2
Shank Ø (mm)		6
51313...	Ident. No.	010 ●

Prod. Gr. 523

ATORN HSS bimetal hand saw blades

precise and sharp toothing, flexible, high-performance saw blade

Application:
Ident. No. 590–610: For universal sawing tasks including on rustproof sheet steel.
Ident. No. 620, 640: Universal use in industry and workshops
Ident. No. 630: For cutting hard and toughened steels that are difficult to machine

Execution:
- **Ident. No. 590–610:**
  - Elastic blade body made of tool steel
  - Long service life and excellent heat resistance
- **Ident. No. 620:**
  - Flexible, tooth-hardened blade, sharp milled teeth
  - Quality - Flex - SS - Tooth type
- **Ident. No. 630:**
  - Flexible, side-set blade, sharp milled teeth
  - Quality: Fully hardened HSS
- **Ident. No. 640:**
  - Toothed on both sides
  - Quality: SS high-speed steel, fully hardened

Advantage:
- **Ident. No. 590–610:**
  - Completely shatterproof
  - Particularly high cutting capacity thanks to optimally hardened HSS toothed section

Technical data:
- Saw blade length: 300 mm

Ident. No. 590–610

Ident. No. 620

Ident. No. 630

Ident. No. 640

Number of teeth per inch			18	24	32
51648...	Bi-metal, one-sided, T=18	Ident. No.	590 ●	-	-
51648...	Bi-metal, one-sided, T=24	Ident. No.	-	600 ●	-
51648...	Bi-metal, one-sided, T=32	Ident. No.	-	-	610 ●
51648...	Flex, one-sided 24 Z	Ident. No.	-	620 ●	-
51648...	HSS, one-sided 24 Z	Ident. No.	-	630 ●	-
51648...	SS, double-sided, 24 Z	Ident. No.	-	640 ●	-

Prod. Gr. 5HH

ATORN Aluminium hand saw bow

Execution:
- Die-cast aluminium
- Weighs only 650 g
- Captive pins hold the blade

Advantage:
- Ergonomic, soft rubber handles for effortless work
- Quick-action clamping in grip

Suitable for sawblade length (mm)		300
Overhang (mm)		400
51849...	Ident. No.	020 ●

Prod. Gr. 528

ATORN Metal hand saw bow

Execution:
- Bracket made from strong square tubing
- Aluminium grip, blue, powder-coated

Advantage:
- Blade can be adjusted eight ways
- Quick-action clamping in grip

Suitable for sawblade length (mm)		300
51848...	Ident. No.	020 ●

Prod. Gr. 528

BAHCO ERGO metal saw bow

Execution:
- Alternative blade clamping at 55° for flush cuts
- Includes bimetal blade
- **Ident. No. 500:**
  - Clamping mechanism integrated in the handle
  - Lightweight yet sturdy thanks to 2-component frame with steel core
  - Comfortable, non-slip handle for secure grip and safe handling
- **Ident. No. 510:**
  - Ergonomic version with extremely high blade clamping for straight, clean cuts and precise saw kerfs
  - Centred blade for correct balance
  - Spring-tensioned blade fastening enables quick changeover of blades

Ident. No. 500

Ident. No. 510

Saw blade length (mm)			300
51849...	Light	Ident. No.	500 ●
51849...	Professional	Ident. No.	510 ●

Prod. Gr. 519

BAHCO SANDFLEX bimetal bow saw spare blades

Application:
For sawing all kinds of metal.

Execution:
- Virtually indestructible and shatterproof bi-metal blade
- Precision-ground teeth
- **Ident. No. 630:** With progressive teeth

Advantage:
- Considerably longer service life and longer tooth sharpness than standard hacksaw blades

Technical data:
- Saw blade length: 300 mm

Number of teeth per inch		18	24	32	-
51849...	Ident. No.	600 ●	610 ●	620 ●	630 ●

Prod. Gr. 519

ORION Metal hand saw bow

Execution:
- Solid steel bracket
- Wing clamping nut
- Wooden handle

Suitable for sawblade length (mm)		300
51845...	Ident. No.	500 ●

Prod. Gr. 529

ORION Metal hand saw bow

Execution:
- Bow made from rectangular pipe
- Handle silver powdercoated. With wing clamping nut.

Advantage:
- Blade can be adjusted by 90°

Suitable for sawblade length (mm)		300
Tension force (N)		100
51846...	Ident. No.	500 ●

Prod. Gr. 529

Miniature saw with saw blade

For bow saw spare blades up to 300 mm long

Application:
For sawing in hard-to-reach places.

Execution:
- Includes bi-metal blade

Delivery:
With SANDFLEX bimetal saw blade

Saw blade length (mm)		250
51847...	Ident. No.	020 ●

Prod. Gr. 519

Multi-purpose hand saw, 3 pieces

Flexible handle

Application:
Ideal for hard-to-reach areas

Execution:
- Handle can be adjusted and locked at 2 angles
- Multi-functional mount for saw blades as well as for 1/4 inch bits or bit holders
- The scope of delivery includes: 1x (sabre) saw blade for wood, 6 inch x 10 teeth, and 1x (sabre) saw blade for metal, 6 inch x 24 teeth
- 2-component handle with slide lock

Advantage:
- Suitable for all sabre saw blades with 1/2 inch mounts
- Secure hold and easy, tool-free replacement of the saw blade

Technical data:
- Length: 280 mm

57659...	Ident. No.	010 ●

Prod. Gr. 580

Saws for wood and plastic

Carpenters' saws, Japanese saws, fine saws

Application:
Ident. No. 200: For fine and medium-coarse wood
Ident. No. 210: For medium-coarse wood
Ident. No. 220: ProfiCut version allows optimum flexibility
Ident. No. 230: For universal use, e.g. including fine cross-cuts and angular cuts
Ident. No. 240–250: For wood and plastic

Execution:
- **Ident. No. 200–210:**
  - With unique XT toothing
  - Ergo-Superior 2-C handle, bolted
- **Ident. No. 220:**
  - Japan pit saw with teeth on both sides
  - Extra-fine toothing on one side of the blade
  - Progressive, coarse toothing on the other side
  - 2-C handle
- **Ident. No. 230:**
  - With hardened teeth tips
  - ProfiCut version with three-sided ground teeth
  - Extremely narrow saw kerf of just 0.9 mm
- **Ident. No. 240–250:**
  - Fine universal toothing with hardened tooth tips for long-lasting sharpness
  - With light steel back for excellent stability
  - Wooden handle
- **Ident. No. 250:**
  - Handle with depressed centre for flush sawing
  - The folding handle allows sawing on both the left-hand and right-hand sides

Advantage:
- **Ident. No. 200–210:** Hardened teeth tips for long-lasting sharpness
- **Ident. No. 220–230:** Flexible blade even allows flush sawing
- **Ident. No. 240–250:** High-performance fine-toothed saws for precise cuts

Ident. No. 200

Ident. No. 220

Ident. No. 230

Ident. No. 240

Ident. No. 250

Saw blade length (mm)		400	435	240	305	250	250
Number of teeth per inch		11/12	9/10	6-8.5/17	13.5	13.5	14/18
57660...	Ident. No.	200 ●	210 ●	220 ●	230 ●	240 ●	250 ●

Prod. Gr. 519

PUK® Hand saw bow

for saw blades 150 mm long

Execution:
- With universal saw blade
- **Ident. No. 010:**
  - Wooden handle adjustable on all sides
  - Bow made from square steel, nickel-plated
  - In plastic case
- **Ident. No. 020:**
  - With fixed red wooden handle
  - Bow made from circular steel, bright galvanised

Technical data:
- Saw blade length: 150 mm

Ident. No. 010

Ident. No. 020

Length (mm)		310	290
51810...	Ident. No.	010 ●	020 ●

Prod. Gr. 529

Accessories for		51810 010	51810 020
51811... Universal saw blades, 25 teeth, pack of 12 Length 150 mm, with clamping pins	Ident. No.	011 ●	011 ●
51811... Metal saw blades, 32 teeth, pack of 12 Length 150 mm, with clamping pins	Ident. No.	021 ●	021 ●
51811... Fine metal saw blades, 50 teeth, pack of 12 Length 150 mm, with clamping pins	Ident. No.	031 ●	031 ●
51811... Wood saw blades, 14 teeth, pack of 12 Length 150 mm, with clamping pins	Ident. No.	041 ●	041 ●

ATORN Knives with snap-off blades

Execution:
- **Ident. No. 010:**
  - With push button and auto-lock mechanism
  - With 9 mm snap-off blade
- **Ident. No. 020:** With locking wheel
- **Ident. No. 020–030:** With 18 mm snap-off blade
- **Ident. No. 030:** With slide lock

Advantage:
- Extremely robust and smooth thanks to stainless steel blade guide
- Ergonomic all-metal housing

Ident. No. 010

Ident. No. 020

Ident. No. 030

Length (mm)		150	157	153
Blade width (mm)		9	18	18
53640...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 582

ATORN Cutter blades

Trapezoidal blades and snap-off blades

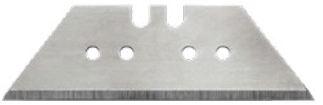
Execution:
- Quality blades Made in Germany
- Long service life, very wear-resistant
- Precision sharp ground and hardened
- **Ident. No. 109:**
  - Snap-off blades 9 mm
  - L: 84 mm x W: 9.1 mm x H: 0.4 mm
- **Ident. No. 118–318:**
  - Snap-off blades 18 mm
  - L: 100 mm x W: 17.7 mm x H: 0.5 mm
- **Ident. No. 400:**
  - Trapezoidal blades
  - L: 61 mm x W: 18.7 mm x H: 0.65 mm

Delivery:
Ident. No. 109–118, 400: pack of 10
Ident. No. 318: pack of 50

Ident. No. 109

Ident. No. 118

Ident. No. 318



Ident. No. 400

	10 pack / 9 mm		10 pack / 18 mm		50 pack / 18 mm		10 pack / trapezoidal	
Blade width (mm)	53640... Ident. No.		53640... Ident. No.		53640... Ident. No.		53640... Ident. No.	
9	109	●	-	-	-	-	-	-
18	-	-	118	●	318	●	-	-
18.7	-	-	-	-	-	-	400	●

Prod. Gr. 582

ATORN Folding utility knife

Application:
For precise cutting of a wide range of materials

Execution:
- For all standard trapezoidal blades
- With steel belt clip

Advantage:
- Ergonomic aluminium handle
- Reliable locking of blade when folded out
- Padded thumb area for highly precise cutting pressure
- Quick-action lever clamp ensures quick change-over of blades without the need for any tools
- Blade compartment integrated in the handle with 5 spare blades

Length (mm)		160
Blade width (mm)		18.7
53644...	Ident. No.	200 ●

Prod. Gr. 5HZ

Accessories for		53644 200
53640... Trapezoidal blades 18.7 mm, pack of 10 pcs. Suitable for all utility knives with trapezoidal blade, 10 pack / trapezoidal	Ident. No.	400 ● 400 ●

martor safety knife
Made in Solingen

Execution:
- **Ident. No. 100:**
  - Multi-talented: versatile, convenient and extremely safe
  - ergonomically shaped with comfortable soft grip
  - covered blade without sharp blade tip
  - effortless cutting of up to 2-layer cardboard boxes, films and plastic strapping
- **Ident. No. 105:**
  - Specialist for films, plastic strapping, adhesive tapes, etc.
  - Masked blade for maximum occupational safety and maximum product protection
  - Simplified and especially safe blade change, blade can be used four times
  - Ergonomic handle made from fibre glass reinforced plastic
- **Ident. No. 110:**
  - integrated plastic spring simplifies the cutting of thin materials such as films and paper webs
  - covered blade protects goods and people
  - blade can be used on 4 sides by reversing and turning the blade
  - integrated metal tab for easy insertion in adhesive tape on cardboard boxes
- **Ident. No. 120:**
  - disposable, highly versatile safety knife
  - cut, scrape and slit without needing a second knife

Delivery:
Ident. No. 100: replacement blade in handle

Ident. No. 100

Ident. No. 105

Ident. No. 110

Ident. No. 120

Model		SECUMAX 350	SECUMAX 320	SECUMAX EASYSAFE	SECUMAX 145
Length (mm)		154	155	207	148
Blade width (mm)		25.8	18.5	18.4	-
53641...	Ident. No.	100 ●	105 ●	110 ●	120 ●

Prod. Gr. 5KM

Accessories for		53641 100	53641 105	53641 110
53641... replacement blades, pack of 10 Suitable for MARTOR SECUMAX 350 and 350 SE, art. no. 53641100, 103	Ident. No.	400 ●	-	-
53641... Replacement blades, pack of 10 Suitable for MARTOR SECUMAX 350 and 350 SE, art. no. 53641100, 103	Ident. No.	411 ●	-	-
53641... replacement blades, pack of 10 Suitable for MARTOR SECUMAX 320, art. no. 53641105	Ident. No.	-	405 ●	-
53641... replacement blades, pack of 10 Suitable for MARTOR SECUMAX EASYSAFE and SECUNORM 175, art. no. 53641110 and 190	Ident. No.	-	-	410 ●

martor safety knife
Made in Solingen

Execution:
- **Ident. No. 130:**
  - Outstanding ergonomics, long lever, long blade
  - Robust aluminium body, optimum weight distribution, soft grip on knife back
  - patented fully automatic blade retraction
- **Ident. No. 140:**
  - double lock knife with fully automatic blade retraction
  - aluminium body with ergonomic soft grip insert
  - preset cutting angle relieves the wrist
  - blade can be used 4x - simply twist and turn
- **Ident. No. 145:**
  - Light safety knife with pliers handle
  - 9 mm cutting depth and fully automatic blade retraction
  - Universal application, fibre glass-reinforced body
  - Blade can be used four times, safe tool-free change
- **Ident. No. 150:**
  - 3-sided slider for pleasant and absolutely variable handling
  - large blade outlet with fully automatic blade retraction
  - metal abrasion protection on blade slit for heavy-duty use
  - special rounded trapezoidal blade can be used 2x

Ident. No. 130

Ident. No. 140

Ident. No. 145

Ident. No. 150

Model		SECUPRO 625	SECUPRO MARTEGO	SECUPRO MERAK	SECUPRO MAXISAFE
Length (mm)		154	155	135	148
Blade width (mm)		19	18.5	18.5	19
53641...	Ident. No.	130 ●	140 ●	145 ●	150 ●

Prod. Gr. 5KM

Accessories for		53641 130	53641 140	53641 145	53641 150
53641... replacement blades, pack of 10 Suitable for MARTOR SECUNORM 525, SECUPRO 625	Ident. No.	420 ●	-	-	420 ●
53641... replacement blades, pack of 10 Suitable for MARTOR SECUPRO MAXISAFE and SECUNORM 525, art. no. 53641150 and 172	Ident. No.	440 ●	-	-	440 ●
53641... replacement blades, pack of 10 Suitable for MARTOR SECUPRO MARTEGO and SECUPRO MERAK art. no. 53641140 and 145	Ident. No.	-	430 ●	430 ●	-

martor safety knife
Made in Solingen

Execution:
- **Ident. No. 160:**
  - the world's first safety knife with over 4-cm blade outlet and automatic blade retraction
  - particularly robust and abrasion-resistant metal blade guide
  - tool-free blade change with practical change button
  - ergonomic handle made from high-quality plastic with pleasant soft grip
- **Ident. No. 172:**
  - 21 mm cutting depth, automatic blade retraction
  - Very robust aluminium universal knife
  - 2-way blade, with magnet for super-safe blade changes
- **Ident. No. 172, 186:** Large blade slider suitable for right and left-handed users
- **Ident. No. 180:**
  - double lock knife with effortless blade release lever
  - plastic body with fibre glass core for high levels of stability and long service life
  - Simple, tool-free blade change, trapezoidal blade can be used 2x
  - ergonomically shaped for right and left handers
- **Ident. No. 186:**
  - 36 mm cutting depth, automatic blade retraction
  - Super-ergonomic handle
  - sophisticated design, with magnet for super-safe blade changes
- **Ident. No. 190:**
  - ergonomic handle with two-sided, ribbed slider
  - tool-free blade change and 4x usable blade.
  - small and handy with automatic blade retraction

Ident. No. 160

Ident. No. 172

Ident. No. 180

Ident. No. 186

Ident. No. 190

Model			SECUNORM 380	SECUNORM 525	SECUNORM MIZAR	SECUNORM 540	SECUNORM 175
Length (mm)			171	150	139	150	110
Blade width (mm)			17.9	19	19	17.7	18.4
safety knife	53641...	Ident. No.	160 ●	172 ●	180 ●	186 ●	190 ●
Spare blades	53641...	Ident. No.	450 ●	440 ●	460 ●	465 ●	410 ●

Prod. Gr. 5KM

ORION® Utility knives with trapezoidal blades

Execution:
- Die-cast housing
- **Ident. No. 500:**
  - With retractable blade
  - Mechanically adjustable blade

Advantage:
- **Ident. No. 600–700:** Safe working processes thanks to automatic blade retraction
- **Ident. No. 700:**
  - Ergonomic handle with soft component
  - Blades are changed without needing to screw them on

Technical data:
- Blade width: 18.7 mm

Ident. No. 500

Ident. No. 600

Ident. No. 700

Length (mm)		150	160	162
53642...	Ident. No.	500 ●	600 ●	700 ●

Prod. Gr. 598

Accessories for		53642 500	53642 600	53642 700
53642... Trapezoidal blades, 18.7 mm, standard, pack of 10 pieces Suitable for all utility knives with trapezoidal blade	Ident. No.	610 ●	610 ●	610 ●

ORION® Knives with snap-off blades

Execution:
- With mechanical blade catch
- **Ident. No. 100–110:**
  - Die-cast zinc housing
  - Stainless steel blade guide
- **Ident. No. 100–110, 510:** Includes 2 spare blades in housing
- **Ident. No. 500–510:** Plastic housing

Advantage:
- **Ident. No. 100:** With protective cap on tip
- **Ident. No. 110:** Ergonomic design with rubber handle

Ident. No. 100

Ident. No. 110

Ident. No. 500

Ident. No. 510

Length (mm)		145	165	140	160
Blade width (mm)		9	18	9	18
53643...	Ident. No.	100 ●	110 ●	500 ●	510 ●

Prod. Gr. 598

Accessories for		53643 100	53643 110	53643 500	53643 510
53643... Snap-off blades, 9 mm, standard, pack of 10 pieces Suitable for all knives with snap-off blade	Ident. No.	600 ●	-	600 ●	-
53643... Snap-off blades, 18 mm, pack of 10 pcs. Suitable for all knives with snap-off blade	Ident. No.	-	610 ●	-	610 ●

LUTZ BLADES exactly TIN-coated utility knife blades

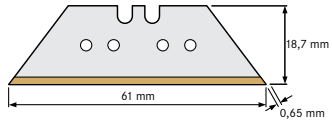
Execution:
- **Ident. No. 001:**
  - Thickness: 0.65 mm
  - Trapezoidal blade: Blade sizes: 18.7 x 61 mm
- **Ident. No. 002:**
  - Hooked blade, thickness 0.65 mm
  - Blade sizes: 18.7 x 48.2 mm
- **Ident. No. 009:** Snap-off blade 9 mm wide, thickness 0.5 mm
- **Ident. No. 018–028:** Snap-off blade 18 mm wide, thickness 0.65 mm

Advantage:
- Blade coated with TiN for extremely long service life
- **Ident. No. 001, 009–018:** Safe range of use: up to approx. 300°C
- **Ident. No. 002, 028:** Safe operating range up to approx. 300°C

Delivery:
Ident. No. 001–018: 10 pieces
Ident. No. 028: 50 pieces

Blade width (mm)			18.7	9	18
53641...	Trapezoidal blade/10	Ident. No.	001 ●	-	-
53641...	Hooked blade/10	Ident. No.	002 ●	-	-
53641...	9 mm snap-off blade/10	Ident. No.	-	009 ●	-
53641...	18 mm snap-off blade/10	Ident. No.	-	-	018 ●
53641...	18 mm snap-off blade/50	Ident. No.	-	-	028 ●

Prod. Gr. 566



Ident. No. 001

Ident. No. 002

Ident. No. 009

Ident. No. 018

Ident. No. 028

STANLEY® Scalpel knife

Application:
For fine and precise cutting tasks.

Execution:
- Die-cast zinc housing
- Fold-in blade
- With locking mechanism
- Includes 2 spare blades

Length (mm)		110
Blade width (mm)		20
53649...	Ident. No.	010 ●

Prod. Gr. 566

Accessories for		53649 010
53649... Spare blades, pack of 50 For scalpel knife no. 53649 010	Ident. No.	100 ●

OLFA CUTTERS & KNIVES Scalpel knife

Application:
For highly precise cutting tasks.

Execution:
- Pen-shaped precision blade
- **Ident. No. 010:** includes 5 blades and plastic protection cap
- **Ident. No. 020:** Includes blade and plastic cap

Advantage:
- **Ident. No. 020:** With rubber grip zone for fatigue-free working

Technical data:
- Length: 150 mm
- Blade width: 10 mm

Ident. No. 010

Ident. No. 020

53650...	Plastic handle with brass clamping sleeve	Ident. No.	010 ●
53650...	Aluminium handle with aluminium clamping sleeve	Ident. No.	020 ●

Prod. Gr. 566

Accessories for		53650 010	53650 020
53650... Spare blades, pack of 25 For scalpel knife no. 53650 010	Ident. No.	110 ●	-
53650... Spare blades, pack of 10 For scalpel knife no. 53650020	Ident. No.	-	120 ●

NT Cutter Safety carton opener

Application:
For opening cardboard boxes, undoing packaging straps and films, and for pulling out packaging staples.

Execution:
- High-quality, ergonomically shaped plastic handle
- Replaceable blade

Advantage:
- Metal bow with internal blade protects the package contents from being damaged

Length (mm)		195
Blade width (mm)		10
53651...	Ident. No.	010 ●

Prod. Gr. 566

Accessories for		53651 010
53651... Spare blades, pack of 10 For safety box cutter art. no. 53651010	Ident. No.	100 ●

STANLEY Glass scraper

Application:
For removing paint and glue residue from glass, tiles, doors etc.

Execution:
- Robust stainless steel holder
- The blade is easy to slide out and fix in position
- Spare blades are easy to replace

Length (mm)		95
Blade width (mm)		40
53652...	Ident. No.	010 ●

Prod. Gr. 566

Accessories for		53652 010
53652... Replacement flat blades, pack of 10 pcs. Suitable for glass scraper no. 53652 010	Ident. No.	100 ●

Erdi Ideal straight shears
Leverage transmission

Application:
For straight continuous and shaped cuts.

Execution:
- Forged cutting head, sheet metal handles
- Maximum sheet metal thickness that can be cut: 12 mm (600 N/mm²)

Advantage:
- **Ident. No. 500–550:** Micro-serrated blade for non-slip cutting
- **Ident. No. 500–550, 800–850:**
  - Noticeably reduced force application thanks to double lever ratio
  - With ergonomic two-component handles for a secure hold, even when high force is used
- **Ident. No. 710–760:**
  - Compact cutting head for excellent manoeuvrability
  - Optimised lever ratio for 25% less force application
  - Optimised blade geometry prevents slippage, even without micro serration
  - ERGO handles for fatigue-free work
- **Ident. No. 800–850:** HSS blades guarantee considerably longer service life, particularly for stainless steel sheets

Technical data:
- Length: 260 mm
- Material of handle: 2-component plastic

Ident. No. 500

Ident. No. 550

Ident. No. 710

Ident. No. 760

Ident. No. 800

Ident. No. 850

Cutting direction			Right-hand cutting	Left-hand cutting
	Material			
53674...	Stainless steel	Ident. No.	500 ●	550 ●
53674...	Special stainless steel	Ident. No.	710 ●	760 ●
53674...	HSS	Ident. No.	800 ●	850 ●

Prod. Gr. 552

ATORN Profiled fine scraper

Execution:
- 3-edged hollow-section scraper
- Special tool steel blade
- Entire handle is made from extremely impact-resistant, tough plastic
- With protective cap for the cutters

Blade length (mm)		25
Blade width (mm)		8
Material of handle		Plastic
53695...	Ident. No.	500 ●

Prod. Gr. 5HI

BAHCO Triangular scraper

Application:
For extremely precise work and for deburring a range of workpieces.

Execution:
- Vanadium-extra steel
- Coated up to close to the tip
- With hollow blade
- Overall length 175 mm

Blade length (mm)		95
Material of handle		Plastic
53704...	Ident. No.	010 ●

Prod. Gr. 519

ORION Scraper set
4 pieces

Execution:
- Stainless steel blades
- Can be ground
- Blade widths: 20/32 mm
- Blade length: 55/105 mm

Advantage:
- Non-slip plastic grip fits perfectly in your hand
- With stainless steel cap – indestructible

Material of handle		Plastic
53704...	Ident. No.	500 ●

Prod. Gr. 598

Triangular hollow-ground scraper

Execution:
- Special tool steel
- **Ident. No. 075:** Enamelled
- **Ident. No. 500–530:** Enamel paint

Technical data:
- Material of handle: Wood

Ident. No. 075

Ident. No. 500–530

Blade length (mm)			65	100	125	150	200
Blade width (mm)			6	14	14	14	16
DICK	53705...	Ident. No.	075 ●	-	-	-	-
ATORN	53705...	Ident. No.	-	500 ●	510 ●	520 ●	530 ●

ATORN® = Prod. Gr. 5HI
DICK = Prod. Gr. 6AE

ATORN Triangular solid scraper

Execution:
- Special tool steel
- Enamel paint

Technical data:
- Blade width: 10 mm
- Material of handle: Wood

Triangular solid scraper

Blade length (mm)		150	200
53706...	Ident. No.	510 ●	520 ●

Prod. Gr. 5HI

ATORN Flat scrapers

Execution:
- Special tool steel
- Enamel paint

Technical data:
- Material of handle: Wood

Flat scrapers

Blade length (mm)		100	150	200
Blade width (mm)		18	20	20
53710...	Ident. No.	500 ●	510 ●	520 ●

Prod. Gr. 5HI

ORION® Flat scrapers

Execution:
- With soldered cemented carbide cutting insert
- Painted blade

Technical data:
- Material of handle: Wood

Ident. No. 270–320

Blade length (mm)		190	210	240
Blade width (mm)		15	20	25
53711...	Ident. No.	210 ●	270 ●	320 ●

Prod. Gr. 550

ORION® Gasket scraper

Application:
For effortless removal of old seals, adhesive residues and labels on flanges, cylinder heads, valve covers and other flat surfaces.

Execution:
- High-alloy chrome-vanadium steel, forged, chrome-plated

Advantage:
- With ergonomic multi-component hexagonal handle in impact-resistant plastic

Blade length (mm)		150
Blade width (mm)		25
53714...	Ident. No.	010 ●

Prod. Gr. 550

Hooks & picks set

4 pieces

Execution:
- 2-component handle
- Shapes: Straight tip, 45° and 90° curved tip, curved tip for hooking

Delivery:
In box

Blade Ø (mm)		3.5
Blade length (mm)		75
52843...	Ident. No.	500 ●

Prod. Gr. 5JA

martor SECUMAX safety scissors

With comfortable special grind

Application:
For cutting cardboard, paper, film, strapping, material and much more

Execution:
- High-quality stainless steel blades
- Maximum safety: Cuts at right angles and thus safe for the user
-

Ident. No. 010

Ident. No. 020

Ident. No. 030

Length (mm)		133	220	215
Design		Straight	Cranked	Straight
Model		SECUMAX 363	SECUMAX 564	SECUMAX 565
53716...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 5KM

ORION Work knives/fitter's knives

Application:
Ident. No. 130: For cutting and stripping

Execution:
- **Ident. No. 100–110:** Solid plastic handle
- **Ident. No. 100–115:** Rustproof, fixed blade
- **Ident. No. 115:** Beech wood handle
- **Ident. No. 120:**
  - Rustproof blades and tools
  - Pocket knife with 6 fold-out tools
- **Ident. No. 125:**
  - Fold-out and lockable rustproof blade
  - Handle with wooden insert
  - Includes leather belt pouch
- **Ident. No. 130:**
  - One-handed folding knife with blade locking
  - With stripping function integrated in stainless steel blade
  - Plastic handles with fluting
- **Ident. No. 210:**
  - Strap knife (plasterboard knife) folding, one piece with ring
  - Curved carbon steel blade

Ident. No. 100

Ident. No. 110

Ident. No. 115

Ident. No. 120

Ident. No. 125

Ident. No. 130

Ident. No. 210

Length (mm)		180	270	290	120	220	182	185
53719...	Ident. No.	100 ●	110 ●	115 ●	120 ●	125 ●	130 ●	210 ●

Prod. Gr. 551

ORION® Paper scissors and multi-purpose scissors

Execution:
- **Ident. No. 010–020:** Nickel-plated
- **Ident. No. 030:** Rustproof blades
- **Ident. No. 030–040:**
  - Plastic handles
  - For left-handed and right-handed users
- **Ident. No. 040:**
  - Stainless steel blade, non-rusting
  - HRC 50-54
- **Ident. No. 050:**
  - Blades rustproof, cannot be disassembled
  - Plastic handles, toothed recess

Ident. No. 010–020

Ident. No. 030

Ident. No. 040

Ident. No. 050

Length (mm)			150	200	250	205
53720...	Paper scissors	Ident. No.	010 ●	015 ●	020 ●	-
53720...	Multi-purpose scissors	Ident. No.	-	-	040 ●	030 ●
53720...	Universal cutters	Ident. No.	-	-	050 ●	-

Prod. Gr. 551

ATORN Multi-purpose shears
with stainless steel blades

Application:
For cutting a variety of materials including thin sheets

Execution:
- Stainless steel blades - non-rusting
- Fine-toothed cutting edge prevents slipping
- Ergonomically-shaped, robust plastic handles
- Straight, self-opening with internal spring
- Overhead locking device for safe transport

Length (mm)		150	190
Design		Straight	Straight
53721...	Ident. No.	150 ●	190 ●

Prod. Gr. 5HZ

Ident. No. 150

Ident. No. 190

BESSEY All-purpose shears

Application:
Ident. No. 500–550: For cutting leather, thin sheet metal, fabric materials, plastic, paper, cardboard, string, wires etc.
Ident. No. 600: For cutting, sawing, filing and screwdriving.

Execution:
- **Ident. No. 500–550:** Stainless steel cutters
- **Ident. No. 600:**
  - Multi-tool with 7 options
  - Scissors, knives, saws, files, cross-head, large and small slotted screwdrivers

Advantage:
- **Ident. No. 500–550:**
  - Ergonomically shaped plastic handles with soft inlay and anti-slip protection
  - With practical one-handed lock
- **Ident. No. 600:**
  - Stainless steel tools for a long service life
  - Non-slip stainless steel handles with soft foam inlays for safe working processes

Delivery:
Ident. No. 600: With practical robust nylon belt pouch

Length (mm)		140	190	185	170
Design		Straight	Straight	Offset	Straight
53722...	Ident. No.	500 ●	510 ●	550 ●	600 ●

Prod. Gr. 552

Ident. No. 500

Ident. No. 550

Ident. No. 600

ORION® Multi-purpose shears

Application:
For cutting sheet metal, soft wire, iron bands, fabric, cardboard, plastic, paper, leather, flowers, branches, carpets, twine etc.

Execution:
- Especially robust
- Rustproof stainless steel head
- Screw joint prevented from coming loose

Advantage:
- Serrated cutting edges, making them particularly non-slip
- With safety lock
- With ergonomic handles for safe and fatigue-free work

Length (mm)		180
Design		Straight
53723...	Ident. No.	010 ●

Prod. Gr. 598

ORION® All purpose and electrician's shears

Application:
For cutting cables, insulating material, cable ducts, leather, cardboard etc.

Execution:
- Stainless steel head
- Screw joint prevented from coming loose

Advantage:
- One blade has fine teeth, one is smooth, thereby ensuring precise working on cables
- Durable, robust two-component handle, non-slip and ergonomic

Length (mm)		140
53724...	Ident. No.	010 ●

Prod. Gr. 598

ATORN Safety tin snips
Leverage transmission

Application:
For safe cutting of steel and plastic strapping.

Execution:
- Special tool steel cutting head, forged, inductively hardened
- With plastic handles

Advantage:
- Sturdy hold-down clamp prevents the strap from whiplashing and causing damage

Length (mm)		600
Knife insert length (mm)		50
Max. material thickness for steel (mm)		1.2
53751...	Ident. No.	510 ●

Prod. Gr. 5HZ

Erdi Safety tin snips
With lever action

Application:
For safe cutting of steel and plastic strapping.

Execution:
- Drop-forged shear head
- One-handed operation, self-opening spring action

Advantage:
- GS-tested
- 2-component handle with anti-slip protection for fatigue-free work
- Lower section is flat to enable the shears to be easily slid beneath the strap
- Clamping device prevents the packaging strap from springing up and causing a hazard

Length (mm)		260
Material of handle		2-component plastic
Knife insert length (mm)		32
Max. material thickness for steel (mm)		1.0
53751...	Ident. No.	020 ●

Prod. Gr. 552

ATORN Crate pliers

Application:
For easy opening of crates without risk of injury.

Execution:
- Pushing the handles together raises the spring out of the stop cam groove
- When used on a bolt locking mechanism, the jaws will pull the bolt out of the groove of the retaining cam when the handles are pressed together

- Optimised lever transmission
- Ergonomically designed 2-component handle

Advantage:
- Using these pliers saves time, increases safety and presents no risk of injury

Length (mm)		221
Surface		Chrome plated
Material of handle		2-component plastic
53754...	Ident. No.	100 ●

Prod. Gr. 5HZ

SHAVIV Mango II/B10 universal deburring tool

Application:
For deburring straight edges, bore holes and slots.

Execution:
- Mango II handle with safety lock (direct mounting)

- High-quality, ergonomic handle with integrated blade magazine
- Includes 10x type B 10 blades
- For steel, aluminium, copper and plastics

Suitable for blade type		B
Material of handle		2-component plastic
53811...	Ident. No.	005 ●

Prod. Gr. 554

SHAVIV Mango II set B universal deburring tool

Application:
For deburring hard-to-reach areas such as in hollow pieces or housing parts.

Execution:
- Mango II handle with tool holder B

- High-quality, ergonomic handle with integrated blade magazine
- Includes one of each blade: type B 10 and B 20
- For steel, aluminium, copper, brass, cast iron and plastics

Suitable for blade type		B
Material of handle		2-component plastic
53811...	Ident. No.	016 ●

Prod. Gr. 554

SHAVIV Replacement blades, type B

Application:
Ident. No. 020, 040, 081: For deburring steel, aluminium, copper and plastics
Ident. No. 025, 042: For deburring steel, aluminium, copper, stainless steel and plastics
Ident. No. 030: For deburring steel, aluminium, copper, hardened steel and plastics
Ident. No. 035: For deburring cemented carbide, carbide and glass
Ident. No. 045: For deburring brass, cast iron and plastics
Ident. No. 050–055: For deburring brass, cast iron, stainless steel and plastics
Ident. No. 060: For simultaneous deburring on the inside and outside of bore holes in steel, aluminium, copper and plastics up to a thickness of 4 mm
Ident. No. 065: For simultaneous deburring on the inside and outside of bore holes in brass, cast iron and plastics up to a thickness of 4 mm
Ident. No. 075: For backwards deburring in hard-to-reach areas and in bore holes up to 20 mm in depth

Execution:
- **Ident. No. 045–055, 065:** For right-hand and left-hand use

Advantage:
- **Ident. No. 025, 042, 050:** Increased service life thanks to TiN coating
- **Ident. No. 081:** Increased service life thanks to cobalt alloy

Ident. No. 020
B 10

Ident. No. 025
B 10 TiN

Ident. No. 030
B 10 C

Ident. No. 035
B 10 D

Ident. No. 040
B 12

Ident. No. 042
B 12 TiN

Ident. No. 045
B 20

Ident. No. 050
B 20 Tin

Ident. No. 055
B 20 C

Ident. No. 060
B 30

Ident. No. 065
B 32

Ident. No. 075
B 60

Ident. No. 081
B 10 S

Type	Blade Ø (mm)	Blade length (mm)	Cutting material	53811... Ident. No.	
B 10 HSS	2.6	25	HSS	020	●
B 10 TiN	2.6	25	HSS	025	●
B 10 C	2.6	25	SC	030	●
B 10 D	2.6	25	HSS	035	●

Type	Blade Ø (mm)	Blade length (mm)	Cutting material	53811... Ident. No.	
B 12	2.6	25	HSS	040	●
B 12 TiN	2.6	25	HSS	042	●
B 20	2.6	25	HSS	045	●
B 20 TiN	2.6	25	HSS	050	●

Type	Blade Ø (mm)	Blade length (mm)	Cutting material	53811... Ident. No.	
B 20 C	2.6	25	SC	055	●
B 30	2.6	25	HSS	060	●
B 32	2.6	25	HSS	065	●

Type	Blade Ø (mm)	Blade length (mm)	Cutting material	53811... Ident. No.	
B 60	2.6	45	HSS	075	●
B 10 S	2.6	25	HSS	081	●

Prod. Gr. 554

SHAVIV TiN-coated replacement blade set B

For universal deburring tool set B

Application:
For universal deburring of a wide variety of shapes and bore holes from 2 mm in diameter.

Execution:
- For steel, aluminium, copper, stainless steel and plastics

Advantage:
- Increased service life thanks to TiN coating

Delivery:
Includes 10 blades, two of each: B 10, B 11, B 12, B 20, B 30

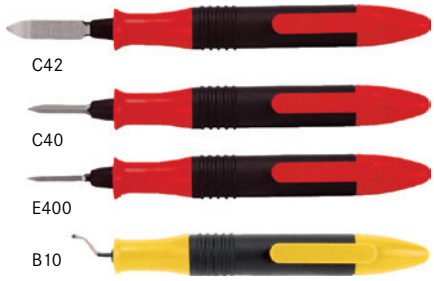
Type		B 10/B 11/B 12/B 20/B 30 TiN
Blade Ø (mm)		2.6
Blade length (mm)		25
Cutting material		HSS
53811...	Ident. No.	085 ●

Prod. Gr. 554

SHAVIV Scrape Burr triangular scraper set

Application:
For high-performance, multi-purpose and fine scraping.

Execution:
- Set comprising individual scrapers, each with one blade
- Supplied blades: B10, C40, C42, E400
- Can be used on straight edges, for inner machining of drill holes, flat surfaces and much more



Suitable for blade type		Scrape Burr
Material of handle		2-component plastic
53811...	Ident. No.	130 ●

Prod. Gr. 554

SHAVIV Mango II/E100 universal deburring tool

Execution:
- Mango II handle with safety lock (direct mounting)
- High-quality, ergonomic handle with integrated blade magazine
- Includes 10x type E 100 blades
- For steel, aluminium, copper and plastics

Suitable for blade type		E
Material of handle		2-component plastic
53811...	Ident. No.	300 ●

Prod. Gr. 554

SHAVIV Mango II universal deburring tool set with 4 blades

Execution:
- Mango II handle with tool holder E (telescopic blade with detent)
- High-quality, ergonomic handle with integrated blade magazine
- Includes one of each blade: E 100, E 200, E 300 and E 400 triangular scraper
- For steel, aluminium, copper, brass, cast iron and plastics

Technical data:
- Suitable for blade type: E
- Material of handle: 2-component plastic

53811...	Ident. No.	305 ●

Prod. Gr. 554

SHAVIV Mango II set E universal deburring tool

Execution:
- Mango II handle with tool holder E
- High-quality, ergonomic handle with integrated blade magazine
- Includes one of each blade: type E 100, E 200 and E 300
- For steel, aluminium, copper, brass, cast iron and plastics

Suitable for blade type		E
Material of handle		2-component plastic
53811...	Ident. No.	312 ●

Prod. Gr. 554

SHAVIV Mango II Basic E universal deburring tool

Execution:
- Mango II handle with adapter E
- High-quality, ergonomic handle with integrated blade magazine
- Includes one of each blade: type E 100, E 200 and E 300
- For steel, aluminium, copper, brass, cast iron and plastics

Suitable for blade type		E
Material of handle		2-component plastic
53811...	Ident. No.	318 ●

Prod. Gr. 554

SHAVIV Replacement blades

For universal deburring tool sets E and AE

Application:

Ident. No. 320, 328–330: For deburring steel, aluminium, copper and plastics

Ident. No. 325, 376: For deburring steel, aluminium, copper, stainless steel and plastics

Ident. No. 335: For deburring hardened steel and plastics

Ident. No. 340: For deburring steel, aluminium, stainless steel and plastics

Ident. No. 350–355: For deburring brass, cast iron and plastics

Ident. No. 360: For deburring brass, cast iron, hardened steel and plastics

Ident. No. 365: For simultaneous deburring on the inside and outside of bore holes in steel, aluminium, copper and plastics up to a thickness of 6 mm

Ident. No. 370: For simultaneous deburring on the inside and outside of bore holes in brass, cast iron and plastics up to a thickness of 6 mm

Ident. No. 380: For backwards deburring in hard-to-reach areas and in bore holes up to 20 mm in depth

Ident. No. 385: For backwards deburring in hard-to-reach areas and in bore holes up to 40 mm in depth

Ident. No. 386: For deburring thick-walled holes in steel, aluminium, copper and plastics

Execution:
- **Ident. No. 325:** Also for bore holes with minimum diameter of 2 mm
- **Ident. No. 328:** Also for bore holes with minimum diameter of 15 mm
- **Ident. No. 330:** For left-handed use
- **Ident. No. 350–360, 370:** For right-hand and left-hand use
- **Ident. No. 380–385:** For steel, aluminium, copper and plastics

Advantage:
- **Ident. No. 340, 355:** Increased service life thanks to TiN coating
- **Ident. No. 376:** Increased service life thanks to cobalt alloy

Ident. No. 320
E 100

Ident. No. 325

Ident. No. 328
E 111

Ident. No. 330

Ident. No. 335, 365
E 200 C

Ident. No. 340
E 100 TiN

Ident. No. 350–355
E 200, 220 TiN

Ident. No. 360
E 250

Ident. No. 370
E 320

Ident. No. 376
E 100 S

Ident. No. 380
E 600

Ident. No. 385
E 601

Ident. No. 386
E700, 720

Type	Blade Ø (mm)	Blade length (mm)	Cutting material	53811... Ident. No.	
E 100	3.2	48	HSS	320	●
E 110	3.2	48	HSS	325	●
E 111	3.2	48	HSS	328	●
E 100 L	3.2	48	HSS	330	●
E 100 C	3.2	48	SC	335	●
E 100 TiN	3.2	48	HSS	340	●
E 200	3.2	48	HSS	350	●
E 200 TiN	3.2	48	HSS	355	●

Type	Blade Ø (mm)	Blade length (mm)	Cutting material	53811... Ident. No.	
E 200 C	3.2	48	SC	360	●
E 300	3.2	48	HSS	365	●
E 320	3.2	48	HSS	370	●
E 100 S	3.2	48	HSS	376	●
E 600	3.2	62	HSS	380	●
E 601	3.2	88	HSS	385	●
E 700	3.2	56	HSS	386	●

Prod. Gr. 554

SHAVIV Mango II BURR-BI universal deburring tool set

Application:
For deburring sheet metal up to 14 mm in thickness.

Execution:
- Mango II handle with tool holder R
- High-quality, ergonomic handle with integrated blade magazine
- Holder for all R inserts
- Includes two R 10 indexable inserts and fastening key

- For steel, aluminium, copper, brass, cast iron, stainless steel and plastics

Advantage:
- With integrated hand guard for safe working

Technical data:
- Suitable for blade type: Burr Bi
- Material of handle: 2-component plastic

53811...	Ident. No.	606 ●

Prod. Gr. 554

Accessories for		53811 606
53811... Spare indexable insert R 10	Ident. No.	612 ●
53811... Spare indexable insert R 20	Ident. No.	614 ●
53811... Spare indexable insert R 30	Ident. No.	616 ●

SHAVIV Deburring tool

Individual tools and sets

Application:
Ident. No. 800: Classic handle - suitable for all blade holders
Ident. No. 820: For twist drills, reamers and needle files 0.5-8 mm in diameter
Ident. No. 845: For deburring steel, aluminium, copper and plastic
Ident. No. 876: For holding all steel blade holders
Ident. No. 885: For all holders for heavy-duty use
Ident. No. 895: for deburring steel, aluminium, copper and plastic

Execution:
- **Ident. No. 800, 876, 885:**
  - Steel holder for type B blades: Art. no.: 53811090
  - Steel holder for type E blades: Art. no.: 53811390
- **Ident. No. 820:** Drill chuck handle for clamping round tools from 0.5 to 8 mm in diameter
- **Ident. No. 845:**
  - MB 2000 set - aluminium handle with quick-change chuck
  - 3.2 mm chuck - suitable for direct mounting of all type E blades
  - Delivery incl. type E 100 blade
- **Ident. No. 876–878:**
  - Mango II handle - ergonomically designed 2-component handle
  - Integrated blade magazine
- **Ident. No. 877:** Mango II handle with direct mounting for all type B blades
- **Ident. No. 878:** Mango II handle with direct mounting for all E blades
- **Ident. No. 885:**
  - Handle suitable for all blade holders
  - Aluminium handle with knurling in robust version for heavy-duty applications
- **Ident. No. 895:**
  - Aluminium handle with quick-change chuck, suitable for all type B blades
  - Delivery incl. type B 10 blade

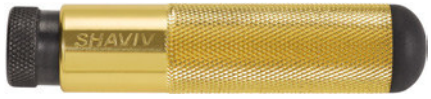
Advantage:
- **Ident. No. 878:** High-quality, ergonomic handle with integrated blade magazine

Ident. No. 800

Ident. No. 820

Ident. No. 845

Ident. No. 876–878



Ident. No. 885

Ident. No. 895

Material of handle			Plastic	Aluminium	2-component plastic
53811...	Suitable for type B, E, F and FR blade holders	Ident. No.	800 ●	885 ●	876 ●
53811...	For round tools	Ident. No.	820 ●	-	-
53811...	For type E blades	Ident. No.	-	845 ●	878 ●
53811...	For type B blades	Ident. No.	895 ●	-	877 ●

Prod. Gr. 554

SHAVIV Deburring tool

Sets

Application:

Ident. No. 900: For deburring and scraping, normal use

Ident. No. 901: For deburring and scraping, for heavy-duty use

Ident. No. 902: For deburring and cleaning sheet metal

Ident. No. 903: For deburring and chamfering round parts

Ident. No. 904: For deburring all challenging materials

Execution:

- **Ident. No. 900:**
  - Blade holder B and C
  - Blades B 10, B 20, B 30, B 60, B 11, B 70 and C 40
- **Ident. No. 901:**
  - Blade holder E and C
  - Blades E 100, E 200, E 300, E 600, E 700 and C 42
- **Ident. No. 902:**
  - Blade holder D and E
  - Blades D 80 C, D 82 C, E 100, E 111, E 200, E 300, E 700
- **Ident. No. 903:**
  - Blade holder E and F
  - Blades E 100, E 111, E 200, E 300, E 601 and F 20, F 26
- **Ident. No. 904:**
  - Stable aluminium handle for heavy-duty use
  - Blade holder with quick-action chuck B and E
  - Blades B 10, B 11, B 20, B 30, E 100, E 111, E 200, E 300

Advantage:

- **Ident. No. 904:** Increased service life thanks to TiN coating on the blades

Ident. No. 901

Ident. No. 903

Ident. No. 904

Suitable for blade type			B	E	B | E
Material of handle			2-component plastic	2-component plastic	Aluminium
53811...	Kit BC	Ident. No.	900 ●	-	-
53811...	Kit EC	Ident. No.	-	901 ●	-
53811...	Kit DE	Ident. No.	-	902 ●	-
53811...	Kit EF	Ident. No.	-	903 ●	-
53811...	Kit TIN	Ident. No.	-	-	904 ●

Prod. Gr. 554

ATORN Leather wad punch (DIN 7200)

made of special steel, die-forged

Application:

For punching holes in a range of materials.

Execution:

- Special steel, drop-forged
- Tapered relief
- Ground and polished pipes
- Blue enamel paint

Ident. No. 506

Ident. No. 520

Ident. No. 530

Ident. No. 551

Ø (mm)	Length (mm)	53815... Ident. No.	
2	105	502	●
3	105	503	●
4	105	504	●
5	110	505	●
6	110	506	●
7	120	507	●
8	120	508	●
9	120	509	●
10	120	510	●
11	130	511	●
12	130	512	●
13	140	513	●
14	140	514	●
15	140	515	●
16	140	516	●
17	145	517	●

Ø (mm)	Length (mm)	53815... Ident. No.	
18	145	518	●
19	145	519	●
20	160	520	●
21	160	521	●
22	170	522	●
23	170	523	●
24	170	524	●
25	170	525	●
26	170	526	●
27	175	527	●
28	175	528	●
29	175	529	●
30	190	530	●
31	190	531	●
32	190	532	●
33	193	533	●

Ø (mm)	Length (mm)	53815... Ident. No.	
34	195	534	●
35	195	535	●
36	200	536	●
37	205	537	●
38	205	538	●
39	205	539	●
40	205	540	●
42	220	542	●
44	220	544	●
46	220	546	●
48	230	548	●
50	230	551	●
55	240	555	●
60	260	560	●

Prod. Gr. 5HI

ATORN Leather wad punch sets (DIN 7200)

made of special steel, die-forged

Application:
For punching holes in a range of materials.

Execution:
- Special steel, drop-forged
- Tapered relief
- Ground and polished pipes
- Blue enamel paint
- Set in plastic roll-up pouch

Number of pieces in assortment/set		6	8	12
53815...	Ident. No.	800 ●	810 ●	820 ●

Prod. Gr. 5HI

Ident. No. 820

ATORN Revolving punch pliers, adjustable

without or with lever joint (ratio)

Application:
For perforating leather, textiles and plastic materials

Execution:
- Hardened, precisely-sharpened hole punches
- Hole diameters: 2, 2.5, 3, 3.5, 4 and 4.5 mm
- Hole viewing window on back of pliers
- Rotation direction arrows on both sides
- Ergonomically shaped plastic handles
- **Ident. No. 700:**
  - Automatic locking device - one-hand operation - opens automatically and prevents jamming during work.
  - Brass anvil - diameter 9 mm
- **Ident. No. 710:**
  - Patented lever system means an effortless punching force of up to 4000 N
  - Steel anvil - diameter 12 mm

Technical data:
- Min./max. diameter: 2-4.5 mm

Length (mm)		225	250
53820...	Ident. No.	700 ●	710 ●

Prod. Gr. 5HZ

Ident. No. 700

Ident. No. 710

ATORN HSS bimetal hole saws

made of HSS bimetal

Application:
For sawing circular holes in unalloyed steel (up to 700 N/mm²), non-ferrous metals, light metals, plastics, plaster, fibre and plywood boards, light-weight building boards and general wood processing.

Execution:
- High concentricity
- Solid base plate with improved stability
- Cutting depth maximum 38 mm
- Drill bit can be replaced with other commercially available mounts
- Excludes drive arbour and drill bit - please order separately!
- In individual packages, with information regarding cutting values

Advantage:
- Lateral slots in the body make the removal of cut-out parts easier
- More even cut, reduced vibration and heat generation and less force required thanks to variable tooth pitch with 4/6 teeth per inch

Ident. No. 064
Without drive arbor

Ident. No. 108
Without drive arbor

Ø (mm)	53841... Ident. No.	
14	014	●
16	016	●
17	017	●
19	019	●
20	020	●
21	021	●
22	022	●
24	024	●
25	025	●
27	027	●

Ø (mm)	53841... Ident. No.	
29	029	●
30	030	●
32	032	●
33	033	●
35	035	●
37	037	●
38	038	●
40	040	●
41	041	●
43	043	●

Ø (mm)	53841... Ident. No.	
44	044	●
46	046	●
48	048	●
51	051	●
52	052	●
54	054	●
57	057	●
59	059	●
60	060	●
64	064	●

Ø (mm)	53841... Ident. No.	
65	065	●
67	067	●
68	068	●
70	070	●
73	073	●
74	074	●
76	076	●
79	079	●
83	083	●

Ø (mm)	53841... Ident. No.	
86	086	●
89	089	●
92	092	●
95	095	●
98	098	●
102	102	●
105	105	●
108	108	●
111	111	●

Ø (mm)	53841... Ident. No.	
114	114	●
121	121	●
127	127	●
140	140	●
152	152	●
160	160	●
168	168	●
177	177	●
210	201	●

Prod. Gr. 528

ATORN Accessories
for HSS bimetal hole saws

Application:
Ident. No. 230: As mounting shank for keyhole saws from 14-30 mm in diameter
Ident. No. 250: As mounting shank for keyhole saws from 32-210 mm in diameter
Ident. No. 270: As spare centring drill for keyhole saw mounting shanks
Ident. No. 280: For extending the hexagon mounting shanks of keyhole saws
Ident. No. 330: To eject the centre after cutting

Execution:
- **Ident. No. 210–250:** Including centre drill bit
- **Ident. No. 230, 250:** Please note that the striking mechanism must be switched off when SDS is used!
- **Ident. No. 270:** HSS centring drill, 6.35 mm

Ident. No. 210, 240

Ident. No. 230, 250

Ident. No. 270

Ident. No. 280

Suitable for min./max. Ø			14-30 mm	32-210 mm	14-210 mm
53841...	Mounting shank with 9.5-mm hexagon drive	Ident. No.	210 ●	-	-
53841...	Mounting shank with 11.1-mm hexagon drive	Ident. No.	-	240 ●	-
53841...	Mounting shank with SDS drive	Ident. No.	230 ●	250 ●	-
53841...	Spare centring drill, 6.35 mm	Ident. No.	-	-	270 ●
53841...	300-mm extension for 9.5 and 11.1-mm hexagon mounting shank	Ident. No.	-	-	280 ●
53841...	Ejector spring	Ident. No.	-	-	330 ●

Prod. Gr. 528

ATORN Hole saw sets

Application:
For sawing circular holes in unalloyed steel (up to 700 N/mm²), non-ferrous metals, light metals, plastics, plaster, fibre and plywood boards, light-weight building boards and general wood processing.

Execution:
- HSS bi-metal
- Two drive arbours with hexagon drive
- Including replacement centre drill bit
- Stored in robust tool case

Advantage:
- Lateral slots in the body make the removal of cut-out parts easier
- More even cut, reduced vibration and heat generation and less force required thanks to variable tooth pitch with 4/6 teeth per inch

Ident. No. 005

Ident. No. 006

Ident. No. 008

Number of pieces in assortment/set (PCS)		10	12	15
Included in delivery		Diameters included: 22/29/35/44/51/64/68 mm	Diameters included: 16/19/22/29/35/44/52/57/67 mm	Diameters included: 16/19/22/25/29/32/35/38/44/51/64/76 mm
53841...	Ident. No.	005 ●	006 ●	008 ●

Prod. Gr. 528

ORION® Manual riveting tool

Application:
For blind rivets made from aluminium alloy, copper, steel and stainless steel.

Execution:
- Hand riveting pliers with transmission
- Ergonomically shaped handles

Delivery:
With 4 nosepieces

Length (mm)		270
Suitable for max. rivet Ø (rivet material: aluminium) (mm)		4
Suitable for max. rivet Ø (rivet material: stainless steel) (mm)		4
53197...	Ident. No.	020 ●

Prod. Gr. 593

GESIPA® Blind riveting pliers and riveters

Application:
For blind rivets made from aluminium alloy, copper, steel and stainless steel.

Execution:
- **Ident. No. 015:**
  - Pliers casing made from high-quality die-cast aluminium
  - Sturdy steel plier arms
  - Mandrel is ejected automatically using opening spring
- **Ident. No. 015–020:**
  - Comfortable working thanks to ergonomically shaped handles
  - Pliers feature slim head, particularly handy for difficult-to-reach areas
- **Ident. No. 020:**
  - High-quality chrome-vanadium steel pliers
  - The long tool stroke means that inconvenient adjustments are not necessary
  - Patented intermediate lever system reduces the force required and dampens the tear-off effect
- **Ident. No. 025:**
  - Robust placement device with riveting mandrel container
  - One-handed operation with 30% less force required
- **Ident. No. 030:** Optimum lever action and pinching guard for your hands

Delivery:
Ident. No. 015: With 4 nosepieces
Ident. No. 020–025: With 3 nosepieces
Ident. No. 030: With 5 nosepieces

Ident. No. 015

Ident. No. 020

Ident. No. 025

Ident. No. 030

Model		NTS	NTX	Flipper	HN 2
Length (mm)		275	260	212	570
Suitable for max. rivet Ø (rivet material: aluminium) (mm)		5	5	5	6.4
Suitable for max. rivet Ø (rivet material: stainless steel) (mm)		4	4	4	6.4
53195...	Ident. No.	015 ●	020 ●	025 ●	030 ●

Prod. Gr. 561

Accessories for		53195 015	53195 020	53195 030
53195... Spare chuck jaws Suitable for NTS and NTX hand held rivet pliers, art. no. 53195015 and 020	Ident. No.	210 ●	210 ●	230 ●

GESIPA® pneumatic-hydraulic blind rivet tools

Application:
Ident. No. 055: For rapid placement of blind rivets made of all materials up to 5 mm in diameter and aluminium/steel up to 6 mm in diameter.
Ident. No. 057: For rapid placement of blind rivets made of all materials up to 6.4 mm in diameter.
Ident. No. 058: For rapid placement of blind rivets made of all materials up to 6.4 mm in diameter and aluminium up to 8 mm in diameter.

Execution:
- **Ident. No. 040:**
  - Die-cast aluminium pneumatic cylinder
  - Aluminium rotating hydraulic head
  - Hardened and hard chrome-plated piston
- **Ident. No. 054–058:**
  - Powerful, patented gripping mechanism and chuck jaw system
  - The complete device stroke is used to place the rivet
  - Compressed air-saving technology; air required to place the rivet is also used to eject the riveting mandrel
  - Extremely low noise emissions.
  - High placement forces with lightweight device

Ident. No. 040

Ident. No. 054

Ident. No. 057

Ident. No. 058

Model		PH 2	Taurus 1	Taurus 2	Taurus 3	Taurus 4
Suitable for min./max. rivet Ø		3-5 mm	2.4-4 mm	4-6 mm	4.8-6.4 mm	4.8-8 mm
Rivet setting force (N)		8800	6000	11000	18000	23000
Max. working stroke (mm)		15	15	18	25	19
Min./max. operating pressure		0-6 bar	5-7 bar	5-7 bar	5-7 bar	5-7 bar
Weight (kg)		1.3	1.3	1.6	1.9	2
53195...	Ident. No.	040 ●	054 ●	055 ●	057 ●	058 ●

Prod. Gr. 561

GESIPA® AccuBird and PowerBird electromechanical blind riveters

Execution:

- **Ident. No. 061:**
  - Electro-mechanical placement device
  - with 14.4 V Li-ion rechargeable battery, 2.0 Ah
  - With integrated container for torn-off mandrels
  - Includes charger, interchangeable nosepiece and assembly key
- **Ident. No. 062:**
  - Extra-light electro-mechanical setting tool - only 900 g in weight
  - With 18 V CAS Li-ion battery 2.0 Ah (can also be operated with accessory 4.0 Ah battery)
  - With transparent collection container for torn-off mandrels
  - Includes charger, four colour-coded interchangeable nozzles
  - Ergonomically designed housing with soft grip
- **Ident. No. 062–087:** BLDC brushless motor
- **Ident. No. 083–087:**
  - electro-mechanical setting tool
  - with 18 V CAS Li-ion rechargeable battery, 2.0 Ah
  - integrated container for torn-off mandrels
  - includes charger, interchangeable nosepieces and installation key
  - hand-friendly housing with soft grip
- **Ident. No. 087:**
  - Various lighting options in the adjusting ring
  - Aluminium blind rivets including up to 8 mm in diameter

Advantage:

- **Ident. No. 061:** Quick working speed while also maintaining excellent performance
- **Ident. No. 062:**
  - Lightest device in the 18 V class
  - Nozzle and chuck jaw can be replaced without the need for tools

Delivery:

Ident. No. 061: In plastic case with 4 nosepieces and installation key

Ident. No. 062: In L-Boxx with riveter, 2.0 AH CAS battery, charger, 4 nozzles

Ident. No. 083: In L-Boxx – with 7 nosepieces, pressure bushing > 5 mm and installation key

Ident. No. 087: In L-Boxx, with 4 nosepieces and installation key

Ident. No. 061

Ident. No. 062

Ident. No. 083

Ident. No. 087

Model			Accu Bird	BIRDIE	AccuBird Pro CAS	PowerBird Pro Gold Edition CAS
Suitable for min./max. rivet Ø			2.4-5 mm	2.4-6.0 mm	2.4-6.0 mm	2.4-6.4 mm
Max. working stroke (mm)			20	25	25	25
Rivet setting force (N)			10000	10000	13000	20000
AccuBird and PowerBird electrome-chanical blind riveters	53195...	Ident. No.	061 ●	062 ●	083 ●	087 ●
Riveter acces-sories, spare parts	53195...	Ident. No.	270 ●	205 ●	-	-
Spare battery 14.4 V Li-ion 2.0 Ah	53195...	Ident. No.	091 ●	-	-	-
Charger for tool battery	53195...	Ident. No.	-	081 ●	081 ●	081 ●
METABO	71037...	Ident. No.	-	407 ●	407 ●	407 ●

Prod. Gr. 5AL

GESIPA® Blind rivet nut hand tools

Execution:
- **Ident. No. 280:** Also available as accessories: M3, 4, 5, 6 mandrels and nozzles
- **Ident. No. 280–300:** Supplied with M5 thread mandrel and nozzle
- **Ident. No. 300:** Also available as accessories: M4, 5, 6 mandrels and nozzles
- **Ident. No. 301:**
  - Very good power transmission through ratchet function
  - Compact design
- **Ident. No. 301–303:**
  - Sets blind rivet nuts up to M12
  - Threaded mandrels and mouthpieces can be changed quickly and without tools
- **Ident. No. 303:**
  - Quick drill setup – fast and easy to drill into and drill out blind rivet nuts
  - Ergonomic design, low effort, optimised leverage

Advantage:
- **Ident. No. 280:** Minimum manual force required thanks to special lever arm arrangement and ratchet mechanism
- **Ident. No. 280–300:**
  - Simple to adjust the stroke using the knurled nut with stroke scale for secure and complete placement of the blind rivet nut
  - Rapid replacement of threaded mandrels without the need for tools

Delivery:
Ident. No. 280–300: replacement thread mandrels and nozzles available deliverable from stock - please request
Ident. No. 301–303: Set in a plastic carrying case with mouthpieces/threaded mandrels M5, M6, M8, M10, installation key and operating instructions

Ident. No. 280

Ident. No. 300

Ident. No. 301

Ident. No. 303

Model		FireFly	GBM 10	GBM 40-R	GBM 50
Length (mm)		220	260	212	485
Suitable for max. rivet Ø (rivet material: aluminium) (mm)		6	6	12	12
Suitable for max. rivet Ø (rivet material: stainless steel) (mm)		6	5	10	10
53195...	Ident. No.	280 ●	300 ●	301 ●	303 ●

Prod. Gr. 561

GESIPA® Blind rivet nut box
GBM 10 model

Execution:
- Set with manual blind rivet nut tool GBM 10
- With M4, M5 and M6 threaded mandrel and nosepiece
- Various blind rivet nut sizes from M4-M6, aluminium
- For riveting material thicknesses from 0.25-3 mm

Advantage:
- Simple to adjust the stroke using the knurled nut with stroke scale for secure and complete placement of the blind rivet nut
- Rapid replacement of threaded mandrels without the need for tools

Delivery:
With 3 nosepieces, in sheet steel case

Model		GBM 10
Length (mm)		260
Suitable for max. rivet Ø (rivet material: aluminium) (mm)		6
Suitable for max. rivet Ø (rivet material: stainless steel) (mm)		6
53195...	Ident. No.	350 ●

Prod. Gr. 561

GESIPA® FireBird, FireBird Pro and FireBird Pro Gold Edition cordless blind rivet nut setting tool

In case

Execution:
- **Ident. No. 401:**
  - Electro-mechanical placement device with automatic two-way drilling function
  - No cables, with 14.4-V Li-ion rechargeable battery, 2.0 Ah
  - Includes charger, nosepiece and M4, M5 and M6 threaded mandrels
  - in plastic case
  - For processing M3-M10 rivet nuts
- **Ident. No. 406:**
  - includes charger, nosepiece and M4, M5 and M6 threaded mandrels
  - for processing M3-M10 rivet nuts
- **Ident. No. 406–411:**
  - electro-mechanical setting tool with automatic two-way drilling function
  - cordless, with CAS sliding battery 18 V Li-Ion 2.0 Ah
  - in L-Boxx
- **Ident. No. 411:**
  - includes charger, nosepiece and M6, M8 and M10 threaded mandrels
  - for processing M3-M12 rivet nuts

Advantage:
- **Ident. No. 401:**
  - Quick working speed while also maintaining excellent performance
  - High degree of functional reliability thanks to simple drilling of blind rivet nuts and electronic control of the placement stroke
  - Extremely comfortable to use with fatigue-free working thanks to balanced centre of gravity and handle that adapts to your hand
- **Ident. No. 406–411:**
  - quick working speed while maintaining excellent performance
  - high functional reliability thanks to simple drilling of blind rivet nuts and electronic control of the setting stroke
  - balanced centre of gravity and ergonomic handle for extremely comfortable, fatigue-free work

Delivery:
replacement thread mandrels and nozzles available
deliverable from stock - please request

Ident. No. 401

Ident. No. 406

Ident. No. 411

Model		FireBird	FireBird Pro CAS	FireBird Pro GoldEdition CAS
Max. working stroke (mm)		5.5	10	10
Rivet setting force (N)		13000	15000	20000
Weight (kg)		2.1	2.3	2.3
53195...	Ident. No.	401 ●	406 ●	411 ●

Prod. Gr. 5AL

GESIPA® Pneumatic-hydraulic blind rivet nut tool FireFox

Execution:
- Control: Adjustable setting force or path (stroke) optional
- Ergonomic design ensures fatigue-free work

Advantage:
- Placement force and stroke can be adjusted for optimum and reliable anchoring of rivet nuts
- As soon as the blind rivet nut is positioned by applying light pressure, the twisting process starts automatically
- Extremely quick placement procedure with subsequent automatic untwisting process
- Extremely comfortable to use with fatigue-free working thanks to balanced centre of gravity and handle that adapts to your hand

Delivery:
Includes thread mandrel and nosepiece M 4, M 5, M 6, M 8, further thread mandrels and nosepieces available from stock – please request

Technical data:
- Model: FireFox2
- Suitable for min./max. rivet diameter: 3-12 mm
- Rivet setting force: 22000 N
- Max. working stroke: 10 mm
- Min./max. operating pressure: 5-7 bar
- Weight: 2.4 kg

53195...	Ident. No.	451 ●

Prod. Gr. 561

Oxyacetylene welding and cutting equipment set

17 mm shank for acetylene/oxygen

Application:
For welding and cutting using acetylene/oxygen flame up to 3100°C.

Execution:
- Gripping piece with hose nozzles
- Cutting nozzle with lever and block nozzles for 3-100 mm material thickness
- With key and gas igniter
- In sheet steel box
- **Ident. No. 020:** With 6 0-14 mm welding torch nozzles
- **Ident. No. 030:** With 5 0-9-mm welding torch nozzles, 2 oxygen and acetylene pressure reducers and flame arresters for oxygen and acetylene and 10 m twin hose, ready-made.

Ident. No. 020

Ident. No. 030

Suitable for min./max. material thickness		0-14 mm	0-9 mm
Suitable for max. material thickness (mm)		14	9
Number of pieces in assortment/set (PCS)		12	16
54031...	Ident. No.	020 ●	030 ●

Prod. Gr. 560

Soldering equipment

Application:
No. 54130: For soft and hard soldering of copper pipes, iron, steel, stainless steel and aluminium.
No. 54131: Fine flame for precise use

Execution:
- **No. 54130:**
  - Gas consumption: 120 g/h, fine adjustment of the gas supply
  - Flame temperature: 1,800 °C
  - Robust metal cover with plastic base
  - Piezo ignition and gas supply control integrated in the handle
  - As soon as the blow torch is connected to the gas cartridge, it must not be removed before emptying
- **No. 54131:**
  - Brass body
  - Attachment for X 2000 PZ gas soldering torch

Delivery:
No. 54130: gas cartridge not included - please order separately

No. 54130

54130...	Soudogaz X 2000 PZ blow torch	Ident. No.	030 ●
54131...	X 1650 fine soldering torch - accessories for X 2000 PZ	Ident. No.	100 ●

Prod. Gr. 5BP

Accessories for		54130 030
54132... Campingaz C 206 cartridge Pierceable cartridge with , Cartridge C 206 filled with 190 g butane	Ident. No.	010 ●

ORION® All-steel welder's hammer

Application:
For removing slag from welding seams.

Execution:
- Welded-on tubular handle
- Ground
- Painted green

Length (mm)		300
Material of long handle		Steel
51192...	Ident. No.	010 ●

Prod. Gr. 593

General requirements

	Inspection devices	1647
	Holding magnets and small magnets	1648
	Oil dispensers	1653
	Grease guns	1658
	Pumps	1660
	Painting requirements, lever and lifting devices	1662
	Hand-held and electric staplers	1665
	Brushes and brooms	1666
	Hand-held and machine lamps	1671
	Batteries, rechargeable batteries and chargers	1681
	Labelling	1682
	Tool bags	1685
	Tool boxes and cases	1689
	Tool assortments	1696

ORION® Inspection mirrors

Application:
For inspecting partly concealed areas.

Execution:
- **Ident. No. 110:** 2 pcs, in plastic
- **Ident. No. 120:** In metal, 2 pcs with handle
- **Ident. No. 210–220:** Telescopic inspection mirror with handle, extendible, secured against twisting

Ø of mirror (mm)		24	30	30	50
Max. extension length (mm)		260	210	680	680
52995...	Ident. No.	110 ●	120 ●	210 ●	220 ●

Prod. Gr. 580

Ident. No. 110

Ident. No. 120

Ident. No. 210–220

ORION® Telescopic inspection mirror

Application:
For inspecting partly concealed areas.

Execution:
- **Ident. No. 270:**
  - Chrome-plated metal handle
  - With attachment clip
- **Ident. No. 270–280:** Round mirror
- **Ident. No. 280–290:** Plastic-coated metal handle
- **Ident. No. 290:** Rectangular mirror, mirror dimensions 43 x 65 mm

Ø of mirror (mm)		30	50	43
Max. extension length (mm)		520	730	720
52995...	Ident. No.	270 ●	280 ●	290 ●

Prod. Gr. 598

Ident. No. 270

Ident. No. 280

Ident. No. 290

ORION® Telescopic pick-up magnet

Application:
For lifting and picking up small magnetic objects.

Execution:
- Retention force 3 kg
- Neodymium bar grip 13 x 20 mm
- Extension length: 260-700 mm

Head Ø (mm)		13
52995...	Ident. No.	320 ●

Prod. Gr. 580

ORION® Claw gripper with 3 claws

Application:
For gripping hard-to-reach parts.

Execution:
- **Ident. No. 120–140:**
  - Flexible metal shaft
  - Claw opening max. 15 mm

Technical data:
- Surface: Chrome plated

Length (mm)		170	500	750
Design		Inflexible	Flexible shaft	Flexible shaft
52998...	Ident. No.	110 ●	120 ●	140 ●

Prod. Gr. 580

Ident. No. 110

Ident. No. 120

Ident. No. 140

Magnetic angle setting device

MAG-FIX

Application:
For joining flat, curved and round iron components with angular accuracy; simple to remove by tilting on side.

Execution:
- Permanent magnet with excellent retention force
- Dimensions 120 x 82 x 14 mm, 24 mm hole

Advantage:
- No maintenance required at all; all that is needed is to keep the contact surfaces clean

Width of side (mm)		14
Limb length (mm)		120/82
Angle (Degree)		90
51129...	Ident. No.	015 ●

Prod. Gr. 592

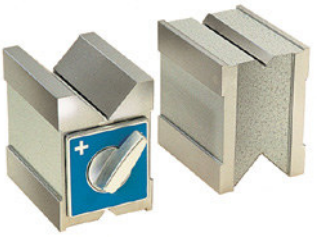
Permanent magnetic Vee block

Individually and in a set

Application:
For securing and straightening irregularly shaped magnetic components.

Execution:
- Three magnetic contact surfaces that can be activated/deactivated together

Delivery:
In robust wooden storage box



Length x width x height			100 x 70 x 95 mm
Min./max. workpiece Ø			6-70 mm
51130...	Individual	Ident. No.	510 ●
51130...	Pair	Ident. No.	610 ●

Prod. Gr. 592

ATORN Magnetic holder

Application:
For suspending blow guns, cables, clothes, etc.

Execution:
- High retention force thanks to 6 neodymium magnets in the pot magnet
- The rubber coated magnet avoids scratches and is oil-resistant
- Solid plastic version
- The special shape allows 2 separately usable zones and prevents the suspended parts falling

Technical data:
- Outer diameter: 65 mm

	Colour		
51150...	Black	Ident. No.	100 ●

Prod. Gr. 504

ORION® Telescopic pick-up magnet

Chromium plated, with attachment clip

Application:
For lifting and picking up small magnetic objects.

Execution:
- Chrome-plated
- With attachment clip
- Extension length: 145-650 mm

Head Ø (mm)		7
51151...	Ident. No.	020 ●

Prod. Gr. 518

ORION® Magnetic lifter

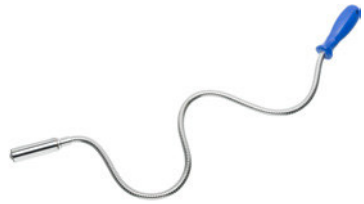
Application:
For lifting and picking up small magnetic objects.

Execution:
- With flexible shaft
- Chrome-plated
- Slim, ergonomic plastic handle

- **Ident. No. 500–530:** With fixed neodymium core magnetic head
- **Ident. No. 600–610:** With detachable AlNiCo magnetic head

Ident. No. 520

Ident. No. 600



Ident. No. 610

Length (mm)		460	460	520	520	600	600
Head Ø (mm)		8	12	15	19	11	20
Adherence strength		5	10	18	30	-	-
51155...	Ident. No.	500 ●	510 ●	520 ●	530 ●	600 ●	610 ●

Prod. Gr. 5LC

ORION® Hand-held bar magnets
700 mm long

Application:
For effortlessly removing screws, tools and other small parts from gearbox enclosures or other difficult-to-reach areas.

Execution:
- with flexible shaft and removable magnet
- With oil-resistant protective sleeve
- Slim, ergonomic plastic handle

Technical data:
- Length: 700 mm

Head Ø (mm)		11	20	30
51156...	Ident. No.	010 ●	020 ●	040 ●

Prod. Gr. 5LC

ATORN Magnetic swarf and small parts lifter
Spänemaxx 175, 300 and 600

Application:
Use the magnet to attract chips or small pieces, then pull the knob to release the pieces.

Execution:
- Easy removal of impurities from machines and coolant
- Rustproof round rod, plastic handle with protective shield
- Magnetic tensile force of 20 kg
- Handle diameter 33 mm
- Handle length incl. scraper = 215 mm

Ident. No. 140

Ident. No. 150

Ident. No. 160

Length (mm)		390	515	815
Head Ø (mm)		25	25	25
51158...	Ident. No.	140 ●	150 ●	160 ●

Prod. Gr. 518

HAZET Magnetic bowl

Application:
For storing all small parts near the workstation.

Execution:
- Plastic bowl with magnet for fastening to all steel surfaces

Technical data:
- Diameter: 150 mm

51159...	Ident. No.	020 ●

Prod. Gr. 569

ATORN Magnetic chip broom

Application:
For practical cleaning of floors in different work areas

Execution:
- Pick-up capacity up to 9 kg
- Easy removal of collected metal parts using simple release mechanism on the shaft
- Telescopic handle can be adjusted from 750 to 1050 mm in length
- Sweeping width 400 mm, smooth-running plastic wheels

Technical data:
- Length: 1050 mm

51158...	Ident. No.	500 ●

Prod. Gr. 518

ORION® Organising magnets

Application:
For fixing drawings and other paper documents to magnetic surfaces.

Execution:
- Magnetic clamp with coloured plastic cap

Colour	Blue		Yellow		Red		Black		White	
Outer Ø (mm)	51161... Ident. No.		51161... Ident. No.		51161... Ident. No.		51161... Ident. No.		51161... Ident. No.	
20	010	●	020	●	030	●	040	●	050	●
25	060	●	070	●	080	●	090	●	100	●
30	110	●	120	●	130	●	140	●	150	●
34	155	●	160	●	170	●	180	●	190	●

Prod. Gr. 5LC

PEDDINGHAUS Welding and holding magnets

Switchable

Application:
For precise straightening of workpieces, quickly and easily using the switchable magnetic force.

Execution:
- With a range of brackets for the most common applications

Technical data:
- Width of side: 25 mm
- Angle: 90 Degree

Limb length (mm)		110	140
51129...	Ident. No.	001 ●	002 ●

Prod. Gr. 592

Permanent magnet, switchable

Individually or as a pair connected by a hinge

Application:
For securing sheet metal, round and flat materials at any desired angle.

Execution:
- **Ident. No. 510:** Individual magnetic V-block, switchable
- **Ident. No. 610:**
  - Comprises 2 magnetic V-blocks connected by joint
  - Magnetic blocks can be activated/deactivated individually

Ident. No. 510

Ident. No. 610

Length x width x height			62 x 50 x 55 mm
Min./max. workpiece Ø			10-50 mm
51132...	Single magnetic block	Ident. No.	510 ●
51132...	Magnetic block pair	Ident. No.	610 ●

Prod. Gr. 592

ORION® Flat magnetic grips
With threaded bush

Application:
Auxiliary materials with universal application during clamping, assembling, lifting and welding operations, and for installing in devices etc.

Execution:
- With hard ferrite core
- Surface galvanised
- Magnetic shielding
- With threaded bush
- Operating temperature up to 100°C

Outer Ø (mm)		10	13	16	20	25	32	40	50	63	80	100
Height (mm)		11.5	11.5	11.5	13	15	15	18	22	30	34	42
Socket height (mm)		4.5	4.5	4.5	6	7	7	8	10	14	18	22
Adherence strength (N)		5	12	30	40	49	90	130	220	300	550	900
Thread dimension		M3	M3	M3	M3	M4	M4	M5	M6	M8	M10	M12
Thread length (mm)		7	7	7	7	8	8	10	12	16	16	20
51145...	Ident. No.	500 ●	510 ●	520 ●	530 ●	540 ●	550 ●	560 ●	570 ●	580 ●	590 ●	600 ●

Prod. Gr. 5LC

ORION® Flat magnetic grips
With bore hole and countersink

Application:
Auxiliary materials with universal application during clamping, assembling, lifting and welding operations, and for installing in devices etc.

Execution:
- With hard ferrite core
- Surface galvanised
- Magnetic shielding
- With bore hole and countersink
- Operating temperature up to 100°C

Advantage:
- Fastening option from inside with a screw

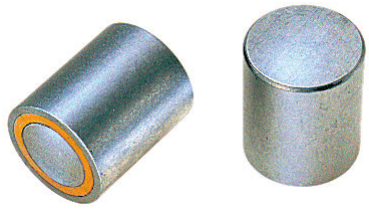
Outer Ø (mm)		16	20	25	32	40	50	63	80
Height (mm)		4.5	6	7	7	8	10.5	14	18
Bore Ø (mm)		3.5	4.2	5.5	5.5	5.5	6.5	6.5	6.5
Adherence strength (N)		30	40	49	90	130	180	290	540
51146...	Ident. No.	720 ●	730 ●	740 ●	750 ●	760 ●	770 ●	780 ●	790 ●

Prod. Gr. 5LC

ORION® Magnetic bar grips
Round, with an AlNiCo core

Application:
Auxiliary materials with universal application during clamping, assembling, lifting and welding operations, and for installing in devices etc.

Execution:
- With AlNiCo core
- Magnet encased in steel
- Operating temperature up to 450°C
- Fastening option: Press in, shrink or glue in place
- Smooth exterior surface with h6 fit tolerance



Outer Ø (mm)		6	8	10	13	16	20	25	32	40	50
Height (mm)		10	12	16	18	20	25	30	35	45	50
Adherence strength (N)		6	10	14	27	36	72	90	100	130	200
51148...	Ident. No.	500 ●	510 ●	520 ●	530 ●	540 ●	550 ●	560 ●	570 ●	580 ●	590 ●

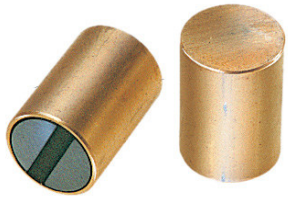
51148 500 = Prod. Gr. 5LC, 51148 510 = Prod. Gr. 5LC, 51148 520 = Prod. Gr. 5LC, 51148 530 = Prod. Gr. 5LC, 51148 540 = Prod. Gr. 5LC, 51148 550 = Prod. Gr. 5LC, 51148 560 = Prod. Gr. 5LC, 51148 570 = Prod. Gr. 5LC, 51148 590 = Prod. Gr. 5LC, 51148 580 = Prod. Gr. 591

ORION® Magnetic grips

Application:
Auxiliary materials with universal application during clamping, assembling, lifting and welding operations, and for installing in devices etc.

Execution:
- Magnet encased in brass
- Fastening option: Press in, shrink or glue in place

Advantage:
- Smooth, with h6 fit tolerance
- **Ident. No. 500–560:** With neodymium core for approx. 5x adhesive force compared to conventional flat grips
- **Ident. No. 700–760:** With samarium cobalt core for approx. 5x adhesive force compared to conventional flat grips



Outer Ø (mm)			6	8	10	13	16	20	25
Height (mm)			20	20	20	20	20	25	35
Adherence strength (N)			7	12	45	70	150	300	500
51149...	Operating temperature up to 100°C	Ident. No.	500 ●	510 ●	520 ●	530 ●	540 ●	550 ●	560 ●
51149...	Operating temperature up to 200°C	Ident. No.	700 ●	710 ●	720 ●	730 ●	740 ●	750 ●	760 ●

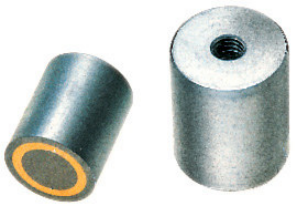
Prod. Gr. 5LC

ORION® Magnetic bar grips

Round, with an AlNiCo core

Application:
Auxiliary materials with universal application during clamping, assembling, lifting and welding operations, and for installing in devices etc.

Execution:
- With AlNiCo core
- Magnet encased in steel
- Operating temperature up to 450°C
- With female thread
- Fastening option: Screws



Outer Ø (mm)		6	7	10	13	16	20	25	32
Height (mm)		20	20	20	20	20	25	35	40
Adherence strength (N)		1.7	4	8.5	12	20	50	115	200
Thread dimension		M3	M3	M4	M4	M4	M6	M6	M8
Thread length (mm)		5	5	7	7	5	7	9	9
51150...	Ident. No.	800 ●	810 ●	820 ●	830 ●	840 ●	850 ●	860 ●	870 ●

Prod. Gr. 5LC

ORION® Decorative magnets

Application:
For attaching a variety of objects to magnetic surfaces.

Execution:
- Adhesive magnet with hook
- Painted white

Outer Ø (mm)			20	25	32	40
	Colour					
51161...	White	Ident. No.	200 ●	210 ●	220 ●	230 ●

Prod. Gr. 5LC

ORION® Magnetic tapes

Application:
For labelling with water-soluble permanent fibre tip pen, applications e.g. shelves, cabinets, organisational boards etc.

Technical data:
- Length of tape: 10 m

Ident. No. 010, 110–140

Colour	Blue		Yellow		Red		White	
Width of band (mm)	51162... Ident. No.		51162... Ident. No.		51162... Ident. No.		51162... Ident. No.	
20	010	●	020	●	030	●	040	●
30	110	●	120	●	130	●	140	●

Prod. Gr. 5LC

ORION® Pot magnets

Used for installation purposes, with an AlNiCo core

Application:
For labelling with water-soluble permanent fibre tip pen, applications e.g. shelves, cabinets, organisational boards etc.

Execution:
- With AlNiCo core
- Fastening option: Screws
- **No. 51170:** Flat pot magnet with clearance hole
- **No. 51172:** Pot magnet with M6 blind hole thread

No. 51170

No. 51172

	Outer Ø (mm)	Height (mm)	Bore Ø (mm)	Adherence strength (N)		
51170...	19	8	3.5	35	Ident. No.	500 ●
51170...	29	9	4.7	71	Ident. No.	510 ●
51170...	38	11	4.7	140	Ident. No.	520 ●
51172...	17	16		25	Ident. No.	500 ●

	Outer Ø (mm)	Height (mm)	Bore Ø (mm)	Adherence strength (N)		
51172...	21	19		40	Ident. No.	510 ●
51172...	27	25.4		70	Ident. No.	520 ●
51172...	35	30		190	Ident. No.	530 ●

Prod. Gr. 592

Oil dispensers

With plastic container

Application:
For oiling movable parts.

Execution:
- Transparent
- Indestructible
- **No. 56010:**
  - Small polyethylene oil dispenser
  - Elastic
  - With sealing cap
- **No. 56020:**
  - Oil dispensers for the tool case
  - Polyethylene container
  - With brass pipe and turn-lock

Volumetric capacity		100 ml	100 ml
Length (mm)		130	155
Pipe length (mm)		70	60
56010...	Ident. No.	075 ●	-
56020...	Ident. No.	-	015 ●

Prod. Gr. 5IG

No. 56010

No. 56020

Oil dispensers and oil spray cans

Application:
For oiling movable parts.

Execution:
- **No. 56026:**
  - Transparent polyethylene container
  - Adjustable brass pointed pipe
  - Squeeze oiler without pump, with turn-lock fastener
- **No. 56032:**
  - Container produced from slightly transparent polyethylene
  - Single-action brass pump for metered drop discharge
- **No. 56032–56034:**
  - Aluminium spray pipe
  - Virtually complete container drainage
- **No. 56034:**
  - Made from die-cast zinc
  - With double-action brass pump for higher pump capacity
  - Controlled drop delivery

No. 56026

No. 56032

No. 56034 050

Volumetric capacity		0.25 l	0.5 l	0.2 l	0.3 l	0.5 l
Pipe length (mm)		-	-	135	165	165
56026...	Ident. No.	025 ●	050 ●	-	-	-
56032...	Ident. No.	-	-	020 ●	030 ●	050 ●
56034...	Ident. No.	-	-	020 ●	030 ●	050 ●

Prod. Gr. 5IE

oil dispensers and oil spray cans

Application:
For oiling movable parts.

Execution:
- **Ident. No. 020, 030–050:**
  - Made of breakproof aluminium
  - Double pump unit and pointed pipe made from brass
  - Pivot-mounted suction cylinder ensures container is completely drained
  - Use upside down also possible
- **Ident. No. 025–026:**
  - Transparent polyethylene container
  - Retractable, lockable brass pipe
  - Turn-lock fastener
- **Ident. No. 120–150:**
  - Polyethylene container
  - Single pump unit and pointed pipe made from brass

Ident. No. 025

Ident. No. 030

Ident. No. 130

Volumetric capacity			0.2 l	0.3 l	0.5 l	0.25 l	0.5 l
Pipe length (mm)			132	132	132	140	140
56036...	Aluminium container	Ident. No.	020 ●	030 ●	050 ●	-	-
56036...	Squeezing oiler	Ident. No.	-	-	-	025 ●	026 ●
56036...	PE oiler	Ident. No.	120 ●	130 ●	150 ●	-	-

Prod. Gr. 575

Manual sprayer

Application:
Ident. No. 010: For atomising aggressive substances such as solvents, acids, alkalis and various cleaning agents.
Ident. No. 020: For atomising mineral oil-based lubricants, separating agents, formwork oils etc.
Ident. No. 030: For atomising watery substances

Execution:
- With adjustable spray head and fill level scale

Advantage:
- **Ident. No. 010–020:** Spraying in all areas, including above head height, thanks to special 360° suction/spray system

Ident. No. 010

Ident. No. 020

Ident. No. 030

		Volumetric capacity	Colour		
56059...	Super Resistant 360°	0.5 l	White | Transparent	Ident. No.	010 ●
56059...	Solution Classic	0.5 l	White | Transparent	Ident. No.	020 ●
56059...	Basic model	0.5 l	White | Transparent	Ident. No.	030 ●

Prod. Gr. 575

ORION® Pistol-type atomiser

Application:
For finely atomising liquids.

Execution:
- Plastic container, white, slightly transparent
- Adjustable nozzle – spray mist or jet
- **No. 56056:** With Viton seal

	Volumetric capacity	Colour		
56056...	0.6 l	Transparent	Ident. No.	500 ●
56058...	0.5 l	Transparent	Ident. No.	500 ●
56058...	1 l	Transparent	Ident. No.	510 ●

Prod. Gr. 598

No. 56056

No. 56058

Pressurised spray bottle

Application:
For atomising liquids.

Execution:
- Transparent container with scale and large filler opening
- Suitable for chemicals, solvents, cleaning agents and formwork oils
- Powerful manual air pump for pumping
- Nickel-plated valve rod and control nozzle
- Chemically resistant viton (FKM) seals
- Overpressure valve and safety lock

Advantage:
- No propellants used so pressure is created using environmentally friendly means

Volumetric capacity		1.25 l
56060...	Ident. No.	100 ●

Prod. Gr. 575

Pressure sprayer

Application:
For atomising liquids.

Execution:
- Robust polypropylene container that is resistant to acid
- Integrated safety valve
- Viton seal that is resistant to chemicals
- With flexible pump lever
- Adjustable conical nozzle
- Pressurised capacity: 0.5 l

Technical data:
- Volumetric capacity: 1 l

56060...	Ident. No.	010 ●

Prod. Gr. 569

Pressurised spray bottle

Application:
For atomising liquids.

Execution:
- Plastic container, white, slightly transparent
- Adjustable nozzle – spray mist or jet
- Not suitable for oil and solvents
- Accessories: Floating hose 360° art. no. 56061800

Advantage:
- With locking lever for continuous spray

Volumetric capacity		2 l
Operating pressure (bar)		3
56061...	Ident. No.	520 ●

Prod. Gr. 598

Accessories for		56061 520
56061... Floating hose for ORION high-pressure spray	Ident. No.	800 ●

Suction and filling press

Application:
Suctioning and transmitting liquids from gears, machines, etc.

Execution:
- Container made of zinc-plated steel
- Suction hose made of transparent plastic
- Completely leak-proof double-lipped oil cuff
- Non-slip handle on the drawbar
- Suitable for oils and gearbox oils to SAE 90, hydraulic, bore and cutting oils, diesel, rust remover, coolant and anti-freeze

Technical data:
- Hose length: 300 mm

Ident. No. 500

Ident. No. 510

Volumetric capacity		500 ml	1000 ml
Pipe length (mm)		360	530
56070...	Ident. No.	500 ●	510 ●

Prod. Gr. 5IG

Double-action suction and filling press

Application:
For alternating suction and transmission of liquids from gears, machines, etc.

Execution:
- Containers made of zinc-plated steel, double suction and dispensing valve in the head
- Branch hoses made of transparent plastic
- Completely leak-proof double-lipped oil cuff
- Non-slip handle on the drawbar
- Suitable for oils and gearbox oils to SAE 90, hydraulic, bore and cutting oils, diesel, rust remover, coolant and anti-freeze

Technical data:
- Volumetric capacity: 500 ml
- Pipe length: 360 mm
- Hose length: 500 mm

56070...	Ident. No.	550 ●

Prod. Gr. 5IG

Measuring cups

Execution:
- **Ident. No. 010:**
  - Made of polypropylene
  - Resistant to oil and acid
  - 10-ml scale graduation
- **Ident. No. 010–015:** Transparent
- **Ident. No. 015:**
  - With handle
  - Made from polypropylene
  - With scale
  - Supplied measuring cup heights: 130, 150, 210 mm
- **Ident. No. 030–050:**
  - PE container, with scale and grip
  - Flexible outlet
- **Ident. No. 110:**
  - Made from tinplate
  - With polyethylene safety outlet

Ident. No. 010

Ident. No. 015

Ident. No. 030

Ident. No. 110

Volumetric capacity		1 l	0.5 l | 1 l | 2 l	3 l	5 l	1 l
Height (mm)		170	-	265	300	270
56076...	Ident. No.	010 ●	015 ●	030 ●	050 ●	110 ●

Prod. Gr. 5IE

Funnel

Execution:
- High lip for spray protection
- Resistant to oil, petrol and acid
- **Ident. No. 010:**
  - With replaceable brass fine screen
  - Flexible, removable metal outlet
  - Capacity: 3200 ml
- **Ident. No. 025:** Flexible outlet

Ø (mm)		200	160
Material		Sheet steel	PE - Polyethylene
56077...	Ident. No.	010 ●	025 ●

Prod. Gr. 5IE

Ident. No. 010

Ident. No. 025

PRESSOL Funnel set

Execution:
- Funnel diameters: 50, 75, 100, 120, 150 mm
- Resistant to oil, petrol and acid

Material		PE - Polyethylene
Number of pieces in assortment/set (PCS)		5
56077...	Ident. No.	110 ●

Prod. Gr. 5IE

Lubricant containers

Application:
For individual lubricant requirements.

Execution:
- **No. 56080:**
  - Made from indestructible plastic
  - With permanent magnet in the base
- **No. 56090:**
  - Made from cellidor
  - Impact-resistant
  - Transparent
  - With retaining handle

	Volumetric capacity	Length x width		
56080...	0.25 l	80 x 80 mm	Ident. No.	010 ●
56090...	0.5 l	125 x 120 mm	Ident. No.	010 ●

Prod. Gr. 575

No. 56080

No. 56090

Lubricating brush

Execution:
- Resistant to oil and coolant
- With sheet metal handle

Technical data:
- Design: Flat

Brush thickness (mm)		9	12	15	18
56092...	Ident. No.	010 ●	020 ●	030 ●	040 ●

Prod. Gr. 575

PRESSOL Multi-purpose tub

Made of shatterproof polyethylene

Application:
For changing oil or for cleaning parts.

Execution:
- Made of break-proof polyethylene
- Black
- With robust handles

Advantage:
- With raised section to position dirty parts
- Lip all the way around tub for safe pouring

Volumetric capacity		6 l
Ø (mm)		390
Height (mm)		120
56095...	Ident. No.	010 ●

Prod. Gr. 5IE

Plastic bottles

Application:
For dispensing wood stain, lacquer, diluents and other liquids.

Execution:
- Bottle made of LDPE plastic, PP cap
- Food-safe
- **Ident. No. 005–050:** With drop closure for precise dispensing
- **Ident. No. 125–500:** With bent and retractable spray pipe

Volumetric capacity			0.125 l	0.25 l	0.5 l
56068...	With drop closure	Ident. No.	005 ●	025 ●	050 ●
56068...	With spray pipe	Ident. No.	125 ●	250 ●	500 ●

Prod. Gr. 575

Ident. No. 025

Ident. No. 250

Grease and oil push-type guns
With steel housing

Application:
Ident. No. 501–511: Used to apply greases
Ident. No. 521: For applying oils, petroleum, aerosols and oils with additives

Execution:
- With replaceable nozzle: Pointed and hollow/universal nozzle
- Suitable for type H, K and D nipples
- Connecting thread: For cone grease nipples and ball grease nipples, DIN 71412, DIN 3402, for flush-type grease nipples, DIN 3405
- **Ident. No. 501–511:**
  - Pressure (bar): 60-80
  - Robust steel housing with screw cap on the filling side, rust-free and zinc-plated
- **Ident. No. 521:**
  - Max. pressure (bar): 150
  - Robust, powder-coated steel housing with screw cap on the filling side
  - Rigid pipe and follower piston, pumping capacity per stroke 0.5 cm^3

Delivery:
With pointed and hollow/universal nozzle

Volumetric capacity			80 ml	150 ml	150 ml
Length (mm)			160	220	230
	Mouthpiece outlet				
56191...	Extrusion die | Universal die	Ident. No.	501 ●	511 ●	521 ●

Prod. Gr. 5IE

Ident. No. 501

Ident. No. 511

Ident. No. 521

High pressure hand-operated lever-type grease gun

Application:
For lubricating with grease, filling with grease gun filler no. 56259 or with grease cartridge no. 56235 100.

Execution:
- **Ident. No. 005:**
  - Made of steel
  - Painted black
- **Ident. No. 010:**
  - Robust all-steel design, painted silver
  - Short stroke system, infinitely variable piston rod fixing
  - Filling/draining value, ergonomic handle
  - For 400 g cartridges or 500 g loose grease

Delivery:
Ident. No. 010: Accessories not included - please order separately

Volumetric capacity			400 ml	400 ml
Max. operating pressure (bar)			400	400
Connection thread			M10 x 1	M10 x 1
Feed volume per stroke (cm^3)			1.2	2.0
PRESSOL	56235...	Ident. No.	005 ●	-
MATO	56235...	Ident. No.	-	010 ●

PRESSOL = Prod. Gr. 5IE
MATO = Prod. Gr. 5JM

Accessories for			56235 005	56235 010
56235...	Grease cartridge, 400 g	Ident. No.	100 ●	100 ●

Ident. No. 005

Ident. No. 010

High-pressure hand lever grease gun

As a set

Application:
For lubricating

Execution:
- Industry design with grease press 56235 010
- In plastic case with oil-resistant inlay
- Contents: Lever-type grease gun, nozzle tube with hydraulic nosepiece, quick-change nozzle tube with sliding coupling, quick-change nozzle tube with articulated nosepiece, quick-change hose, pointed nosepiece, hollow nosepiece

Delivery:
Lever-type grease gun, nozzle tube with hydraulic nosepiece, quick-change nozzle tube with sliding coupling, quick-change nozzle tube with articulated nosepiece, quick-change hose, pointed nosepiece, hollow nosepiece

Volumetric capacity		400 ml
Max. operating pressure (bar)		400
Connection thread		M10 x 1
56235...	Ident. No.	400 ●

Prod. Gr. 5JM

Accessories for		56235 400
56235... Grease cartridge, 400 g	Ident. No.	100 ●

Nozzle pipes and high-pressure hose lines

For high-pressure hand lever grease guns

Execution:
- **Ident. No. 200:** Curved nozzle pipe, with hollow nosepiece
- **Ident. No. 210:** Nozzle pipe curved, with pointed nosepiece
- **Ident. No. 220:** Nozzle pipe curved, with hydraulic gripper nosepiece
- **Ident. No. 230–240:** High-pressure hose line with hydraulic gripper nosepiece
- **Ident. No. 250–260:** High-pressure hose line with thrust coupling; M 1 for flat grease nipple, 16 mm
- **Ident. No. 270–280:** High-pressure hose line with thrust coupling; M 22 for flat grease nipple, 22 mm
- **Ident. No. 290–300:** High-pressure hose line with thrust coupling; M 4 for flat grease nipple, 10 mm

Advantage:
- **Ident. No. 230–300:** Fail-safe, high-pressure reinforced rubber hose 13 mm in diameter, excellent occupational safety due to 1650-bar bursting pressure

Technical data:
- Connection thread: M10 x 1

Ident. No. 200

Ident. No. 210

Ident. No. 220

Ident. No. 230–240

Ident. No. 270–280

Mouthpiece outlet		Hollow die	Extrusion die	Hydraulic gripping die	Hydraulic gripping die	Hydraulic gripping die	Slide coupling M1	Slide coupling M1	Slide coupling M22	Slide coupling M22	Slide coupling M4	Slide coupling M4
Length (mm)		150	150	150	300	500	-	-	-	-	-	-
Hose length (mm)		-	-	-	-	-	300	500	300	500	300	500
56235...	Ident. No.	200 ●	210 ●	220 ●	230 ●	240 ●	250 ●	260 ●	270 ●	280 ●	290 ●	300 ●

Prod. Gr. 5JM

Grease gun accessory set

In a metal case

Application:
For all common lubricating nipples, for accessing difficult-to-reach lubrication areas.

Connection thread		M10 x 1
Composition of set		2 hydraulic nosepieces for H, 1 hollow nosepiece for K, 1 pointed nosepiece for D, 1 16-mm slide coupling for M1, 1 300-mm reinforced hose, 3 150-mm curved nozzle pipes, 1 150-mm straight nozzle pipe, 1 90° bracket for hydraulic nosepiece, extension, quick-action coupling suitable for all hydraulic nosepieces, 3 H 1 lubricating nipples: M6 x 1, M8 x 1, M10 x 1, G 1/8, H 2: M6 x 1, M8 x 1, 1 thread adapter from G 1/8 to M10 x 1 female thread, in metal case
56240...	Ident. No.	005 ●

Prod. Gr. 5IE

PRELIxx Pro high pressure grease gun and ZHFP two-handed grease gun

Execution:
- With 300-mm reinforced hose and hydraulic adapter
- **Ident. No. 010:**
  - Grease supply can be adjusted from 0.1-1.6 cm^3 per stroke
  - With filling nipple and vent valve
  - Ergonomic pump handle, non-slip. T-handle, grip and pressure-optimised
  - Zinc die-cast head, rolled thread on the grease gun pipe, damage-proof.
- **Ident. No. 100:**
  - Ergonomic, non-slip handles
  - Quicker and cleaner to change cartridges; environmentally friendly, as the cartridges are completely drained
  - Simple, wear-proof design with vacuum principle

Technical data:
- Connection thread: M10 x 1

Ident. No. 010

Ident. No. 100

Volumetric capacity		400 ml	500 ml
Operating pressure (bar)		900	400
Max. operating pressure (bar)		600	850
Feed volume per stroke (cm^3)		1.6	2.1
56236...	Ident. No.	010 ●	100 ●

Prod. Gr. 5IE

Accessories for			56236 010	56236 100
56235...	Grease cartridge, 400 g	Ident. No.	100 ●	-
56236...	Screw-in cartridge, 500 g	Ident. No.	-	500 ●

Crank pump with suction pipe

Application:
For pumping diesel, heating oil, hydraulic and engine oils

Execution:
- Suitable for 60 and 200-l metal barrels
- 3-part metal suction tube with foot valve
- Adjustable G2-inch tap adapter
- 1 m transparent NW 25 plastic hose with elbow outlet

Advantage:
- Robust. Powerful, self-priming and perfectly sealed

Feed volume per stroke (l)		0.4
Suitable for container		60-200 litres
56305...	Ident. No.	010 ●

Prod. Gr. 5IG

Hand lever plastic drum pump

Application:
Ident. No. 010: For pumping heating oil, emulsions, water, diesel, petroleum, hydraulic oil
Ident. No. 020: For pumping chemicals, cleaning agents, weak alkalis and acids

Execution:
- Adjustable suction pipe
- **Ident. No. 010:** Polypropylene (PP) body and seal
- **Ident. No. 020:** PP/PE body, viton seals

Advantage:
- Extremely light and flexible

Ident. No. 010

Ident. No. 020

Model		Drum pump PP	Drum pump PP/PE
Min./max. immersion depth		400-900 mm	400-900 mm
Feed quantity (l/min)		16	16
Suitable for container		60-200 litres	60-200 litres
56317...	Ident. No.	010 ●	020 ●

Prod. Gr. 575

PRESSOL Lever-operated cylinder-type drum pump

Application:
Media: Oils up to SAE 50, diesel, petroleum, kerosene, glycerin and undiluted radiator antifreeze

Execution:
- Can be used for 60, 200 and 220 l drums
- Pump housing with piston, hand lever and plastic outlet manifold
- Telescopic suction tube can be adjusted in length from 355 to 955 mm
- Drum adapter G 2'' and drum adapter M 64x4
- Delivery hose 1500 mm with steel outlet manifold
- Powder-coated steel housing, FKM seals

Advantage:
- Maintains a constant flow rate over years
- Can be completely disassembled – easy to clean
- Simple drum assembly by means of a drum adapter, freely positionable in a 30° grid

56318...	Ident. No.	510 ●

Prod. Gr. 5IE

HORN TECALEMIT Drum pump K 10 C kit

With hose set

Application:
For diesel, heating oil, fuels (flammable liquids, low-viscosity mineral oils, radiator anti-freeze (undiluted)).

Execution:
- Hand-operated piston pump for pumping liquid from drums and small containers
- With telescopic suction pipe 470-925 mm immersion depth
- Hose set 1.5 m, DN19 x 4, HORN 365X, electrically conductive, with discharge manifold AK 20
- Medium temperature -20 to + 40°C
- Barrel thread M 64x4/G 2 inch

Delivery:
Fully ready for use with suction pipe and delivery hose in set

Technical data:
- Model: K 10 C Kit
- Min./max. immersion depth: 470-925 mm
- Feed volume per stroke: 0.25 l
- Suitable for container: 50-200 litres

56320...	Ident. No.	011 ●

Prod. Gr. 575

HORN TECALEMIT Drum pump

Voltage 230 V, 50/60 Hz, shockproof, noise-suppressed

Application:
For pumping heating and diesel oils of hazard class A III from all standard containers. Fast and simple filling of heating oil into transport containers and refuelling of all kinds of diesel vehicles.

Execution:
- 230-V voltage, 50/60 Hz, shockproof, noise-suppressed
- Suction hose with filter
- Pump housing and nozzle valve made from high-quality, impact-resistant plastic
- **Ident. No. 120:**
  - Motor pump
  - Pressure hose with anti-kink spring
  - With nozzle valve, dispensing pump for supply of small volumes
- **Ident. No. 140:**
  - Self-priming hybrid pump
  - Delivery hose with automatic nozzle valve and hose swivel joint
  - 4-m connection cable with plug

Advantage:
- **Ident. No. 120:** Emergency manual mode in the event of power failures

Model		HORNET W 40	HORNET W 85
Max. immersion depth (mm)		1600	1600
Feed quantity (l/min)		40	85
Suitable for container		60-200 litres	60-200 litres
56345...	Ident. No.	120 ●	140 ●

Prod. Gr. 575

Ident. No. 120

Ident. No. 140

Pump set

Application:
For pumping mineral products.

Execution:
- Collector motor, 230 V, 50 Hz, 500 W, shockproof, noise-suppressed
- Motor with undervoltage trip and continuous speed adjustment
- Set comes complete with aluminium pump pipe set with NBR seal
- 2-m mineral oil hose DN 25
- 2 hose clips
- Aluminium nozzle
- PP drum screw coupling, conductive

Technical data:
- Model: F430 AL-41/38
- Max. immersion depth: 1000 mm
- Max. delivery height: 9.5 m
- Feed quantity: 215 l/min
- Suitable for container: 60-200 litres
- Max. temperature resistance: 80 °C

56359...	Ident. No.	510 ●

Prod. Gr. 575

Easy-opener and multi-opener

Application:
the ideal tool for gently opening sensitive components

Execution:
- **Ident. No. 100:**
  - delicate, slim design – flexible and strong at the same time
  - three lever surfaces with different material thicknesses
  - ideal for loosening e.g. switches, lights or similar elements
- **Ident. No. 110:**
  - slim design – flexible and strong at the same time, made of glass-fibre reinforced polyamide
  - conductive ESD material protects against electrostatic discharge
  - does not scratch delicate surfaces
  - steel insert on the handle side e.g. for prying open paint cans

Ident. No. 100

Ident. No. 110

Length (mm)				178	180
	Width (mm)	Material of handle			
56549...	32	PA - Polyamide	Ident. No.	100 ●	-
56549...	32	Plastic glass fibre reinforced	Ident. No.	-	110 ●

Prod. Gr. 598

Spatula

With wooden handle

Application:
For applying, spreading and smoothing materials such as putty, and for removing planar materials.

Execution:
- With wooden handle

	Width (mm)	Material	Material of handle		
56550...	30	Steel	Wood	Ident. No.	030 ●
56550...	40	Steel	Wood	Ident. No.	040 ●
56550...	50	Steel	Wood	Ident. No.	050 ●
56550...	60	Steel	Wood	Ident. No.	060 ●
56550...	80	Steel	Wood	Ident. No.	080 ●
56550...	100	Steel	Wood	Ident. No.	100 ●

Prod. Gr. 566

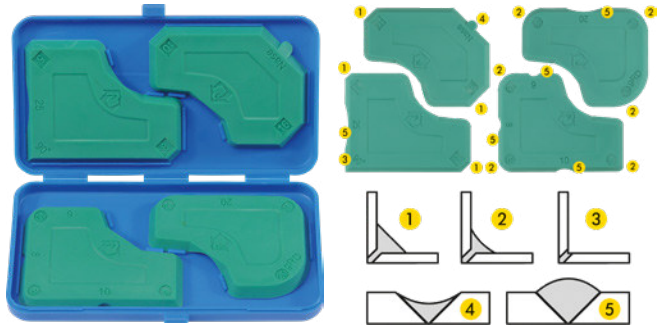
HEYTEC TOOLS joint puller in set

Application:
For pulling and smoothing permanently elastic joint compounds

Execution:
- 17 different options
- 4 differently shaped pullers with radius details

56551...	Ident. No.	400 ●

Prod. Gr. 580



Nölle PROFI BRUSH Enamel brush
Light bristles

Execution:
- Trimmed with pure, light China bristle
- Tin ferrule
- Wooden handle, unpainted

Brush thickness (mm)			10	12	15	18	20	23
56569...	Enamel brush	Ident. No.	110 ●	112 ●	114 ●	116 ●	118 ●	120 ●

Prod. Gr. 5KP

Nölle PROFI BRUSH Flat brush, second thickness
Light bristles

Execution:
- Pure light China bristle
- Nickel ferrule, wooden handle, beech, unpainted
- Double bristle strength

Brush thickness (mm)			25	40	50	60
56570...	Flat brush, second thickness	Ident. No.	270 ●	280 ●	290 ●	300 ●

Prod. Gr. 5KP

Nölle PROFI BRUSH Industrial radiator paint brush, light bristles
angled

Execution:
- Bristles with light bristle blend
- Tin ferrule, head bent
- Long wooden handle, unpainted

Brush thickness (mm)			25	40	50	60
56570...	Radiator paint brush with light bristles	Ident. No.	350 ●	360 ●	370 ●	380 ●

Prod. Gr. 5KP

Nölle PROFI BRUSH Brush sets
Mixed

Execution:
- **Ident. No. 450:**
  - Bristles with light and grey bristle blend
  - All brushes with tin ferrule and wooden handle
  - Round brushes 20 and 30 mm, flat brushes 25, 30 and 40 mm
  - Small brushes in sizes 0, 2 and 4, radiator paint brushes in 30 and 40 mm
- **Ident. No. 460:**
  - Bristles with fine natural hair blend
  - Tapered, flat tin ferrule
  - Wooden handle, painted red
  - Included sizes 4, 6 and 8

Ident. No. 450

Ident. No. 460

Number of pieces in assortment/set (PCS)		10	3
56570...	Ident. No.	450 ●	460 ●

Prod. Gr. 5KP

Nölle PROFI BRUSH – Paint roller set, Vestan

Universal, 3 pieces

Execution:
- Tightly woven polyester bristles, 20 mm pile height
- Good absorption and application of paint
- Solvent-resistant
- Complete set with plastic paint grid and 6 mm slip-in bracket

Technical data:
- Diameter: 82 mm
- Material: PES - Polyester
- Bore diameter: 6 mm

Width (mm)			180	240
56580...	Paint roller set	Ident. No.	270 ●	280 ●

Prod. Gr. 5KP

3M – 101E crepe adhesive tape

The basic professional product for secure indoor masking and fixing

Application:
Ideal for painting jobs with minimal requirements and low thermal loads, for basic masking and protection indoors, for bundling, packing and marking, and for securing light loads.

Execution:
- Good adhesion on many surfaces
- Controlled dispensing
- Good curve-negotiating properties
- Soft to the touch and can be torn by hand

Technical data:
- Length of tape: 50 m

Width of band (mm)		18	24	30	36	48
56582...	Ident. No.	300 ●	305 ●	310 ●	315 ●	320 ●

Prod. Gr. 6RM

GEDORE – Tyre levers

Profiled shape

Execution:
- With protective surfaces for aluminium rims

Technical data:
- Surface: Chrome plated
- Material: Chrome-vanadium steel

Length (mm)		200	305	400	500	610
52199...	Ident. No.	020 ●	030 ●	040 ●	050 ●	060 ●

Prod. Gr. 530

ATORN – Nail puller and tyre lever

Hexagon profile, painted

Execution:
- Special tool steel, forged, hardened, powder-coated
- **Ident. No. 010–030:**
  - With claw on the 90° curved side
  - Chisel end on opposite side for levering and demoulding
- **Ident. No. 100:**
  - With tip on one side
  - Chisel end on opposite side for levering

Advantage:
- **Ident. No. 010–030:** Indestructible, durable quality, made in Germany

Ident. No. 010–030

Ident. No. 100

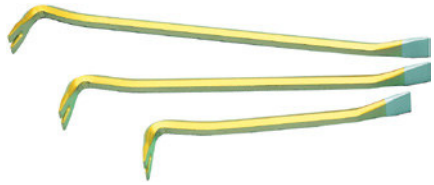
Length (mm)		400	600	800	400
Ø (mm)		18	18	18	16
Weight (kg)		1.02	1.46	1.94	0.63
56607...	Ident. No.	010 ●	020 ●	030 ●	100 ●

Prod. Gr. 5HI

GEDORE Crate openers (nail pullers)

Application:
For removing nails, for prizing open crates and much more.

Execution:
- Made from chrome-molybdenum-vanadium steel
- With hollow claw and tongue
- Varnished
- Octagonal



Length (mm)		350	600	800
Ø (mm)		18	18	18
56611...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 558

GEDORE Universal lever bars

Execution:
- Made of steel
- One side with polished surface and bent 45°
- Other side tapered to a point
- Octagonal

Length (mm)		400
Ø (mm)		16
56615...	Ident. No.	010 ●

Prod. Gr. 558

STANLEY Electric stapler

Application:
For continuous stapling tasks.

Execution:
- For type G staples, 6-14 mm arm length
- With depth stop
- Flush nose for use in corners and along edges
- Cable length: 2.4 m

Advantage:
- Ergonomic housing for fatigue-free working

Suitable for clamp type		G
56630...	Ident. No.	402 ●

Prod. Gr. 576

STANLEY Hammer tacker

Execution:
- For type G staples, 6-10 mm arm length
- Robust steel housing, optimum impact weight
- Ergonomic handle for effortless work

Suitable for clamp type		G
Staple length		10 mm
56630...	Ident. No.	404 ●

Prod. Gr. 576

STANLEY Staples

Type A and type G

Application:
Ident. No. 306–314: For filling STANLEY tackers
Ident. No. 406–414: For filling STANLEY manual, electric and hammer tackers

Delivery:
Pack of 1000

Limb length (mm)				6	8	10	12	14
	Clip type	Form						
56630...	A	Round	Ident. No.	306 ●	308 ●	310 ●	312 ●	314 ●
56630...	G	Flat	Ident. No.	406 ●	408 ●	410 ●	412 ●	414 ●

Prod. Gr. 576

Ident. No. 306–314

Ident. No. 406–414

LESSMANN® Spark plug brushes

Brass, stainless steel or nylon edging

Ident. No. 500

Ident. No. 520

Ident. No. 530

Material of wire		Brass	Brass	Stainless steel	Nylon
Number of rows (PCS)		3	4	3	3
Length (mm)		150	200	150	150
Length of bristles (mm)		15	18	15	15
Wire Ø (mm)		0.15	0.15	0.15	0.30
56710...	Ident. No.	500 ●	510 ●	520 ●	530 ●

Prod. Gr. 5JL

LESSMANN® File brush

File brush belt, bonded

Execution:
- File brush band, stuck on
- Brush strip size: 115 x 40 mm

Length (mm)		250
56720...	Ident. No.	500 ●

Prod. Gr. 5JL

LESSMANN® Wire hand brushes

Steel, stainless steel and brass wire

Application:
No. 56725 510–56726 560, 56727 520–56727 550: For cleaning cast iron pieces, files and for brushing a wide array of parts and surfaces.
No. 56726 630–56726 640: For cleaning cast iron parts, files and for brushing a wide range of parts and surfaces.

Execution:
- Body made of certified beech wood

Technical data:
- Length of bristles: 25 mm
- Wire diameter: 0.3 mm
- Length: 290 mm

No. 56725 510–56726 560, 56727 520–56727 550

No. 56726 630

No. 56726 640

Number of rows (PCS)			1	2	3	4	5	6
Width (mm)			15	22	30	35	40	45
	Material of wire							
56725...	Steel	Ident. No.	510 ●	520 ●	530 ●	540 ●	550 ●	560 ●
56726...	Stainless steel A2	Ident. No.	510 ●	520 ●	530 ●	540 ●	550 ●	560 ●
56726...	Stainless steel A4	Ident. No.	-	-	630 ●	640 ●	-	-
56727...	Brass	Ident. No.	-	520 ●	530 ●	540 ●	550 ●	-

Prod. Gr. 5JL

LESSMANN® Precision brushes

Application:
For cleaning uneven surfaces.

Execution:
- Body made of certified beech wood
- **Ident. No. 510:**
- With high trim density
- 20-mm wide brush head, trim length 110 mm
- **Ident. No. 520–530:**
- With a high bristle density
- Brush head (20 mm wide), bristle length of 110 mm

Technical data:
- Number of rows: 4 PCS
- Length: 225 mm

Ident. No. 510

Ident. No. 520

Ident. No. 530

Material of bristles		Nylon	Brass	Stainless steel
Material of wire		-	-	Stainless steel A2
56735...	Ident. No.	510 ●	520 ●	530 ●

Prod. Gr. 5JL

LESSMANN® Universal hand brushes

Application:
For cleaning cast iron pieces, files and for brushing a wide array of parts and surfaces.

Execution:
- With ergonomic plastic handle

Technical data:
- Number of rows: 1 PCS
- Length of bristles: 28 mm
- Wire diameter: 0.3 mm
- Width: 15 mm
- Length: 260 mm

	Material of wire		
56740...	Steel	Ident. No.	500 ●
56740...	Stainless steel	Ident. No.	510 ●

Prod. Gr. 5JL

LESSMANN® ROKI professional hand brushes

Application:
Extremely tough brush for cleaning weld seams and for removing brake dust on brake callipers.

Execution:
- for cleaning welding seams

Advantage:
- With ergonomic 2-component handle with finger recesses for optimal handling

Technical data:
- Number of rows: 2 PCS
- Length of bristles: 22 mm
- Width: 10 mm
- Length: 225 mm

Ident. No. 600

Ident. No. 610

Ident. No. 620

Wire Ø (mm)			0.35	0.25
	Material of wire			
56740...	Steel	Ident. No.	600 ●	-
56740...	Stainless steel A2	Ident. No.	610 ●	-
56740...	Brass	Ident. No.	-	620 ●

Prod. Gr. 5JL

LESSMANN® Cylindrical hand brushes

Application:
For deburring and cleaning bores and pipes.

Execution:
- With eyelet
- For manual use
- **Ident. No. 005–090:** Edging: Corrugated steel
- **Ident. No. 095–190:** Edging: Corrugated brass
- **Ident. No. 195–290:** Edging: Smooth nylon

Technical data:
- Filling length: 100 mm
- Length: 300 mm

Ident. No. 040

Ident. No. 140

Ident. No. 240

Material of wire	Ø (mm)	Wire Ø (mm)	56741... Ident. No.	
Steel	3	0.08	005	●
Steel	4	0.1	010	●
Steel	6	0.1	020	●
Steel	8	0.1	030	●
Steel	10	0.15	040	●
Steel	15	0.15	050	●
Steel	20	0.15	060	●
Steel	25	0.20	065	●
Steel	30	0.20	070	●
Steel	40	0.25	080	●
Steel	50	0.30	090	●
Brass	3	0.10	095	●
Brass	4	0.10	100	●
Brass	6	0.10	110	●
Brass	8	0.12	120	●
Brass	10	0.15	130	●
Brass	15	0.15	140	●

Material of wire	Ø (mm)	Wire Ø (mm)	56741... Ident. No.	
Brass	20	0.15	150	●
Brass	25	0.20	160	●
Brass	30	0.20	170	●
Brass	40	0.25	180	●
Brass	50	0.30	190	●
Nylon	3	0.10	195	●
Nylon	4	0.20	200	●
Nylon	6	0.20	210	●
Nylon	8	0.20	220	●
Nylon	10	0.25	230	●
Nylon	15	0.30	240	●
Nylon	20	0.30	250	●
Nylon	25	0.35	260	●
Nylon	30	0.35	270	●
Nylon	40	0.35	280	●
Nylon	50	0.35	290	●

Prod. Gr. 5JL

ATORN Pipe brushes for hand or machine use

with threaded pin, trimming material steel, stainless steel, brass or nylon

Application:
For cleaning pipes, gratings, sleeves and cylinders and for deburring e.g. cross-drilled holes and similar features

Execution:
- Longest service life thanks to top wire quality
- Optimal flexibility and bending strength
- **Ident. No. 008–020:** Edging: Steel wire, crimped
- **Ident. No. 008–220:** Machine use possible with adapter: Up to max. 3000 rpm (rotation speed) – use brush clockwise!
- **Ident. No. 008–220, 422–630:** Uniform distribution of the filling wire ensures a high level of concentricity.
- **Ident. No. 008–320:** With M6 connecting thread for handle, extensions or adapter
- **Ident. No. 108–120:** Edging: Stainless steel wire, crimped
- **Ident. No. 208–220, 622–630:** Edging: Brass wire, crimped
- **Ident. No. 308–320:**
  - Bristles: smooth nylon
  - Machine use possible with adapter: Up to max. 3,000 RPM (rotation speed) - use brush in a clockwise direction!
  - Uniform distribution of the wire bristles ensures high concentricity
- **Ident. No. 422–499:** Edging: Steel wire, smooth
- **Ident. No. 422–630:**
  - With W 1/2-inch connecting thread for handle, extensions or adapter
  - Machine use possible with adapter: Max. 1000 rpm (rotation speed) – use brush clockwise!
- **Ident. No. 522–544:** Edging: Stainless steel wire, smooth

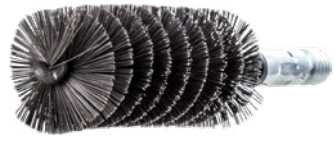
Material of wire	Ø (mm)	Filling length (mm)	Length (mm)	Connection thread	56742... Ident. No.	
Steel	8	80	115	M6	008	●
Steel	10	80	115	M6	010	●
Steel	12	80	115	M6	012	●
Steel	13	80	115	M6	013	●
Steel	14	80	115	M6	014	●
Steel	15	80	115	M6	015	●
Steel	16	80	115	M6	016	●
Steel	18	80	115	M6	018	●
Steel	20	80	115	M6	020	●
Stainless steel	8	80	115	M6	108	●
Stainless steel	10	80	115	M6	110	●
Stainless steel	12	80	115	M6	112	●
Stainless steel	13	80	115	M6	113	●
Stainless steel	14	80	115	M6	114	●
Stainless steel	15	80	115	M6	115	●
Stainless steel	16	80	115	M6	116	●
Stainless steel	18	80	115	M6	118	●
Stainless steel	20	80	115	M6	120	●
Brass	8	80	115	M6	208	●
Brass	10	80	115	M6	210	●
Brass	12	80	115	M6	212	●
Brass	14	80	115	M6	214	●
Brass	15	80	115	M6	215	●
Brass	16	80	115	M6	216	●

Ident. No. 008–020

Ident. No. 108–120

Ident. No. 208–220

Ident. No. 308–320



Ident. No. 422–499

Ident. No. 522–544

Ident. No. 622–630

Material of wire	Ø (mm)	Filling length (mm)	Length (mm)	Connection thread	56742... Ident. No.	
Brass	18	80	115	M6	218	●
Brass	20	80	115	M6	220	●
Nylon	8	80	115	M6	308	●
Nylon	10	80	115	M6	310	●
Nylon	12	80	115	M6	312	●
Nylon	14	80	115	M6	314	●
Nylon	16	80	115	M6	316	●
Nylon	18	80	115	M6	318	●
Nylon	20	80	115	M6	320	●
Steel	22	100	150	1/2 inch	422	●
Steel	25	100	150	1/2 inch	425	●
Steel	30	100	160	1/2 inch	430	●
Steel	32	100	160	1/2 inch	432	●
Steel	35	100	160	1/2 inch	435	●
Steel	38	100	160	1/2 inch	438	●
Steel	40	100	160	1/2 inch	440	●
Steel	44	100	160	1/2 inch	444	●
Steel	50	100	160	1/2 inch	450	●
Steel	63	100	160	1/2 inch	463	●
Steel	75	100	160	1/2 inch	475	●
Steel	101	100	160	1/2 inch	499	●
Stainless steel	22	100	150	1/2 inch	522	●
Stainless steel	25	100	150	1/2 inch	525	●
Stainless steel	30	100	160	1/2 inch	530	●
Stainless steel	32	100	160	1/2 inch	532	●
Stainless steel	38	100	160	1/2 inch	538	●
Stainless steel	40	100	160	1/2 inch	540	●
Stainless steel	44	100	160	1/2 inch	544	●
Brass	22	100	150	1/2 inch	622	●
Brass	25	100	150	1/2 inch	625	●
Brass	30	100	160	1/2 inch	630	●

Prod. Gr. 5HF

ATORN Handles, extensions, wire rods and thread adapter for pipe brushes

With M6 or 1/2 inch thread connection

Application:

Ident. No. 001, 100: For screwing in the pipe brushes and extensions

Ident. No. 002–004, 101–102: For extending pipe brushes

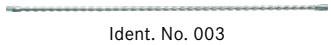
Ident. No. 005, 103: For using the pipe brushes in a machine

Execution:

- **Ident. No. 001, 100:**
  - Ergonomically shaped two-component handle with optimal power transmission properties
  - Suspension hole
- **Ident. No. 002–003, 101:** Chuck, rust-free zinc plated
- **Ident. No. 004, 102:** Chuck, stainless, zinc plated
- **Ident. No. 005, 103:** Rust-free zinc plated

Ident. No. 001

Ident. No. 002



Ident. No. 003

Ident. No. 004

Ident. No. 005

Ident. No. 100

Ident. No. 101

Ident. No. 102

				Handle		Extension		Wire handle		Threaded adapter	
Ø (mm)	Wire Ø (mm)	Length (mm)	Connection thread	56742... Ident. No.		56742... Ident. No.		56742... Ident. No.		56742... Ident. No.	
25	-	130	M6	001	●	-	-	-	-	-	-
-	4	200	M6	-	-	002	●	-	-	-	-
-	4	1000	M6	-	-	003	●	004	●	-	-
6	-	50	M6	-	-	-	-	-	-	005	●
25	-	155	1/2 inch	100	●	-	-	-	-	-	-
-	6	1000	1/2 inch	-	-	101	●	102	●	-	-
6	-	50	1/2 inch	-	-	-	-	-	-	103	●

Prod. Gr. 5HF

ORION® Tool and device holder

rust-proof

Application:
Space-saving storage and organisation

Execution:
- Brackets provide secure hold
- Simple wall mounting
- Five plastic-coated brackets, can be moved along the bar

Technical data:
- Width: 30 mm
- Length: 500 mm

56762...	Ident. No.	010 ●

Prod. Gr. 504

ORION® Swarf hook

Application:
For safely removing chips from processing machines.

Execution:
- **Ident. No. 010–020:** Hands protected with flat steel plate
- **Ident. No. 450–600:** With deep plastic hand guard for increased safety

Technical data:
- Blade diameter: 8 mm

Ident. No. 010–020

Ident. No. 450–600

Blade length (mm)		300	500	350	500
Material of handle		1-component plastic	1-component plastic	Wood	Wood
56780...	Ident. No.	010 ●	020 ●	450 ●	600 ●

Prod. Gr. 565

Nölle PROFI BRUSH Hand brushes with bristles made of various materials

short and long handles

Execution:
- Beech wood body with hanging hole
- **Ident. No. 511–512:**
  - Dust-binding
- Natural hair bristles mixed with high-quality synthetic fibres
- **Ident. No. 521–522:** Natural coconut fibre bristles
- **Ident. No. 531–532:**
- Moisture-resistant and oil-resistant
- Arenga plant fibre bristles (sugar palm)
- **Ident. No. 541–542:**
  - For fine and coarse dirt, moisture-resistant
  - Southern Harz bristles, Arenga/Elaston blend

Ident. No. 511

Ident. No. 512

Ident. No. 521

Ident. No. 522

Ident. No. 531

Ident. No. 532

Ident. No. 541

Ident. No. 542

Material of bristles		Natural fine hair mixture	Natural fine hair mixture	Coconut	Coconut	Arenga	Arenga	Elaston	Elaston
Length (mm)		280	430	280	430	280	430	280	430
56737...	Ident. No.	511 ●	512 ●	521 ●	522 ●	531 ●	532 ●	541 ●	542 ●

Prod. Gr. 5KP

Nölle PROFI BRUSH – Industrial brooms with bristles made of various materials

in various widths

Application:

Ident. No. 011–021: For fine, coarse and dried dirt on all types of floors

Ident. No. 031–041: For coarse dirt on concrete, industrial and wooden floors

Ident. No. 071–081: For fine and coarse dirt on all types of floors

Execution:

- **Ident. No. 011–021:**
  - Beech wood body with natural coconut fibre bristles
  - Metal handle holder, assembled
- **Ident. No. 031–041:**
  - Resistant to oil, alkalis and moisture
  - Beech wood body with Elaston bristles
- **Ident. No. 031–081:** Metal handle holder assembled
- **Ident. No. 071–081:** Beech wood body with Arenga bristles - resistant to moisture and oil

Delivery:

With handle holder, without handle; please order separately

Ident. No. 011–021

Ident. No. 031–041

Ident. No. 071–081

Material of bristles	Coconut		Elaston		Arenga	
Width (mm)	56760... Ident. No.		56760... Ident. No.		56760... Ident. No.	
400	011	●	031	●	071	●
600	021	●	041	●	081	●

Prod. Gr. 5KP

Accessories for		56760 011	56760 021	56760 031	56760 041	56760 071	56760 081
56760... 1400-mm broom handle	Ident. No.	111 ●	111 ●	111 ●	111 ●	111 ●	111 ●
56760... 1500-mm broom handle	Ident. No.	121 ●	121 ●	121 ●	121 ●	121 ●	121 ●

ATORN – Professional cordless work floodlight

Application:

Extremely robust lamp for heavy-duty use – light metal body with rubberised protective rim

Execution:

- Effective lighting duration when plugged into the mains: 24 h, when battery operated: 6–8 h
- Li-ion battery pack, 11.1 V
- Switching stages: Low 20%/Middle 45%/High 100%
- Fold-out foot to hang up or place in upright position
- Charging status and residual capacity display
- Charging option via barrel connector socket/USB output: 5 V

Advantage:

- Continuous light during day and night – possible to have the lights on and charge at the same time

Delivery:

Power supply including cables

Technical data:

- IP protection class: IP 54

Ident. No. 100

Ident. No. 400

Length (mm)		190	237
Luminous flux (lm)		1000	4000
Length x width x height		190 x 209 x 60 mm	237 x 265 x 73 mm
56797...	Ident. No.	100 ●	400 ●

Prod. Gr. 5HD

ATORN Cordless LED pen light and work lamp

small and powerful

IP 54

Execution:
- **Ident. No. 021:**
  - Small, compact, extremely bright with boost function
  - Magnet on the underside of the light, retaining clip on the side
  - Rechargeable Li-ion battery with 600 mAh safety electronics
  - Operating time of up to 3 hours
  - Switching levels: 30 % = 100 lm, 100 % = 300 lm, boost = 450 lm
  - Lightweight at just 35 g - very practical with a length of 89 mm
- **Ident. No. 023:**
  - Small and compact, with ultra-bright top light
  - Magnet on the underside and back, attachment clip
  - Rechargeable Li-ion battery with 2,000 mAh safety electronics
  - Automatic switch on/off technology, operating time of up to 12 hours
  - Switching levels: Top = 100 lm, 25 % = 300 lm, 50 %= 600 lm, 100 % boost = 1,200 lm
  - Lightweight at just 147 g - very practical with a length of 115 mm

Delivery:

Ident. No. 021: Includes USB-C charging cable, does not include charging adapter

Ident. No. 023: Includes charging cable, does not include charging adapter

Ident. No. 021

Ident. No. 023

Length (mm)		89	115
Luminous flux (lm)		300	1200
IP protection class		-	IP 54
56829...	Ident. No.	021 ●	023 ●

Prod. Gr. 5HD

ATORN LED professional workshop lamp

Battery operated

IP 54

Execution:
- robust, splash-proof housing with rubberised gripping surface
- 2 folding hooks that can be rotated by 360°
- 2 holding magnets on the back, 1 magnet on the bottom
- switch functions: 1. front auxiliary light, 2. 100% main light, 3. 50% main light, 4. off
- lamp base can be rotated by 180° and locked in eight positions
- with battery status and remaining charge indicator
- 3.7-V/2600-mAh Li-ion battery, charged via a 5-V Micro USB socket
- effective lighting duration of 6 hours, charging time of 4 hours

Delivery:

Includes charging cable, does not include charging adapter

Length (mm)		266
Luminous flux (lm)		440
IP protection class		IP 54
56829...	Ident. No.	025 ●

Prod. Gr. 5HD

ATORN LED slim professional inspection light

Battery operated

IP 54

Execution:
- Robust, splash-proof housing with rubberised gripping surface
- Lamp head with slim aluminium housing
- Ball joint (+/- 45° tilt, rotatable through 360°) with strong retaining magnet on the bottom
- switch functions: 1. front auxiliary light, 2. 100% main light, 3. 50% main light, 4. off
- Hook (can be folded out by 210°, rotatable using the ball joint)
- Auxiliary light in lamp head, 120 lm
- 3.7-V/2600-mAh Li-ion battery, charged via a 5-V Micro USB socket
- Effective lighting duration of 6 hours, charging time of 4 hours
- With battery status and remaining charge indicator

Delivery:

Includes charging cable, does not include charging adapter

Technical data:
- Length x width x height: 384 x 41 x 45 mm
- IP protection class: IP 54

Length (mm)		384
Luminous flux (lm)		600
56829...	Ident. No.	050 ●

Prod. Gr. 5HD

ATORN LED professional folding lamp

Battery operated

IP 65

Execution:
- Robust, splash-proof plastic housing with rubberised gripping surface
- Extremely slim and compact design, torch function via Top LED, 360° rotating hook, easy-to-use fixing clip
- 180° swivelling base incl. retaining magnet
- Switching functions: 1. 100 % main light, 2. 40 % main light, 3. top LED, 4. off
- With state-of-charge indicator
- With charging indicator
- Charging via USB Type-C port, rechargeable Li-Po 3.7 V/1,500 mAh battery
- Effective lighting duration of up to 6 hours, charging time of 2.5 hours

Delivery:
With charging cable

Technical data:
- Length x width x height: 120 x 61 x 26 mm
- IP protection class: IP 65

Length (mm)		120
Luminous flux (lm)		400
56829...	Ident. No.	036 ●

Prod. Gr. 5HD

SCANGRIP® LED work lamps

INNOVATION FROM DENMARK

NEW

Application:
Ident. No. 016–027: For individual lighting of dark areas when working on the move.

Execution:
- **Ident. No. 012:**
  - Light source COB LED light/spotlight: 1 x high-performance LED
  - Luminous flux 90–900 lux/spotlight 2000 lux
  - Luminous flux can be adjusted from 60–600 lumen (main lamp)
  - Spotlight 150 lumen
  - Power supply 3.7 V/2600 mAh Li-on
  - IP 54 degree of protection
- **Ident. No. 016:**
  - powerful and uniform illumination thanks to OPTILight function
  - Mounting via rotating hook or magnet
  - Adjustable luminous efficacy, state-of-charge indicator
  - Main lamp: 20-200 lm, spotlight: 120 lm
  - Minimum of 1,000 charging cycles possible
- **Ident. No. 016–027:** Dual temperature monitoring to protect the lamp and rechargeable battery
- **Ident. No. 027:**
  - Highly efficient multi-LED design with 32 LEDs
  - Convenient charging station, OPTILight function
  - Easy to mount and adjust using a rotating hook or powerful magnet
  - Rechargeable battery state-of-charge indicator, minimum of 1,000 charging cycles
  - Rotating and swivelling lamp head, spotlight
  - Adjustable luminous efficacy up to 500 lm

Advantage:
- **Ident. No. 012:** Operating time 15 hours, charging time 4 hours

Delivery:
Ident. No. 012: USB cable 1 m, operating instructions
Ident. No. 016: With USB charging cable

Technical data:
- Nominal voltage: 3.7 V/DC

Ident. No. 012

Model		MAG PRO	MINIFORM	UNIFORM
Length (mm)		261	121	190
Luminous flux (lm)		600	200	500
IP protection class		IP 54	IP 65	IP 65
56831...	Ident. No.	012 ●	016 ●	027 ●

Prod. Gr. 5IC

ATORN LED machine and workstation lamp

Voltage 230 V/AC/50 Hz

Execution:
- High-performance brand LED, colour temperature approx. 5500 K (cold white)
- Luminous flux approx. 1000 lumen
- Resistant to liquids such as water, oils, coolants and cleaning agents
- Lamp head and housing made of durable, anodised aluminium
- Flexible metal stem with rubber coating
- Switch integrated in the lamp base
- Energy efficiency class A+

Advantage:
- Completely watertight
- Can be used universally thanks to flexible goose-neck stem
- Made in Germany

Delivery:
Complete with screw terminal and screws for direct mounting, plus strong adhesive magnet, 80 mm

Ident. No. 020

Power rating (W)			10
Luminous flux (lm)			1000
Arm length (mm)			600
IP protection class			IP 67
Angle of reflected beam			40°
56870...	With 230-V connection	Ident. No.	**020** ●
56870...	With 24-V direct machine connection	Ident. No.	**030** ●

Prod. Gr. 5HD

LED universal lamps and machine lamps

Execution:
- Uses little energy
- Long service life
- Low heat generation
- **Ident. No. 700:**
  - 3 x 2 W lamp
  - Flexible metal hose arm
  - 360 lumen light output
- **Ident. No. 710, 730:** Articulated arm with large throat depth
- **Ident. No. 710–720:** Transformer integrated in the lamp head
- **Ident. No. 730:**
  - cable length: 1.5 m
  - Transformer integrated in the socket

Advantage:
- **Ident. No. 710–730:** Lubricants and coolants do not burn into the protective glass

Ident. No. 700

Ident. No. 710

Ident. No. 720

Ident. No. 730

Power rating (W)			6	12	12
Arm length (mm)			520	800	30
IP protection class			IP 20	IP 65	IP 65
56871...	100-277 V/50-60 Hz	Ident. No.	**700** ●	-	-
56871...	24 V AC/DC	Ident. No.	-	**710** ●	**720** ●
56871...	120-277 V/50-60 Hz	Ident. No.	-	**730** ●	-

Prod. Gr. 5ID

Accessories for		56871 700	56871 710	56871 720	56871 730
56871... Screw clamp for side fixing Suitable for art. no. 56871700, 705	Ident. No.	**701** ●	-	-	-
56871... Magnetic base Suitable for art. no. 56871700, 705	Ident. No.	**702** ●	-	-	-
56871... Wall bracket for mounting machine lights Suitable for art. no. 56871505, 710, 720, 800, 810, 820	Ident. No.	-	**615** ●	**615** ●	-
56871... Screw clamp for side fixing Suitable for art. no. 56871505, 710, 720, 800, 810, 820	Ident. No.	-	**625** ●	**625** ●	-
56871... Screw clamp for side fixing Suitable for art. no. 56871730	Ident. No.	-	-	-	**731** ●
56871... Wall bracket Suitable for art. no. 56871730	Ident. No.	-	-	-	**732** ●

Halogen workstation lamps

With flexible lamp arm, 230 V 50 Hz

Execution:
- Switch integrated in the lamp head
- Lamp head and housing made from impact-resistant, non-flammable plastic
- **No. 56879 100:** Connection line 1.6 m H03VVH2-F, 230 V
- **No. 56879 100, 56880 010:**
  - Multi-purpose low voltage lamp with flexible lamp arm
  - Powerful luminosity and glare-free light for precise work
  - Safety transformer integrated in the base of the lamp
  - Base height 88 mm, lamp-head length 83.5 mm
  - Halogen lamp 12 V/20 Watt/G4 base
- **No. 56879 120:**
  - Powerful luminosity and large light field
  - Flexible gooseneck tube made of metal, with rubber coating
  - Ballast unit integrated in the base of the lamp
  - Base height 111 mm, lamp-head length 288 mm
  - Compact 11-W fluorescent tubes/G23 base
- **No. 56879 120–56880 010:** Connection line 1.6 m H03RN-F, 230 V
- **No. 56880:** Including safety glass cover and reinforced connecting cable

Delivery:
With connection cable, magnet, screw clamps, screws

Power rating (W)			20	11
Arm length (mm)			420	700
IP protection class			IP 20	IP 40
56879...	Halogen broad beam lamp	Ident. No.	**100** ●	-
56879...	Cold light	Ident. No.	-	**120** ●
56880...	Halogen	Ident. No.	**010** ●	-

Prod. Gr. 5ID

No. 56879 100, 56880 010

No. 56879 120

LED workstation lamps, “Highlight” and “Floodlight” models

With flexible lamp arm, 230 V 50 Hz

Execution:
- High-performance chip with lamp life of min. 50,000 operating hours
- **Ident. No. 150:**
  - LED module with very low power consumption
  - Streamlined shape, for universal use
  - Protected against splash water and dust, with power supply unit
  - anti-glare and flicker-free light, low-reflection, 175° uniform illumination
  - Luminous flux: 300 lm, light temperature: daylight white, approx. 5,500 K
  - Rubber-coated 66-mm magnetic base with adhesive force of 180 N
  - Lamp head 90 x 30 x 13 mm, total length 620 mm
  - Ref. no. 150: No dimmer
  - Ref. no. 152: With dimmer (continuously variable)
- **Ident. No. 160:**
  - LED light, with flexible light arm, rubber-coated
  - Low power consumption and low heat generation
  - Solid and robust design for heavy-duty use
  - Anti-glare and flicker-free light, low reflection, with 24 V power supply
  - Luminous flux: 950 lm, light temperature: daylight white approx. 5,500 K, 105° uniform illumination
  - 88-mm magnetic base with 420 N adhesive force
  - Total length 850 mm, lamp head 220 x 40 x 20 mm
  - Ref. no. 160: No dimmer
  - Ref. no. 162: With dimmer (continuously variable)

Advantage:
- Waterproof and extremely robust
- Magnetic rubber base - prevents scratches to coated surfaces
- Made in Germany - high-quality product for demanding industrial use

Technical data:
- IP protection class: IP 65
- Dimmable: No

Power rating (W)			2.5	10
Arm length (mm)			550	700
56879...	Highlight model	Ident. No.	**150** ●	-
56879...	Floodlight model	Ident. No.	-	**160** ●

Prod. Gr. 5ID

Ident. No. 150

Ident. No. 160

ATORN LED light strips for machines and workstations IP 67

With 230 V or with 24 V connection

Application:
For lighting workbenches, cabinets, shelves, inside and outside machines or simply on the wall

Execution:
- High-performance brand LED, light colour temperature 5500 K (cold white), 140° beam angle
- Lamp housing made of anodised aluminium
- Resistant to liquids such as water, oils, coolants and cleaning agents
- Energy efficiency class A++
- Can be mounted using magnets or with two mounting brackets for precise alignment of the light beam.

Advantage:
- For universal use
- The slim design means it fits easily into tight spaces and guarantees optimum illumination of the work surface.
- Made in Germany

Delivery:
With rubber-coated strong adhesive magnets (2 pcs. /45 mm) and an additional two mounting brackets with screws for mounting

Technical data:
- IP protection class: IP 67

Ident. No. 010

Ident. No. 100

Power rating (W)			14.4	28.8
Luminous flux (lm)			1900	3800
Length (mm)			330	630
56869...	230-V connection	Ident. No.	010 ●	100 ●
56869...	With 24-V direct machine connection	Ident. No.	020 ●	120 ●

Prod. Gr. 5HD

ATORN High-performance LED hand lamps

Batteries or rechargeable batteries

Application:
Ident. No. 010: Focusing function for optimum short- and long-range illumination

Execution:
- **Ident. No. 002:**
  - Anodised aluminium housing
  - Light and strong
  - Durable and powerful CREE LED
- **Ident. No. 005:** Rubberised push-button switch at the lamp end
- **Ident. No. 005–007:**
  - Light beam can be focused with infinite adjustment by moving the lamp head
  - Sturdy aluminium lamp, steel retaining clip
- **Ident. No. 007:**
  - Push button at the lamp end, with simultaneous strong magnetic function
  - 3 switchable light modes
  - The micro-USB charging input is protected by a sliding cover
  - Small LED at the side to indicate the charging status
- **Ident. No. 010:**
  - high-performance Cree LED 5 W
  - Light beam can be focused using one hand
  - Waterproof and dustproof, IP 66 degree of protection
  - 4 light levels

Delivery:
Ident. No. 002: Includes AAA batteries
Ident. No. 005: Including 2 x AAA batteries
Ident. No. 007: Includes battery and USB charging cable
Ident. No. 010: Lamp, 230-V charger, 12/24-V adapter, fabric belt pouch, operating instructions

Ident. No. 002

Ident. No. 005

Ident. No. 007

Ident. No. 010

Length (mm)		91	140	126	157
Luminous flux (lm)		55	100	110	230
Lighting range (m)		35	30	80	150
Type of rechargeable battery/ battery		AlMn	AlMn	AlMn	Lithium
Material		Aluminium	Aluminium	Aluminium	Aluminium
Colour		Black	Black | Blue	Black | Blue	Blue
Number of rechargeable batteries/batteries (PCS)		1	2	2	1
Battery designation		Micro AAA; R03; UM4	Micro AAA; R03; UM4	Micro AAA; R03; UM4	Li-Ion battery type 18650
56801...	Ident. No.	002 ●	005 ●	007 ●	010 ●

Prod. Gr. 5HD

Product video: YouTube ID: 0x7M9OTTInM

ATORN LED inspection lamps
with flexible head

Application:
for illuminating and finding scratches, dirt or leaks

Execution:
- with two LEDs – can be switched with two separate switches.
- 2. switching: UV LED (black light 395 nm)
- bendable lamp head, strong magnet in the lamp base
- Protection class IP 54
- **Ident. No. 110:** 1. switching: CRI 95 LED with true-colour, warm white light
- **Ident. No. 120:** 1. switching: CREE LED with three stages of true-colour, warm white light at 25, 50 and 100%

Delivery:
Battery included

Technical data:
- Material: Aluminium
- Colour: Dark grey
- Number of rechargeable batteries/batteries: 1 PCS

Ident. No. 110

Ident. No. 120

Length (mm)		112	150
Luminous flux (lm)		70	300
Lighting range (m)		25	66
Type of rechargeable battery/battery		AlMn	AlMn
Battery designation		Micro AAA; R03; UM4	Mignon AA; R6; UM3
56801...	Ident. No.	110 ●	120 ●

Prod. Gr. 5HD

ATORN LED torch

Application:
Robust aluminium housing

Execution:
- Rubberised pressure switch on the side
- Switch: 100%/off
- Touch functions: 50%/25%/strobe/SOS
- protection class IP 44

Delivery:
Does not include charging cable, charging adapter or batteries

Technical data:
- Colour: Black
- Number of rechargeable batteries/batteries: 3 PCS
- Battery designation: Micro AAA

Length (mm)		155
Luminous flux		215
Type of rechargeable battery/battery		AlMn
56804...	Ident. No.	115 ●

Prod. Gr. 5HD

ATORN LED inspection lamps

Execution:
- **Ident. No. 205:**
  - Light chip with 120 lumen light output
  - Lateral holding magnet, rubberised push switch
  - Rotatable push-on clip
- **Ident. No. 215:**
  - Light chip with 150 lumens light output, additional LED at the head end
  - Retaining magnet on a rotatable retaining clip at the side
  - Rechargeable 3.7 V lithium-ion battery with USB contact
  - Charge level display
- **Ident. No. 220:**
  - Side main light with powerful LEDs, light level 30% and 100%
  - UV test light in the lamp head
  - Rechargeable lithium-ion battery, can be charged using a micro USB socket
  - Ball joint on the lamp base with strong holding magnet, can be tilted up to 45° and can be rotated 360°
  - Robust retaining clip on the rear side with integrated retaining magnet
  - Battery status indicator, IP 54 splash-proof housing

Delivery:
Ident. No. 205: Incl. 3 x AAA batteries
Ident. No. 215: incl. battery and USB charging cable
Ident. No. 220: Includes rechargeable battery and USB charging cable, does not include charging adapter

Technical data:
- Light source: LED

Ident. No. 205

Ident. No. 215

Ident. No. 220

Length (mm)		160	185	170
Luminous flux (lm)		120	150	220
Type of rechargeable battery/battery		AlMn	Lithium	Li-Ion
Number of rechargeable batteries/batteries (PCS)		3	1	1
Battery designation		Micro AAA; R03; UM4	Li-Ion battery type 18650	Li-Ion battery 14650-1100
56808...	Ident. No.	**205**	**215**	**220**
		●	●	●

Prod. Gr. 5HD

ATORN Headlamps

Batteries or rechargeable batteries

Execution:

- **Ident. No. 300:**
  - Rubberised push switch at the lamp head
  - Switch between three light modes (medium, high and red LED), battery compartment in the lamp head
  - The motion sensor can be activated via an additional pressure switch.
  - Housing made of impact-resistant ABS plastic
- **Ident. No. 305:**
  - Switch: Main light low, main light high, off – or via sensor: On/Off
  - Weighs only 110 g, but is a robust head lamp
  - 3.7 V battery can be charged via micro USB jack
  - Swivel-mounted luminous element
  - Protection class IP 65
- **Ident. No. 310:**
  - Robust aluminium housing, push switch on the lamp head
  - 4 light modes (high, medium, low, strobe)
  - Battery on the back of the head placed in a robust ABS housing with additional red signal lamp
  - Textile headband, adjustable for optimum comfort
  - With battery status display via LEDs and overload protection
  - 3.7 V rechargeable battery with 2,600 mAh

Advantage:

- **Ident. No. 305:** Switches on/off by sensor to keep both hands free
- **Ident. No. 310:** Extra-long 8-hour illumination duration

Delivery:

Ident. No. 300: Includes 3x AAA batteries and fabric head band

Ident. No. 305: Includes USB charging cable, does not include charging adapter

Ident. No. 310: incl. USB charging cable

Ident. No. 300

Ident. No. 305

Ident. No. 310

Luminous flux (lm)		180	280	350
Lighting range (m)		60	60	80
Type of rechargeable battery/battery		AlMn	Li-Ion	Li-Ion
Number of rechargeable batteries/ batteries (PCS)		3	1	1
Battery designation		Micro AAA; R03; UM4	Li-Ion battery 853450	3.7 V lithium ion battery
56808...	Ident. No.	**300**	**305**	**310**
		●	●	●

Prod. Gr. 5HD

PARAT safety lamps

Application:
PARAT safety lighting

Execution:
- 100 % watertight
- Rubberised switches and lamp head
- LED bulb
- **Ident. No. 420:**
  - ATEX and IECEx safety lighting, certified for zone 1
  - In handy pen-size format
  - Compatible with PARASNAP® system
- **Ident. No. 425:** ATEX safety lighting, compliant for zone 2
- **Ident. No. 440:** ATEX and IECEx safety light, certified for zone 0/21
- **Ident. No. 440–450:** Compatible with almost all helmet mounts and PARASNAP®
- **Ident. No. 450:**
  - ATEX and IECEx safety lighting, certified for zone 0/21
  - made of conductive XAG plastic
  - model: PX0

Delivery:
With batteries

Technical data:
- Type of rechargeable battery/battery: AlMn

Ident. No. 420

Ident. No. 425

Ident. No. 440

Ident. No. 450

Model		PX2 LED	PX3 LED	PX1 LED	-
Length (mm)		143	152	167	167
Luminous flux (lm)		30	60	120	120
Lighting range (m)		35	100	150	150
Colour		Neon yellow	Neon yellow	Neon yellow	Red
Number of rechargeable batteries/batteries (PCS)		2	2	4	4
Battery designation		Micro AAA; R03; UM4	Mignon AA; R6; UM3	Mignon AA; R6; UM3	Mignon AA; R6; UM3
56809...	Ident. No.	420 ●	425 ●	440 ●	450 ●

Prod. Gr. 5IB

LEDLENSER LED high-performance lamps

Execution:
- Advanced Focus System for efficient, precisely adjusted light in a focused and defocused condition
- **Ident. No. 015:** Ultra-compact torch for keychains – weighs just 36 g and is only 103 mm long (defocused)
- **Ident. No. 015–020:**
  - Outstanding light quality – brightness, range and duration are ideally adapted to the energy source
  - Eco-friendly battery, rechargeable via micro-USB
- **Ident. No. 020:** Small, lightweight, powerful pen torch – weighs just 55 g and is only 150 mm long (defocused), brightness of up to 200 lm
- **Ident. No. 030:** Extremely high protection against dust and water (protection class IP68) thanks to Flex Sealing Technology
- **Ident. No. 030, 045:**
  - Smart Light Technology allows all lighting functions to be customised to suit preferences and requirements
  - Constant luminous flux over a long period of time
  - Battery can be conveniently charged via the magnetic charging system
- **Ident. No. 040:**
  - Outstanding LEDLENSER light quality – brightness, range and duration of light are ideally adapted to the energy source
  - Rapid Focus function provides quick adjustment of the light cone
  - End cap switch for easy operation
  - Operates with four AAA alkaline batteries
- **Ident. No. 045:** Extremely high protection against dust and water (protection class IP68)

Delivery:
Ident. No. 015–020: With battery, pocket clip and USB charging cable
Ident. No. 030, 045: Rechargeable battery pack, hand strap, magnetic charging cable
Ident. No. 040: With battery pack and hand strap

Ident. No. 015

Ident. No. 020

Ident. No. 030

Ident. No. 040

Ident. No. 045

Model		P2R Core	P4R Core	P5R Core	P7 Core	P7R Core
Length (mm)		103	150	123	130	158
Luminous flux (lm)		120	200	500	450	1400
Lighting range (m)		65	90	250	300	300
Colour		Black	Black	Black	Black	Black
Type of rechargeable battery/battery		Li-Ion	Li-Ion	Li-Ion	AlMn	Li-Ion
Number of rechargeable batteries/batteries (PCS)		1	1	1	4	1
Battery designation		-	-	-	Micro AAA; R03; UM4	-
56814...	Ident. No.	015 ●	020 ●	030 ●	040 ●	045 ●

Prod. Gr. 5IA

LEDLENSER LED high-performance headlamps

Execution:

- **Ident. No. 100–110:**
  - Advanced Focus System for precise focusing of light
  - The head of the torch can be swivelled up and down through a continuous 160° range
- **Ident. No. 100–113, 120:**
  - Easy to operate, with a wheel switch on the head of the torch that allows the light to be dimmed through a continuous range
  - Extremely high protection against dust and water (protection class IP67) thanks to Flex Sealing Technology
- **Ident. No. 110–113:** Robust magnetic charging system allows the torch to be charged without the need for small, multi-part connectors
- **Ident. No. 113:**
  - Compact, powerful and versatile head torch with Advanced Focus System
  - The head of the torch can be swivelled up and down through a continuous 130° range
- **Ident. No. 115:**
  - Multicolour LED in red, green and blue
  - Two energy modes (constant light and energy saving) for especially constant or energy-saving light as required
  - Two battery types (Li-ion and AA) that combine the benefits of rechargeable and replaceable batteries
  - Li-ion battery can easily be charged via the magnetic USB cable
  - Innovative mounting system allows the head of the torch to be removed and re-attached when needed for maximum flexibility
  - Advanced Focus System for simple and intuitive adjustment of the light cone
  - Mounting options on helmets: Rubberised headband, self-adhesive mounting material
- **Ident. No. 120:**
  - Extremely powerful head lamp with adjustable focus: high colour rendering, neutral white, constant and flicker-free light
  - Protective elements on the front glass and battery for high resistance to all kinds of impacts
  - Large scope of supply for versatile mounting and use

Delivery:

Ident. No. 100: With battery pack

Ident. No. 110–113: Battery pack, magnetic charging cable

Ident. No. 115: Battery pack, magnetic charging cable, helmet mounting material

Ident. No. 120: Battery pack, magnetic charging cable, attachment and belt clips, extension cable

Ident. No. 100

Ident. No. 110

Ident. No. 113

Ident. No. 115

Ident. No. 120

Model		H5 Core	H5R Core	H7R Core	iH9R	H15R Work
Luminous flux (lm)		350	500	1000	600	2500
Lighting range (m)		160	200	250	200	250
Colour		Black	Black	Black	Black | Yellow	Black | Yellow
Type of rechargeable battery/ battery		AlMn	Li-Ion	Li-Ion	Li-Ion	Li-Ion
Number of rechargeable batteries/batteries (PCS)		2	1	1	1	1
Battery designation		Mignon AA; R6; UM3	Li-Ion	Li-Ion	Li-Ion	Li-Ion
56814...	Ident. No.	100 ●	110 ●	113 ●	115 ●	120 ●

Prod. Gr. 5IA

HEDI LED pro machine lamp

230 V, 50 Hz

Application:

Ident. No. 200: For targeted illumination of objects on a workbench or machine

Execution:

- With 3 m connection cable, flexible hose length 500 mm
- Made in Germany, TÜV GS tested, protection class II
- **Ident. No. 200:**
  - Model ML 1209 - features LED light source with 11 W rated power
  - Beam angle 60°, light colour 6,500 K, luminous flux 1,560 lumens, 2,600 lux (1 m)
  - Energy efficiency class E, shock-resistant, dust-proof and splash-proof
- **Ident. No. 210:**
  - Model ML 1210 B with LED module 10.5 W behind frosted glass cover
  - Beam angle 150°, light colour 6500 K, luminous flux 1170 lumens, 400 lux (1 m)
  - Energy efficiency class F

Delivery:

Incl. adhesive magnet and table clamp

Ident. No. 210

Ident. No. 200

Power rating (W)		11	10.5
Luminous flux (lm)		1560	1170
Arm length (mm)		500	500
IP protection class		IP 64	IP 64
56870...	Ident. No.	200 ●	210 ●

Prod. Gr. 7AG

VARTA HIGH ENERGY battery

Alkaline-manganese AlMn

Application:
Specially designed for devices with high energy consumption

Execution:
- Made in Germany - guaranteed VARTA brand quality
- Guaranteed shelf life of 10 years
- Chemical system: Primary Alkaline Manganese
- **Ident. No. 011:** Easy to identify the recommended use due to modern icons
- **Ident. No. 021–051:** Easy to identify the recommended use due to state-of-the-art icons

Delivery:
Ident. No. 011: Type AAA - blister pack of 4 pieces
Ident. No. 021: Type AA - blister pack of 4 pieces
Ident. No. 031: Blister pack of 2 pieces, type Baby
Ident. No. 041: Type Mono - blister pack of 2 pieces
Ident. No. 051: Type electric block - blister pack of 1 piece

Ident. No. 011

Ident. No. 021

Ident. No. 031

Ident. No. 041

Ident. No. 051

Type		AAA	AA	Baby	Mono	Electric block
Nominal voltage (V/DC)		1.5	1.5	1.5	1.5	9
56815...	Ident. No.	011 ●	021 ●	031 ●	041 ●	051 ●

Prod. Gr. 568

DURACELL DURACELL Procell high-tech alkaline batteries

10-pack

Execution:
- Alkaline-manganese high-performance batteries
- **Ident. No. 061:** Long service life, maximum safety
- **Ident. No. 071–081:** Long service life, maximised safety

Delivery:
Pack of 10

Type		AAA	AA	electric block
Nominal voltage (V/DC)		1.5	1.5	9
56815...	Ident. No.	061 ●	071 ●	081 ●

Prod. Gr. 568

Ident. No. 061

Ident. No. 071

Ident. No. 081

ANSMANN Alkaline batteries

40-pack of AA or AAA

Application:
Ident. No. 301: Particularly suitable for applications with extremely high power consumption – you benefit from continual power output.
Ident. No. 311: Particularly suitable for applications with extremely high power consumption - you benefit from continual power output.

Execution:
- **Ident. No. 301:**
  - long-lasting, precise energy output, ideal energy source for different everyday appliances
  - dependable and long-lasting (up to 7 years)
- **Ident. No. 311:**
  - Long-lasting, precise energy output - ideal energy source for different everyday appliances
  - Reliable and long-lasting (up to 7 years)

Delivery:
Ident. No. 301: pack of 40
Ident. No. 311: Pack of 40

Technical data:
- Nominal voltage: 1.5 V/DC

Ident. No. 301

Type		AAA	AA
56816...	Ident. No.	301 ●	311 ●

Prod. Gr. 568

VARTA Long-life rechargeable batteries/Power rechargeable batteries

Nickel-metal-hydride NiMH, ready to use

Execution:
- **Ident. No. 112:**
- **Ident. No. 112–142:** Blister pack of 2 pieces
- **Ident. No. 151:** Blister pack of 1 pieces

Ident. No. 112

Ident. No. 122

Ident. No. 132

Ident. No. 142

Ident. No. 151

Type		AAA	AA	C	D	Electric block
Nominal voltage (V/DC)		1.2	1.2	1.2	1.2	8.4
Rechargeable battery/battery capacity (mAh)		800	2100	3000	3000	170
56815...	Ident. No.	112 ●	122 ●	132 ●	142 ●	151 ●

Prod. Gr. 568

VARTA round cells/special battery

Application:
For measuring instruments, lamps, scales, clocks and many other electrically operated devices

Execution:
- Functional in a wide range of temperatures

- **Ident. No. 200:** Long life, stable energy output
-
- **Ident. No. 202–295:** Long life, stable energy output

Ident. No. 200

Ident. No. 202

Ident. No. 208

Type		V 13 GS/ V357/SR 44	V 23 GA	V 392	CR 2016	CR 2025	CR 2032	CR 2430	CR 2450
Nominal voltage (V/DC)		1.55	12	1.55	3	3	3	3	3
Rechargeable battery/battery capacity (mAh)		180	38	38	90	170	230	280	560
56815...	Ident. No.	200 ●	202 ●	203 ●	208 ●	209 ●	210 ●	290 ●	295 ●

Prod. Gr. 568

ORION Number and letter punch set

for manual use without depth limitation

Application:
For labelling parts.

Execution:
- Standard lettering
- Left-engraved
- DIN 1451 typeface
- Close-spaced lettering

- Hardness at end of writing: 58-60 HRC
- Maximum strength: 1200 N/mm²
- **No. 56925:** Nickel plated
- **No. 56926:** Nickel-plated

Delivery:
In plastic box

			Character type provided	Numbers		Letters	
			Number of stamps (PCS)	9		27	
Character height (mm)	Length x width x height	Surface	With depth limiter	56925... Ident. No.		56926... Ident. No.	
2	7 x 7 x 75 mm	Nickel plated	No	720	●	720	●
3	8 x 8 x 75 mm	Nickel plated	No	730	●	730	●
4	9 x 9 x 80 mm	Nickel plated	No	740	●	740	●
5	10 x 10 x 80 mm	Nickel plated	No	750	●	750	●
6	12 x 12 x 85 mm	Nickel plated	No	760	●	760	●
8	14 x 14 x 90 mm	Nickel plated	No	780	●	780	●
10	16 x 16 x 90 mm	Nickel plated	No	800	●	800	●

Prod. Gr. 577

ORION® Number and letter punch set

for manual use with depth limitation

Application:
For labelling parts

Execution:
- With depth limit
- Standard lettering
- Exactly in the centre
- DIN 1451 typeface
- Close-spaced lettering
- Hardness at end of writing: 58-60 HRC
- Maximum strength: 1200 N/mm²
- Nickel-plated

Delivery:
In plastic box

			Character type provided	Numbers		Letters	
			Number of stamps (PCS)	9		27	
Character height (mm)	Length x width x height	Surface	With depth limiter	56930... Ident. No.		56932... Ident. No.	
1	7 x 7 x 75 mm	Nickel plated	Yes	010	●	010	●
1.5	7 x 7 x 75 mm	Nickel plated	Yes	015	●	015	●
2	7 x 7 x 75 mm	Nickel plated	Yes	020	●	020	●
2.5	7 x 7 x 75 mm	Nickel plated	Yes	025	●	025	●
3	8 x 8 x 75 mm	Nickel plated	Yes	030	●	030	●
4	8 x 8 x 75 mm	Nickel plated	Yes	040	●	040	●
5	9 x 9 x 80 mm	Nickel plated	Yes	050	●	050	●
6	11 x 11 x 80 mm	Nickel plated	Yes	060	●	060	●
8	12 x 12 x 85 mm	Nickel plated	Yes	080	●	080	●
10	14 x 14 x 90 mm	Nickel plated	Yes	100	●	100	●

Prod. Gr. 577

DYMO® Labelling devices

LabelManager 280 P and 420 P

Execution:
- **Ident. No. 032–033:**
  - PC connection option
  - QWERTY keyboard
  - Large display for 2 lines of label text
  - 3 fonts
  - 6 font sizes
  - 7 font styles
  - 8 box shapes
- **Ident. No. 036–037:**
  - Portable, high-performance label printer with PC connection
  - Four-line, backlit display
  - Printable barcodes
  - Labelling tape

Delivery:
Ident. No. 032, 036: Electronic label printer, D1 starter label cartridge (black on white) 12 mm x 3 m, USB cable, battery set, quick user guide and warranty card.
Ident. No. 033: Electronic label printer, 2 x black on white D1 tapes, 12 mm x 7 m, battery set, USB cable, charging adapter, quick user guide and manuals, warranty card
Ident. No. 037: Electronic label printer, 4 x black on white D1 tapes, 12 mm x 7 m, battery set, USB cable, charging adapter, quick user guide and manuals, warranty card

Technical data:
- Belt type: D1
- Type of rechargeable battery/battery: Li-Ion

Ident. No. 032

Ident. No. 033

Ident. No. 037

Model		LM 280	LM 280 SET	LM 420 P	LM 420 P SET
Suitable for band width		6 mm | 9 mm | 12 mm	6 mm | 9 mm | 12 mm	6 mm | 9 mm | 12 mm | 19 mm	6 mm | 9 mm | 12 mm | 19 mm
56959...	Ident. No.	032 ●	033 ●	036 ●	037 ●

Prod. Gr. 578

DYMO Labeller

LabelManager 160 and LabelManager 210 d

Execution:
- Can be used as table set or as hand-held device
- Simple operation, logical navigation
- Manual tape cutter
- Extensive symbol selection

Delivery:
12-mm labelling tape, black on white, operating manual, without batteries, no mains adapter

Technical data:
- Belt type: D1
- Type of rechargeable battery/ battery: NiCd

Ident. No. 041

Ident. No. 042

Model		LM 160+	DYMO LM 210 d
Suitable for band width		9 mm | 12 mm | 6 mm	6 mm | 9 mm | 12 mm
56959...	Ident. No.	041 ●	042 ●

Prod. Gr. 578

Accessories for		56959 041
56959... Mains adapter For all DYMO labellers	Ident. No.	120 ●

Accessories for		56959 042
56959... Mains adapter For all DYMO labellers	Ident. No.	120 ●

DYMO Labeller LM 500 TS

With touchscreen

Execution:
- For tape widths from 6 to 24 mm
- Large colour touchscreen
- QWERTY keyboard
- Automatic tape cutter
- 10 fonts
- 25 font sizes
- 32 text styles
- Frame and cliparts
- Prints at 300 dpi resolution
- PC connection

Delivery:
D1 black on white starter tape, li-ion battery, charger, USB cable, operating manual

Technical data:
- Model: LM 500 TS
- Suitable for band width: 6 mm | 9 mm | 12 mm | 19 mm | 24 mm
- Belt type: D1
- Type of rechargeable battery/battery: Li-Ion

56959...	Ident. No.	050 ●

Prod. Gr. 578

DYMO D 1 label tapes

For devices LM 280, LM 420, LM 160, LM 210, LM PnP

Execution:
- Durable plastic labels from a single cartridge (one-tape system)
- For equipment in the LM and LP model series

Technical data:
- Belt type: D1
- Length of tape: 7 m
- Material: PES - Polyester

Ident. No. 150

Width of band (mm)		6		9		12		19		24	
Colour of tape	Lettering colour	56962... Ident. No.		56962... Ident. No.		56962... Ident. No.		56962... Ident. No.		56962... Ident. No.	
Transparent	Black	210	●	110	●	010	●	310	●	410	●
White	Black	240	●	140	●	040	●	340	●	420	●
Yellow	Black	290	●	190	●	090	●	390	●	490	●
White	Blue	-	-	150	●	050	●	-	-	-	-
Blue	Black	-	-	170	●	070	●	370	●	-	-
Red	Black	-	-	180	●	080	●	380	●	480	●
Green	Black	-	-	200	●	100	●	400	●	-	-
White	Red	-	-	-	-	060	●	-	-	-	-

Prod. Gr. 578

PARAT PROFI-LINE toolboxes

Execution:
- Made of polypropylene, black
- 1 end-to-end carrying handle with locking function
- 2 locks
- 1 small parts magazine, removable
- 1 tray, removable
- 1 fixture for a padlock

Delivery:
contains no tools

Technical data:
- Material: PP - Polypropylene

Ident. No. 010

Ident. No. 020

Ident. No. 030

Internal length x internal width x internal height		180 x 400 x 210 mm	205 x 435 x 235 mm	220 x 530 x 260 mm
55390...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 5IB

PARAT Tool bags and tool backpack

Made of durable nylon fabric

Execution:
- **Ident. No. 010:**
  - Internal: Large main compartment with 8 tool compartments, 8 rubber loops, 2 other large main compartments
  - External: 7 compartments, 2 of which can be closed, 1 measuring tape holder made of metal, 1 drawer for address label, 2 lashing loops for spirit level
  - Reinforced base with integrated glide runners
  - Low tare weight and high-quality carrying handles
- **Ident. No. 020:**
  - Tool bag with 17 stitched tool compartments inside and outside
  - as well as many other large and small storage compartments
  - Plastic-reinforced bag base
  - Metal carrying handle and additional shoulder strap
  - Protective cover made of nylon
- **Ident. No. 030:**
  - 15 tool compartments, 6 rubber loops and 4 other spacious storage compartments
  - Separate laptop compartment for devices up to 14 inches
  - Plastic-reinforced base and padded back panel
  - Padded carry strap, chest and waist belt
- **Ident. No. 040:**
  - Round, bucket-like tool bag with large capacity
  - 12 internal and 37 external tool compartments
  - Practical carrying and shoulder strap

Delivery:
Ident. No. 010: With shoulder strap

Ident. No. 010

Ident. No. 020

Ident. No. 030

Ident. No. 040

Length x width x height		465 x 270 x 350 mm	470 x 210 x 350 mm	-	305 x 305 x 370 mm
Colour		Black with red contrast	Black with red contrast	-	Black with red contrast
55467...	Ident. No.	010 ●	020 ●	030 ●	040 ●

Prod. Gr. 5IB

Open textile tool bag

With support rod and removable, padded shoulder strap

Execution:
- Combination of extremely sturdy polyester textile material and robust, watertight plastic floor.
- PVC overmould zipper for easy handling
- Numerous pockets, brackets and rubber straps for stowing various tools
- Water level bracket, Velcro strips for long tools
- Special bag for hand saw
- Soft, comfortable carrying handle

Technical data:
- Material: Polyester fibre
- With carry belt: Yes
- Internal length x internal width x internal height: 470 x 355 x 230 mm

55469...	Ident. No.	010 ●

Prod. Gr. 519

ORION synthetic leather tool bag

Made of synthetic leather

Execution:
- With zip
- With rubber retaining straps
- Without contents
- Size when open: length x width 500 x 275 mm, when closed 240 x 275 x 35 mm

Delivery:
contains no tools

Technical data:
- Material: Synthetic leather
- Length: 500 mm

without contents

55400...	Ident. No.	010 ●

Prod. Gr. 598

Tool belt bag PARABELT

Execution:
- Made from high-quality strong nylon
- With 7 tool compartments and one large main compartment
- Hammer holder and snap hook
- Press stud clip for belt fastening

Technical data:
- Material: Nylon (polyamide)

55409...	Ident. No.	010 ●

Prod. Gr. 5IB

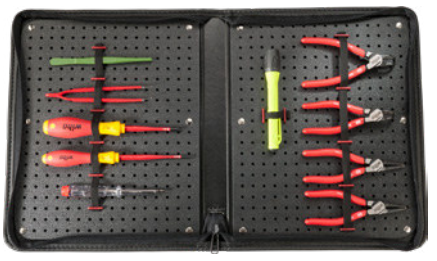
PARAT tool bag made of synthetic leather

Made of synthetic leather, black

Execution:
- Black
- With zip
- 2 perforated panels
- 20 band clips
- Rubber band to fit the tools to suit your personal requirements
- Transparent compartment on the outside for business cards
- Size when open: length x width 620 x 250 mm, when closed 310 x 250 x 30 mm

Delivery:
contains no tools

Technical data:
- Material: Synthetic leather
- Length: 310 mm



55402...	Ident. No.	010 ●

Prod. Gr. 5IB

Roll-up tool roll

Made of durable nylon fabric

Execution:
- Stitched tool compartments in different sizes
- Practical buckled belt, adjustable length, with snap-in closure
- Robust and wear-resistant nylon fabric

Delivery:
contains no tools

Technical data:
- Colour: Black with red contrast

Ident. No. 070

Number of compartments (PCS)		8	12	15	20
55405...	Ident. No.	050 ●	060 ●	070 ●	080 ●

Prod. Gr. 5IB

Tool bag

With central partition, cowhide, black, textured

Execution:
- Adjustable carry strap
- **Ident. No. 010:**
  - 17 easily accessible tool compartments
  - Compact companion in your daily work
  - PARAT snap-in lock for secure closure
  - Robust thanks to genuine leather and aluminium reinforcement
  - Transparent patch pocket in the pocket lid
- **Ident. No. 015:**
  - Front, back and central panels with 17 tool compartments
  - Transparent compartment in the cover
  - Cowhide material
  - Transparent keep-safe compartment in the cover
  - PARALOCK magnetic closure for easy one-hand operation
  - Reinforcement made from Con-Pearl®/polypropylene

Delivery:
contains no tools

Technical data:
- Material: Cowhide leather
- Number of compartments: 17 PCS
- With carry belt: Yes

Ident. No. 010

Ident. No. 015

Internal length x internal width x internal height		220 x 140 x 250 mm	230 x 140 x 300 mm
Length (mm)		220	230
55430...	Ident. No.	010 ●	015 ●

Prod. Gr. 5IB

Tool bags

Cowhide, black, textured

Execution:
- Black, grained
- **No. 55435:**
  - The base and side panels are made of shatter-proof and moisture-resistant HDPE plastic
  - Main bag section reinforced with aluminium corners
  - Parat snap-in locks
  - Semi-fold-out front panel, with 11 loops
  - Rear panel with 9 fixed plastic loops
  - Ring caps for carry strap
- **No. 55445:**
  - Reinforced panels and base
  - Sheet steel base tray
  - With castors
  - Reinforced corners
  - Ratchet locks
  - CP-7 tool holders on the central and back panels.
  - Fold-out front panel with zips
  - With keep-safe compartment and pocket for small parts

Delivery:
contains no tools

Technical data:
- Material: Cowhide leather
- With carry belt: No

No. 55435

No. 55445

Number of compartments (PCS)		20	10
Internal length x internal width x internal height		420 x 160 x 250 mm	415 x 165 x 275 mm
55435...	Ident. No.	650 ●	-
55445...	Ident. No.	-	020 ●

Prod. Gr. 5IB

Tool bags
With central panel, cowhide/ABS plastic, black, textured

Execution:
- Leather/ABS plastic, black, grained
- centre panel with CP-7 tool holder for tools up to 11 mm and 15 mm in diameter
- Semi-fold-out front and rear panels with
- CP7 tool holders for tools up to 26 mm in diameter
- Carrying handle with recessed grip, handle hole
- Ratchet locks
- Ring caps for carry strap

Delivery:
contains no tools

Technical data:
- Material: Cowhide leather
- Number of compartments: 10 PCS
- With rollers: No
- With carry belt: Optional
- Internal length x internal width x internal height: 460 x 210 x 340 mm

55448...	Ident. No.	060 ●

Prod. Gr. 5IB

Top Line tool bag with drawers
With drawers

Execution:
- 4 section drawer tray
- Black, grained, with glide runners
- Snap-in locks
- Aluminium-reinforced case corners
- Semi-fold-out rear panel with CP-7 tool holder for tools up to 26 mm in diameter
- Removable tray
- With small parts compartments

Delivery:
contains no tools

Material		Synthetic leather
With rollers		No
With carry belt		No
Internal length x internal width x internal height		410 x 190 x 280 mm
55460...	Ident. No.	040 ●

Prod. Gr. 5IB

Top Line tool bag with drawers
With drawers

Execution:
- Black, grained
- Reinforced panels and base
- With castors
- Ratchet locks
- Drawer set, 5 pcs, with small parts compartments
- Partition compartment (90 mm) behind the drawers, includes tray
- Fold-out front panel
- Rear panel with CP-7 tool holder for tools up to 15 mm in diameter

Delivery:
contains no tools

Material		Cowhide leather
With rollers		No
With carry belt		No
Internal length x internal width x internal height		410 x 220 x 310 mm
55460...	Ident. No.	060 ●

Prod. Gr. 5IB

Fabric tool shoulder bag with shoulder strap
With removable tool boards

Application:
Mobile use, easy to keep organised with removable tool boards

Execution:
- Shoulder bag with shoulder strap
- 2 spacious outer pockets, equipped with two plastic assortment boxes, can be removed
- 2 tool boards that can be removed individually, equipped with plug-in rails
- Sturdy and durable Cordura Nylon fabric

Technical data:
- Number of compartments: 8 PCS
- Width x height x depth: 200 x 300 x 100 mm
- Colour: Black
- With rollers: No
- With carry belt: Yes

55391...	Ident. No.	010 ●

Prod. Gr. 538

Tool bag

Execution:
- Made from extremely durable nylon
- High-quality and durable zips
- Splash-proof base
- Technician's notebook tool case with removable tool trays
- Handle and carry belt
- Lined inner pocket for safely carrying a laptop; a patch pocket with rip-tape fastening on each side
- Shielded compartment for documents

Delivery:
contains no tools

(Contents not included)

Length x width x height		450 x 450 x 200 mm
With rollers		No
Colour		Black
Capable of flying		No
55466...	Ident. No.	010 ●

Prod. Gr. 538

Backpack

Execution:
- Made from extremely durable nylon
- High-quality and durable zips
- Splash-proof base
- Colour black
- Padded rucksack carry system with hip and chest belts
- Padded laptop sleeve
- Removable tool tray
- Front side can be folded up 90°

Delivery:
contains no tools

(Contents not included)

Length x width x height		350 x 350 x 230 mm
With rollers		No
Colour		Black
Capable of flying		No
55466...	Ident. No.	020 ●

Prod. Gr. 538

Tool box
Made of sheet steel

Application:
For the safe transport of your tools

Execution:
- extremely sturdy design
- Folding tubular carry handle
- Lid with projecting edges and continuous piano hinge, lockable with a padlock (not included in scope of delivery)
- Hammered, blue

Technical data:
- Material: Sheet steel
- Colour: Blue
- With handle: Yes
- Lock type: Optional with padlock

Design		Three-piece	Five-piece	Five-piece	Five-piece
Width x height x depth		430 x 200 x 150 mm	431 x 200 x 200 mm	530 x 200 x 201 mm	600 x 200 x 202 mm
52621...	Ident. No.	010 ●	020 ●	030 ●	040 ●

Prod. Gr. 582

ATORN Tool cases and roller cases

Suitable for air transport, made of ABS plastic, black

Application:

Ident. No. 110: For practical transport of tools

Execution:

- **Ident. No. 020:**
  - Made of black ABS plastic
  - With solid aluminium frame
  - Castors
  - Ratchet hinge
  - Anti-tilt cylinder locks
  - Tool trays made from Con-Pearl, with 25 pockets
  - 400-mm keep-safe compartment
  - Cover flap with 15 pockets and keep-safe compartment
  - Base tray with cover panel, can be divided as required
- **Ident. No. 110:**
  - Made of ABS plastic
  - Black
  - 4x telescopic drawer, 1050 mm in length
  - Tool panel with 25 pockets and 400-mm keep-safe compartment
  - Cover flap with 15 pockets and 400-mm keep-safe compartment
  - Inner tray can be partitioned as required

Advantage:

- **Ident. No. 110:** Extremely stable and easy to pull/push thanks to large castors with wide wheelbase

Delivery:

contains no tools

Ident. No. 020
(Contents not included)

Ident. No. 110
(Contents not included)

Product video: YouTube ID: I1dxsOW1hkY

Number of compartments (PCS)		43	43
Internal length x internal width x internal height		470 x 200 x 360 mm	470 x 210 x 365 mm
Load-carrying capacity		30	32
Volume (l)		31	34
Material		ABS	ABS
Capable of flying		Yes	Yes
55464...	Ident. No.	020 ●	110 ●

Prod. Gr. 538

ATORN Tool shell case, portable or mobile

Suitable for air transport, made of ABS plastic

Application:

for practical tool transportation

Execution:

- Robust aluminium frame with impact edge protection protects the tools and case
- 2 toggle locks and Icode combination lock for security
- 4 additional feet prevent the shell from being scratched and improve stability
- document compartment in A4 format
- removable cover panel with 15 tool compartments
- variable base shell (2 aluminium dividers, 4 end caps, 2 middle caps)
- **Ident. No. 100:**
  - High-impact-resistant ABS material with ergonomic carrying handle
  - With hinge cover and safety lid holder
  - detachable tool panel with 22 tool compartments on front and rear
- **Ident. No. 150:**
  - Made of ABS with user-friendly telescopic handle and 2 inline castors
  - robust, comfortable carrying handle
  - hinged cover and security lid holder with catch
  - detachable tool panel with 23 tool compartments on front and rear

Advantage:

- **Ident. No. 150:** Good handling, massive capacity, modern design

Ident. No. 100

Ident. No. 150

Internal length x internal width x internal height		470 x 370 x 190 mm	485 x 375 x 200 mm
Load-carrying capacity (kg)		30	30
Volume (l)		33	36
Material		ABS	ABS
Capable of flying		Yes	Yes
Weight (kg)		-	6.6
55465...	Ident. No.	100 ●	150 ●

Prod. Gr. 538

ATORN Tool case

Execution:
- With one-sided tool panel and plug-in options in lid
- Stitched nylon pockets
- Sturdy aluminium frame, plastic floor glides
- Spacious base shell, freely dividable
- Comfortable carrying handle, lockable buckle locks

Technical data:
- Number of compartments: 7 PCS
- Internal length x internal width x internal height: 450 x 318 x 140 mm

55463...	Ident. No.	010 ●

Prod. Gr. 538

B&W International Rolling tool case, orca pockets

Shell made of HDPE plastic, aluminium frame

Execution:
- Case trays made from highly impact-resistant HDPE plastic
- Robust aluminium frame, gas pressure springs on the lid
- 3 metal hinges with hinge cover
- Removable lightweight plastic tool panels in the lid
- Lockable telescopic handle
- TSA combination lock, lockable
- Full-length wheel axle, wide castors
- 2 detachable tool panels in cover with 23 pockets on front and rear
- Removable cover panel for bottom tray with 15 pockets, bottom tray can be partitioned as required, with cover panel, document compartment in lid

Delivery:
Without tools

Technical data:
- Length x width x height: 533 x 440 x 280 mm
- Internal length x internal width x internal height: 500 x 373 x 228 mm
- Material: HDPE - High density polyethylene
- Capable of flying: Yes

55475...	Ident. No.	025 ●

Prod. Gr. 538

PARAT King-size tool case with wheels

Made of X-ABS plastic, extremely impact-resistant, suitable for air transport

Execution:
- Case trays made from X-ABS plastic, extremely tough, suitable for air transport
- 4x telescopic extension, 1050 mm in length, extra-wide, powder-coated
- Rubberised, large bearing-mounted rollers; wide wheel base
- Inner double aluminium frame
- Ratchet hinge
- Anti-tilt cylinder locks
- Castors
- Tool trays made from Con-Pearl
- **Ident. No. 010:**
  - Loadability up to 30 kg
  - Tool tray with 25 pockets and 400-mm keep-safe compartment, tool tray with 10 pockets, cover panel with 15 pockets and 400-mm keep-safe compartment, inner tray can be partitioned as required (approx. 88 mm in height), document compartment in lid, lockable lid holder
- **Ident. No. 020:**
  - Carrying capacity up to 40 kg
  - Tool tray with 31 pockets, tool tray with 12 pockets, cover panel with 19 pockets and 530-mm keep-safe compartment, base tray with partitioned compartment 540 x 88(63) x 223 mm and fixed compartment 540 x 57 x 140 mm, document compartment in lid, retaining straps for a spirit level in the lid and lockable lid holder

Advantage:
- Extremely tough
- Possible to push or pull the case
- Rubberised, large bearing-mounted rollers; wide wheel base as the case is rolled on its long side making it unlikely to tilt, and ensuring tools inside do not move around much

Delivery:
contains no tools

Internal length x internal width x internal height		470 x 200 x 360 mm	575 x 220 x 425 mm
Material		ABS	ABS
Capable of flying		Yes	Yes
55476...	Ident. No.	010 ●	020 ●

Prod. Gr. 5IB

Ident. No. 010

Ident. No. 020

Tool case

Execution:
- Case shell made from highly impact-resistant ABS plastic
- Tool panel with 23 pockets
- Cover panel with 15 pockets
- Separately dividable base tray with rigid dividers
- Document compartment in lid
- **Ident. No. 500:**
  - Robust aluminium frame with edge protection against impact
  - 2 lockable anti-tilt locks, one 3-digit padlock
- **Ident. No. 600:**
  - robust aluminium frame with edge protection against impact
  - 3 lockable anti-tilt locks, one 3-digit padlock
  - With inline rollers and telescopic handle

Delivery:
Ident. No. 500: Contains no tools

Internal length x internal width x internal height		455 x 160 x 345 mm	485 x 195 x 350 mm
Material		ABS	ABS
Capable of flying		No	No
55481...	Ident. No.	500 ●	600 ●

Prod. Gr. 538

Ident. No. 500
(Contents not included)

Ident. No. 600

Roller tool case Rock 350 PTS

Execution:
- Case linings produced from HDPE (fibre glass-reinforced plastic)
- Connected by interlocking aluminium frames
- Document pocket in cover, 2 tool panels with plug-in pockets
- Base shells filled with pre-cut foam
- 2 TSA locks

Delivery:
contains no tools

Technical data:
- Model: Rock 350 PTS
- Internal length x internal width x internal height: 470 x 390 x 347 mm
- Load-carrying capacity: 40 kg
- Material: HDPE - High density polyethylene
- Capable of flying: Yes

55496...	Ident. No.	030 ●

Prod. Gr. 538

Tool case

Made of X-ABS plastic, black, extremely impact-resistant, suitable for air transport

Execution:
- Made of X-ABS plastic
- Black
- Extremely tough
- Suitable for air transport
- With solid aluminium frame
- Castors
- Ratchet hinge with lock
- Anti-tilt cylinder locks
- Tool panel with 25 pockets and 400-mm keep-safe compartment
- **Ident. No. 010:** Tool tray with 10 pockets, cover panel with 15 pockets, 400-mm keep-safe compartment, base tray with cover panel, height 58 mm, can be partitioned as required, document compartment in lid
- **Ident. No. 120:** Cover panel with 15 pockets, 400-mm keep-safe compartment, base tray with cover panel, height 88 mm, can be partitioned as required, document compartment in lid

Delivery:
contains no tools

Internal length x internal width x internal height		460 x 190 x 310 mm	470 x 210 x 360 mm
Material		ABS	ABS
Capable of flying		Yes	Yes
55485...	Ident. No.	010 ●	120 ●

Prod. Gr. 5IB

Ident. No. 010

Ident. No. 120

Tool case “Basic Move”

Roller cases

Execution:
- sturdy design, made from ABS material, black
- Full aluminium frame
- central combination lock and two integrated toggle locks, lockable
- sturdy carrying handle, metal hinges
- document compartment in lid
- removable tool panel with pockets
- base shell height 55 mm, cover panel with tool bags
- With sturdy inline conveyor rollers
- Sturdy telescopic extension

Technical data:
- Internal length x internal width x internal height: 515 x 280 x 430 mm
- Material: ABS

55474...	Ident. No.	020 ●

Prod. Gr. 535

Polypropylene tool case

Extremely resilient, suitable for air transport

Execution:
- Impact-resistant polypropylene case, super-stable and can be stacked
- Automatic air-pressure equalisation valve
- Dustproof and waterproof to IP 67
- Ergonomic two-component handles
- Eyelets for padlock
- Solid telescopic handle resistant to torsion
- Temperature-resistant from -30°C to +80°C
- Volume 38 l, max. payload 50 kg
- Internal features: A4 document compartment, removable tool tray in lid with 22 tool pockets on the front and back, removable cover panel for the base tray with 14 tool pockets, base tray can be partitioned as required by aluminium partition system

Advantage:
- Indestructible and shatterproof
- Easy to move around thanks to two large inline rollers

Delivery:
contains no tools

Model		JUMBO6700
Internal length x internal width x internal height		535 x 360 x 225 mm
Material		PP - Polypropylene
Capable of flying		Yes
55481...	Ident. No.	710 ●

Prod. Gr. 538

Leather tool bag with VDE tool assortment, 17 pieces

Execution:
- Robust, locking leather tool bag
- VDE tools according to DIN EN 60900
- Pliers with two-component handle and chrome-plated head
- Screwdriver with protective insulation and ergonomic two-component handle

Advantage:
- Produced to the highest standard of quality and tested individually

Delivery:
- 1 each of VDE screwdriver, slotted 2.5/3.5/5.5/8.0
- 1 each of VDE screwdriver Phillips PH1, PH2
- 1 x VDE combination pliers 180 mm
- 1 x VDE side cutters 160 mm
- 1 x VDE snipe nose pliers 200 mm
- 1 x VDE water pump pliers 250 mm
- 1 x automatic wire stripping pliers
- 1 x cable knife with hooked blade
- 1 x machinist’s hammer 300 g
- 1 x universal switch cabinet key
- 1 x voltage tester screwdrivers

Technical data:
- VDE certified: Yes

52560...	Ident. No.	300 ●

Prod. Gr. 582

ORION® Hard tool case with tool assortment, 48 pieces

60 pieces

Execution:
- Highly impact-resistant ABS plastic
- With solid aluminium frame
- With castors and ratchet hinges
- Lockable anti-tilt cylinder locks
- equipped with high-quality and robust ATORN, ORION and branded tools

Advantage:
- For heavy-duty use

Delivery:
1x wooden folding rule 2 m / 1x aluminium spirit level 400 mm / 1x tape rule 3 m / 12x combination wrenches AF 6/7/8/9/10/11/12/13/14/15/16/17 mm / 3x slotted screwdrivers 4.0x100/5.5x100/8x175 mm / 2x cross-head screwdrivers PH 1/PH 2 / 4x VDE slotted screwdrivers 2.5x75/3x100/4x100/5.5x125/6.5x150 mm / 2x VDE cross-head screwdrivers PH 1/PH 2 / 1x voltage tester 3x65 mm / 1x automatic wire-stripping pliers / 1x safety knife / 1x tweezers 110 mm / 1x all-purpose shears / 1x diagonal cutters 165 mm / 1x snipe-nose pliers 160 mm / 1x water pump pliers 240 mm / 2x cross-peen hammers 200/500 g / 1x combination pliers 180 mm / 1x plastic hammer 32 mm / 1x reamer 100 mm / 1x scriber / 1x flat chisel 175 mm / 1x set, 6 pieces (5x drift punches 2-6 mm, 1x centre punch) / 3x engineer's files with handle 150 mm H2: flat/round/half-round / 8x hex screwdrivers 2-10 mm / 1x metal saw bow with blade 300 mm / 1x screw clamp 200 mm

52560...	Ident. No.	500 ●

Prod. Gr. 580

ATORN Hard tool case with tool assortment, 48 pieces

48 pieces

Execution:
- Made of highly impact-resistant ABS plastic
- With solid aluminium frame
- With glide runners
- Ratchet hinges
- With tilting cylinder locks
- Equipped with high-quality and robust ATORN tools

Advantage:
- For high loads

Delivery:
- 9 x combination wrenches AF 8/10/13/14/15/16/17/18/19 mm
- 2 x Phillips screwdrivers PH 1 x 80 mm, PH 2 x 100 mm
- 1 x hexagon socket wrench set long, with ball head AF 1.5–10
- 1 x TX wrench set with ball head TX 9–40
- 3 x slotted screwdrivers 4.5 x 90 mm/6.5 x 125 mm/8.0 x 150 mm
- 1 x machinist's hammer 500 g
- 1 x combination pliers 180 mm
- 1 x snipe nose pliers
- 1 x side cutters 165 mm
- 1 x water pump pliers 250 mm
- 1 x aluminium handsaw bow 300 mm
- 10 x saw blades for metal
- 1 x folding rule 2 m

52560...	Ident. No.	600 ●

Prod. Gr. 582

ATORN Roller tool case with tool assortment, 38 pcs

Execution:
- Made of highly impact-resistant ABS plastic
- With solid aluminium frame
- With glide runners and ratchet hinges
- With tilting cylinder locks
- Equipped with high-quality and robust ATORN tools

Delivery:
- 1 x roller case 470 x 190 x 360 mm
- 1 x combination spanner set, 9 pcs 8–19 mm
- 1 set of hexagon socket screwdrivers 9 pcs
- 1 x TX screwdriver, hinged holder 8 pieces
- Screwdrivers, 1 each of 4.5 x 90 mm, 6.5 x 125 mm, 8.0 x 150 mm
- Screwdrivers 1 each PH 1 x 80 mm, PH 2 x 100 mm
- 1 x 3C machinist's hammer 0.300 kg
- 1 x combination pliers, 180 mm, 2-component grip
- 1 x snipe nose pliers, 200 mm, curved, 2 component grip
- 1 x water pump pliers 250 mm, chrome-plated
- 1 x side cutters, 165 mm, 2-component grip
- 1 x soft-face hammer, no recoil, 30 mm
- 1 x utility knife with 18 mm snap-off blade

52560...	Ident. No.	700 ●

Prod. Gr. 582

ATORN Tool case with tool assortment, 50 pcs

Application:
Tool case equipped with wide range of tools, with hard foam inlay – all tools are neatly laid out and held securely.

Execution:
- Robust and durable tools in industrial quality
- Screwdriver, pliers and reversible ratchet with two-component handles with perfect ergonomic functionality
- case external dimensions: H 440 x W 505 x D 130 mm

Advantage:
- Case features sandwich frame construction that affords the case a large carrying capacity
- Fasteners closed with your knees firmly press the case together and give it excellent stability
- Softtouch grip; provides support and comfort when being worn
- Easy to open the case on both sides; tools are held securely in foam and cannot fall out
- Partition panel in the centre of the case also provides optimum protection for tools

Delivery:
- 1 x combination spanner set DIN 3113 A, chrome-plated 8 pieces, size 8–19 mm
- 1 x hexagonal socket wrench inserts 1/2 inch, size 10 to 24 mm
- 1 x hexagonal spark plug insert 1/2 inch with rubber insert size 20.8
- 1 x reversible ratchet 1/2 inch with quick release button 255 mm
- 1 x handle with sliding piece 1/2 inch and cardan joint 70 mm
- 1 x extension 1/2 inch, 125 mm and 250 mm
- 1 x hexagonal ball head T-handle wrench set, 9 pcs, long, size 1.5–10 mm
- Workshop screwdrivers, slotted, 1 each of 0.8 x 4.5/1.0 x 5.5/1.2 x 6.5 mm
- Phillips screwdrivers, 1 each PH 1 x 80 mm, PH 2 x 100 mm
- 1 x machinist's hammer, DIN 1041 with nylon shaft protection sleeve, 300 g
- 1 x water pump pliers 250 mm
- 1 x combination pliers, 180 mm
- 1 x side cutters 160 mm
- 1 x VDE single-pole voltage tester, 150–250 volts
- 1 x pocket tape rule, end hook with magnet, 5 metres
- 1 x snipe nose pliers, bent, 200 mm
- 1 x universal knife, with 18-mm snap-off blade
- 1 x LED pen lamp incl. battery
- 1 x universal voltage tester, 6–24 volts

Technical data:
- Number of pieces in assortment/set: 50 PCS

52560...	Ident. No.	800 ●

Prod. Gr. 582

GEDORE Tool case with Touring 1000 tool assortment

Touring 1000

Execution:
- 49 professional tools
- Robust industrial grade
- In a handy plastic case
- External case dimensions 437 x 397 x 160 mm

Advantage:
- Tool assortment based on practical experience

Delivery:
11x combination wrenches 6/7/8/10/11/12/13/14/15/17/19 mm / 3x slotted screwdrivers 4/5.5/6.5 mm / 2x cross-head screwdrivers PH 1-2 / 8x hex screwdrivers in holder 2/2.5/3/4/5/6/8/10 mm / 1x flat-pointed pliers 180 mm / 1x diagonal cutters 160 mm / 1x water pump pliers 250 mm / 9x hexagon sockets 1/2 inch drive AF 10/11/12/13/14/15/17/19/22 mm / 1x reversible ratchet 1/2 inch / 1x cardan joint / 2x extensions 125/250 mm / 1x voltage tester / 1x cross-peen hammer 300 g / 1x cable knife / 1x striking tool set of 6 pieces, chisel, pin punch, centre punch

Technical data:
- Number of pieces in assortment/set: 49 PCS

52620...	Ident. No.	015 ●

Prod. Gr. 530

HAZET Tool case with tool assortment

Execution:
- Tools neatly laid out and secure in two-tone soft foam inlay
- Impact-resistant plastic case tray
- 56 pieces
- External dimensions 445 x 360 x 106 mm, content

Delivery:
1x each double open-end wrench 6x7/8x9/10x-11/12x13/14x15/16x17/18x19/21x22 mm / 1x each slotted screwdriver 4/5.5/6.5 mm / 1x each cross-head screwdriver PH 1/PH 2/PZ 2 / 1x each L-shaped hex key 2/3/4/5/6/8 mm / 1x TX foldaway holder, TX 9/10/15/20/25/27/30/40 / 1x reversible ratchet 3/8 inch / 1x each extension 74, 150 mm, 3/8 inch / 1x each hexagon socket 8/10/11/12/13/14/15/16/17/18/19/20/21/22, 3/8 inch / 1x universal pliers 260 mm / 1x universal knife 160 mm / 1x tape rule 2 m / 1x universal shears 180 mm / 1x cross-peen hammer 500 g / 1x LED torch 150 mm / 1x metal saw bow 150 mm / 1x diagonal cutters 165 mm / 1x transparent container

52620...	Set in case with 56 tools	Ident. No.	030 ●

Prod. Gr. 569

HEYCO HEYTEC assembly tool box

includes tool modules

Execution:
- 5-piece sheet steel tool box in hammertone blue
- lid can be closed using a U-lock
- 96-piece industrial tool assortment stored in 5 hard foam modules
- external dimensions of case 530x200x200 mm, complete weight 14.5 kg

Advantage:
- clear and orderly tool placement
- easily check whether the contents are complete at a glance.

Delivery:
1x each combination wrench 8/10/11/12/13/14/15/16/17/19/22/24 mm / 1x each slotted screwdriver 4/5.5/6.5 mm / 1x each cross-head screwdriver PH 1/PH 2 / 1x each L-shaped hex key 1.5/2/2.5/3/4/5/6/8/10 mm / 1x bit box - 32 pieces with magnetic bit holder and push-fit handle / 1x reversible ratchet 1/2 inch / 1x each extension 125 and 250 mm, cardan joint, 1/2 inch / 1x each hexagon socket 10/11/12/13/14/15/16/17/18/19/20/21/22/24/27/30/32 mm, 1/2 inch / 1x combination pliers 180 mm / 1x utility knife 170 mm / 1x tape rule 5 m / 1x water pump pliers 250 mm / 1x cross-peen hammer 300 g, 1x mallet 1,000 g / 1x LED telescopic torch 195-570 mm / 1x roller open-end wrench 255 mm / 1x diagonal cutters 160 mm / 1x each centre punch, pin punch 3 and 4 mm, drift punch 3 mm

52620...		Ident. No.	050 ●

Prod. Gr. 580

Competence XXL 2 electrician's tool set

115 varied tools in hard shell roller case

Application:
Full range of equipment for the professional electrician for mobile use

Execution:
- Competence XXL 2 electrician's tool set, 115 pieces
- Extremely robust trolley with large inline wheels and cover brake
- Exceptionally large storage space
- 115 high-performance tools securely stored

Delivery:
1x each VDE slotted screwdriver: 3.5/4.0/5.5/6.5/PH 1+2/PZ 1+2/SL PH 1+2/SL PZ 1+2 / 1x Slim-Line interchangeable blade set with VDE torque screwdriver / 1x each VDE socket wrench 5.5/7/8/10/13 mm / 1x each VDE precision screwdriver 2.5/3.0/PH 0/PH 1 / 1x voltage tester and 1x circuit tester / 1x L-shaped hex key set, 1x spirit level, 1x folding rule, 1x switch cabinet key / 1x wire-stripping knife with hook blade / 1x bit set in holder, 1x automatic wire-stripping pliers, 1x VDE water pump pliers / 1x VDE diagonal cutters, 1x heavy-duty diagonal cutters, 1x cable cutters, 1x combination pliers / 1x each VDE snipe-nose pliers straight and bent, 1x electronics pliers / 1x crimping tool for wire ferrules, 1x crimping tool for plug-in connectors / 1x VDE bit holder handle and 1x Stubby bit holder handle

52562...	Competence XXL 2 electrician's set	Ident. No.	020 ●

Prod. Gr. 586

Tool assortment

Files and saws, 11 pieces

Delivery:
1x flat file 300 mm, cut 1 / 1x flat file 300 mm, cut 3 / 1x triangular file 250 mm, cut 1 / 1x triangular file 250 mm, cut 3 / 1x round file 250 mm, cut 2 / 1x square file 250 mm, cut 2 / 1x half-round file 250 mm, cut 2 / 1x file brush / 1x saw bow 300 mm / 1x bi-metal saw blade / 1x chip brush

52561...		Ident. No.	010 ●

Prod. Gr. 6AF

Tool assortment

Hammers, chisels and pliers, 20 pieces

Delivery:
1x cross-peen hammer 300 g / 1x cross-peen hammer 500 g / 1x chisel/drift/centre punch set of 6 pieces / 1x parting chisel 150 mm / 1x pair of safety goggles / 1x slotted screwdriver 6.5 mm / 1x hand brush / 1x pair of ear defenders / 1x three-square scraper 150 mm / 1x utility knife with trapezoidal blade / 1x recoil-free soft-face hammer 40 mm / 1x diagonal cutters 165 mm with two-component handle cover / 1x water pump pliers 250 mm / 1x cross-head screwdriver PH 2

52561...		Ident. No.	020 ●

Prod. Gr. 593

ATORN Tool assortment
for electricians, 18 pieces

Delivery:
- 1 x VDE screwdrivers, 6 pieces, slotted/PH
- 1 x voltage testing screwdriver
- 1 x switch cabinet key
- 1 x VDE combination pliers 180 mm
- 1 x VDE snipe nose pliers 200 mm, angled
- 1 x VDE side cutters 160 mm
- 1 x automatic wire stripping pliers
- 1 x electrician's knife
- 1 crimping pliers 0.25–16 mm²
- 1 x BENNING DUTEST continuity tester
- 1 x LED pen light with batteries
- 1 x ERSA soldering iron Multitip C 25
- 1 x tin solder 250 g

52561...	Ident. No.	030 ●

Prod. Gr. 5HZ

Tool assortment
for industrial electronic technicians, 92 pieces

Delivery:
1x cross-peen hammer 0.4 kg / 1x plastic hammer D 32 / 1x half-round file 200 mm, cut 2 / 1x file handle made of compact and hard wood, 110 mm long / 6x key files 100 mm, cut 2 / 1x mini universal saw bow 240 mm / 9x combination wrenches 8-19 mm / 6x hex screwdrivers 2-6 mm, in plastic pouch / 1x socket set 1/4 inch, 42 pieces / 7x VDE slotted screwdrivers / 1x chrome-plated VDE Langbeck flat-nose pliers 160 mm / 1x chrome-plated, bent VDE snipe-nose pliers 200 mm, 45° / 1x chrome-plated VDE combination pliers 180 mm / 1x VDE diagonal cutters 140 mm / 1x all-purpose shears 190 mm / 1x crimping pliers for insulated connections 210 mm / 1x metal universal key for switch cabinet / 1x comb. shoulder and contact screw wrench / 1x universal cable knife / 1x wire stripper / 1x chrome-plated VDE round-nose pliers 160 mm / 1x chrome-plated VDE diagonal cutters 160 mm / 1x water pump pliers 250 mm / 1x cable and assembly knife / 1x automatic wire-stripping pliers / 1x voltage tester / 1x wire-stripping pliers 160 mm / 1x wooden folding rule 2 m

52560...	Ident. No.	010 ●

Prod. Gr. 580

Tool assortment
for industrial mechanics, 78 pieces

Delivery:
1x spirit level 500 mm / 1x cross-peen hammer 0.5 kg / 1x plastic hammer D 40 / 6x chisels, in metal case / 1x blind rivet pliers, NTS model, in assortment / 1x scriber with steel tip 165 mm / 1x flat file 200 mm, cut 2 / 1x round file 200 mm, cut 2 / 1x half-round file 200 mm, cut 2 / 1x triangular file 200 mm, cut 2 / 4x file handles made of compact and hard wood, 110 mm / 1x chrome-van. three-square scraper 150 mm / 1x metal saw bow for saw blade 300 mm / 10x HSS-Bi.Flex. hand saw blades 300 mm, 24 teeth / 12x combination wrenches AF 10-32 mm / 8x hex screwdrivers 2-10 mm, in plastic pouch / 6x screwdrivers in box / 1x water pump pliers 250 mm / 1x pipe wrench 1 1/2 inch, 425 mm / 1x plain heavy-duty diagonal cutters 160 mm / 1x plain combination pliers 180 mm / 1x chrome-plated triple pliers 160 mm / 1x pliers for circlips, straight 19-60 mm diameter type J 2 / 1x pliers for circlips, straight 19-60 mm diameter type A 2 / 1x stainless steel punch snips, left, 250 mm / 1x stainless steel punch snips, right, 250 mm / 1x square socket set 1/2 inch, in metal case, 13 pieces / 1x prism-jaw locking pliers 250 mm / 1x pocket tape rule 3 m / 1x precision pocket vernier callipers 150 mm / 1x pair of universal safety goggles / 1x safety knife with three trapezoidal blades

52560...	Ident. No.	020 ●

Prod. Gr. 580

Protective headgear

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	Protective headgear, accessories	1702

Eye protection

	Safety glasses	1702
	full-vision safety goggles	1710
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Hearing protection

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Breathing protection

	Particulate-filtering half face masks	1725
	Half face masks	1727
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Hand protection

	Leather protective gloves	1729
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	Welding protection helmet and face shield	1737
	Welding bay and protective welding screen	1751
	Swarf shield	1752

industrial safety helmet (EN standard 397)

Model INAP-Master

Execution:
- Lightweight PE helmet shell
- Universal shape, helmet shell longer at the back to cover the neck
- With rain groove
- With ventilation openings
- Adapter system for visor or helmet shells
- Short brim for extended upwards field of vision
- 6-point webbed harness inside
- With sweatband
- With pinlock fastening for width adjustment
- for temperatures down to -30°C

Technical data:
- Category: II
- EN standard: 397
- Model: INAP-Master
- Min./max. size: 51 cm-64 cm

Ident. No. 020

Ident. No. 021

Ident. No. 022

Ident. No. 023

Ident. No. 024

Ident. No. 025

Colour		Signal white RAL 9003	Sulfur yellow RAL 1016	Traffic orange RAL 2009	Carmine red RAL 3002	Signal blue RAL 5005	Mint green RAL 6029
55813...	Ident. No.	020 ●	021 ●	022 ●	023 ●	024 ●	025 ●

Prod. Gr. 565

industrial safety helmet (EN standard 397)

Model INAP-Profiler

Execution:
- Lightweight PE helmet shell
- Innovative shape, helmet shell slightly longer at the back to cover the neck
- With adjustable ventilation openings
- Adapter system for visor or helmet shells
- Short brim for extended upwards field of vision
- 6-point webbed harness inside
- With sweatband
- With pinlock fastening for width adjustment
- For temperatures down to -20°C

Technical data:
- Category: II
- EN standard: 397
- Model: INAP-Profiler
- Min./max. size: 51 cm-64 cm

Ident. No. 030

Ident. No. 031

Ident. No. 032

Ident. No. 033

Ident. No. 034

Ident. No. 035

Colour		Signal white RAL 9003	Sulfur yellow RAL 1016	Traffic orange RAL 2009	Carmine red RAL 3002	Signal blue RAL 5005	Mint green RAL 6029
55813...	Ident. No.	030 ●	031 ●	032 ●	033 ●	034 ●	035 ●

Prod. Gr. 565

uvex Industrial safety helmets (EN standard 397)

Model: pheos B-S-WR

Execution:
- Lightweight HDPE helmet shell
- With three variable ventilation openings
- Adapter system for visor or helmet shells
- short brim for extended upwards field of vision
- 6-point textile strap interior
- Synthetic leather sweatband
- With dial system for infinite width adjustment
- for temperatures down to -30°C
- protection against weld spatter

Technical data:
- Category: II
- EN standard: 397
- Model: pheos B-S-WR
- Min./max. size: 52 cm-61 cm

Ident. No. 011

Ident. No. 021

Ident. No. 031

Ident. No. 041

Ident. No. 061

p. 1701

Colour		White	Yellow	Orange	Red	Blue
55811...	Ident. No.	011 ●	021 ●	031 ●	041 ●	061 ●

Prod. Gr. 5XA

uvex Safety/mountaineering helmet (EN standard 397 | 12492)

Model: pheos alpine

Application:
Multi-function helmet for working at heights and rescue operations

Execution:
- Lightweight, ABS hat shell
- Adapter system for visors, ear defenders or head lamps
- short brim for extended upwards field of vision
- Fixed riveted four-point chin strap for use in compliance with EN 12492
- Includes chin strap for use in compliance with EN 397
- 6-point textile strap interior
- PU sweatband
- With dial system for infinite width adjustment
- for temperatures down to -30°C

Technical data:
- Category: II
- EN standard: 397 | 12492
- Model: pheos alpine
- Min./max. size: 52 cm-61 cm

Ident. No. 100

Ident. No. 101

Ident. No. 102

Colour		White	Black	Red
55811...	Ident. No.	100 ●	101 ●	102 ●

Prod. Gr. 5XA

uvex Electrician's hard hat (EN standard 397 | 50365)

Model pheos E-WR

Application:
For working on or in the vicinity of live parts

Execution:
- Fully closed helmet shell
- Adapter system for visors, ear defenders or head lamps
- Long peak
- 6-point textile strap interior
- PU sweatband
- With dial system for infinite width adjustment
- for temperatures down to -30°C
- protection against weld spatter

Technical data:
- Category: III
- EN standard: 397 | 50365
- Model: pheos E-WR
- Min./max. size: 52 cm-61 cm

Ident. No. 110

Ident. No. 111

Ident. No. 112

Colour		White	Yellow	Blue
55811...	Ident. No.	110 ●	111 ●	112 ●

Prod. Gr. 5XA

uvex Heat-resistant safety helmet (EN standard 397)

Model thermo boss

Application:
For working in hot industrial conditions, in the chemical industry and in workplaces with high UV radiation

Execution:
- Helmet shell made of heat-resistant polycarbonate
- Adapter system for ear defenders
- Long peak
- 6-point textile strap interior
- Sweatband
- Conventional width adjustment
- For temperatures up to +150°C
- Meets the additional requirements for 440 VAC (danger due to short term, accidental contact with AC voltage up to 440 V)

Technical data:
- Category: II
- EN standard: 397
- Model: thermo boss
- Min./max. size: 52 cm-61 cm

Ident. No. 120

Ident. No. 121

Ident. No. 122

Colour		White	Yellow	Red
55811...	Ident. No.	120 ●	121 ●	122 ●

Prod. Gr. 5XA

uvex Face shield
Model: pheos faceguard

Execution:
- Ready to use: Fully pre-assembled
- Head mount with adjustable height and width
- Cervical spine relief: Rest position centrally above head
- Slim design: Maximum freedom of movement
- Wide neck support
- Continuously adjustable visor lock
- Frame designation: W 166 39 B

Technical data:
- Model: pheos faceguard
- Min./max. size: 52 cm-64 cm
- Marking of safety lens: 2C-1,2 W 1 B 9 KN
- Material of safety lens: Polycarbonate
- Coating: Uvex supravision excellence
- Colour of disc: Colourless
- Non-fogging: Yes
- Scratch-resistant: Yes
- Resistance against: Chemicals
- UV protection: 400 nm

Ident. No. 600

Ident. No. 601

Category		II	III
EN standard		166 | 170	166 | 170 | 352-1
Sound insulation value		-	28 dB
55811...	Ident. No.	600 ●	601 ●

Prod. Gr. 5XA

uvex pheos replacement visor lens (EN standard 166 | 170)

Execution:
- Replacement visor lens for pheos faceguard face shield (ref. no. 55811600-601)

Technical data:
- Category: II
- EN standard: 166 | 170
- Min./max. size: 52 cm-64 cm
- Marking of safety lens: 2C-1,2 W 1 B 9 KN
- Material of safety lens: Polycarbonate
- Coating: Uvex supravision excellence
- Colour of disc: Colourless
- Non-fogging: Yes
- Resistance against: Chemicals
- UV protection: 400 nm

55811...	Ident. No.	602 ●

Prod. Gr. 5XA

uvex Face shield (EN standard 166 | 170)
Model: pheos

Application:
for uvex safety helmets (art. no. 55811 011-061)

Execution:
- Robust and extremely lightweight polycarbonate visor with uvex supravision excellence coating: Anti-fog on the inside, extremely scratch- and chemical-resistant on the outside
- Ergonomic joint system to distribute the weight of all attachments over the body's centre of gravity
- Adapter for mounting in lateral helmet slots
- Frame designation: W 166 38 29 B

Technical data:
- Category: II
- EN standard: 166 | 170
- Marking of safety lens: 2C-1,2 W 1 B 9 KN
- Material of safety lens: Polycarbonate
- Colour of disc: Colourless
- UV protection: 400 nm
- Model: pheos

55811...	Ident. No.	311 ●

Prod. Gr. 5XA

uvex Visor (EN standard 166 | 170)
Model: vimox

Application:
For all uvex safety helmets and many other manufacturer helmets

Execution:
- Complete pre-assembled visor system with polycarbonate visor
- Robust polycarbonate visor with uvex supravision excellence coating: Anti-fog on the inside, extremely scratch- and chemical-resistant on the outside
- Variable locking positions of the visor thanks to spring-loaded mechanism
- Rest position centrally above the head to avoid strain on the neck muscles
- Frame designation: W 166 39 B

Technical data:
- Category: II
- EN standard: 166 | 170
- Marking of safety lens: 2C-1,2 W 1 B 9 KN
- Material of safety lens: Polycarbonate
- UV protection: 400 nm
- Model: vimox

55811...	Ident. No.	312 ●

Prod. Gr. 5XA

ORION® Belt clip for bump caps

Your bump cap is always within reach!

Execution:
- suitable for any hard hat with an adjustable strap
- for attaching to a belt or belt loop

Technical data:
- Colour: Anthracite grey RAL 7016
- Material: Fibre glass reinforced plastic
- Silicone-free: Yes

55815...	Ident. No.	000 ●

Prod. Gr. 565

ATORN Safety glasses (EN standard 166 | 170)

Model: A-View 1

HIGHLIGHT

Application:
Grinding, turning and milling work, precision engineering, workshop, assembly and laboratory work

Execution:
- Sporty safety glasses with state-of-the-art lens geometry for maximum protection
- Perfect eye area coverage due to extended side protection
- Individually adjustable temple length and angle for maximum comfort and perfect fit
- Adjustable, soft nose bridge and soft multi-component temple technology ensure pressure-free and non-slip wearing
- Tested in accordance with EN 166, EN 170
- Frame designation EN166 F T CE UKCA

Category		II
EN standard		166 | 170
Model		A-View 1
Marking of safety lens		2C-1,2 MX 1 FTKN
Material of safety lens		Polycarbonate
Coating		Clear HC
Colour of disc		Clear
Non-fogging		Yes
Scratch-resistant		Yes
UV protection		400 nm
Design		Adjustable length of the side arms | Adjustable inclination
Weight (g)		28
Colour		Blue | Grey
55690...	Ident. No.	001 ●

Prod. Gr. 5RE

ATORN Safety glasses (EN standard 166 | 170)

Model: A-View 2

HIGHLIGHT

Application:
Grinding, turning and milling work, precision engineering, workshop, assembly and laboratory work

Execution:
- Very light, innovative safety glasses in a sporty design
- Unique, individual adjustment of the temple width to the head size needed
- Wrap-around lens for maximum front and side protection
- Soft nose bridge and soft padded temple ends ensure pressure-free and non-slip wearing
- Tested in accordance with EN 166, EN 170
- Frame designation EN166 F CE

Category		II
EN standard		166 | 170
Model		A-View 2
Marking of safety lens		2C-1,2 MX 1 FK
Material of safety lens		Polycarbonate
Coating		Clear HC
Colour of disc		Clear
Non-fogging		No
Scratch-resistant		Yes
UV protection		400 nm
Weight (g)		26
Colour		Blue | Grey | White
55690...	Ident. No.	002 ●

Prod. Gr. 5RE

ATORN Safety glasses (EN standard 166 | 170)

Model: A-View 3

Application:
Grinding, turning and milling work, precision engineering, workshop, assembly and laboratory work

Execution:
- Robust safety glasses for heavy industrial use
- Additional, soft, multi-component sealing lip in the eyebrow area to protect against foreign objects entering from above
- Vents in the seal area ensure excellent air circulation
- Individually adjustable temple angle for maximum comfort and perfect fit
- Soft nose bridge and rubberised temple ends ensure pressure-free and non-slip wearing
- Tested in accordance with EN 166, EN 170
- Frame designation EN166 F CE

HIGHLIGHT

Category		II
EN standard		166 | 170
Model		A-View 3
Marking of safety lens		2C-1,2 MX 1 FK
Material of safety lens		Polycarbonate
Coating		Clear HC
Colour of disc		Clear
Non-fogging		No
Scratch-resistant		Yes
UV protection		400 nm
Design		Adjustable inclination
Weight (g)		35
Colour		Blue | Grey
55690...	Ident. No.	003 ●

Prod. Gr. 5RE

ATORN Safety glasses (EN standard 166 | 170)

Model: A-View 4

Application:
Safety glasses as overspecs, for visitors, grinding, turning and milling work, precision engineering, assembly and laboratory work

Execution:
- Very lightweight safety glasses for visitors and for use as overspecs with excellent side and upper protection
- Suitable for wearing over conventional prescription glasses
- The slim design allows additional PPE such as ear defenders, hard hats and respiratory protection to be worn
- Ergonomically designed, narrow temples fit the head without applying pressure
- Individually adjustable temple angle for maximum comfort and perfect fit
- Tested in accordance with EN 166, EN 170
- Frame designation EN166 F CE

HIGHLIGHT

Category		II
EN standard		166 | 170
Model		A-View 4
Marking of safety lens		2C-1,2 MX 1 FTK
Material of safety lens		Polycarbonate
Coating		Clear HC
Colour of disc		Clear
Non-fogging		No
Scratch-resistant		Yes
UV protection		400 nm
Design		Adjustable inclination
Weight (g)		32
Colour		Blue | White
55690...	Ident. No.	004 ●

Prod. Gr. 5RE

uvex Safety glasses

Model: cybric

Execution:
- Large field of vision
- Quatroflex arms with comfortable padding for a comfortable fit
- Length and tilt of sidepieces can be adjusted
- Frame designation: W 166 F

Ident. No. 010

Ident. No. 030

Category		II	II
EN standard		166 | 170	166 | 172
Model		cybric	cybric
Marking of safety lens		2C-1,2 W 1 F	5-2,5 W 1 F
Material of safety lens		Polycarbonate	Polycarbonate
Coating		Uvex supravision sapphire	Uvex supravision sapphire
Colour of disc		Clear	Grey
Non-fogging		No	No
Scratch-resistant		Yes	Yes
Resistance against		Chemicals	Chemicals
UV protection		400 nm	400 nm
55671...	Ident. No.	010 ●	030 ●

Prod. Gr. 5XA

Safety glasses (EN standard 166 | 170)
model: super-g

Execution:
- Hingeless side arms
- Completely metal-free
- Aerodynamically optimised and inclined lens geometry for ideal ventilation and pleasant eye environment
- Frame designation: W 166 F

Category		II
EN standard		166 | 170
Model		super-g
Marking of safety lens		2C-1,2 W 1 FTKN
Material of safety lens		Polycarbonate
Coating		Uvex supravision excellence
Colour of disc		Colourless
Non-fogging		Yes
Scratch-resistant		Yes
Resistance against		Chemicals
UV protection		400 nm
Weight (g)		18
55670...	Ident. No.	150 ●

Prod. Gr. 5XA

Safety glasses (EN standard 166 | 170)
Model: super fit NC

Execution:
- Lightweight safety goggles with arm hinges
- Aerodynamically optimised and inclined lens geometry for ideal ventilation and pleasant eye environment
- Best optical clarity through extremely thin wrap-around lens
- Frame designation: W 166 FT

Category		II
EN standard		166 | 170
Model		super fit NC
Marking of safety lens		2C-1,2 W 1 FT
Material of safety lens		Polycarbonate
Coating		Uvex supravision sapphire
Colour of disc		Colourless
Non-fogging		No
Scratch-resistant		Yes
Resistance against		Chemicals
UV protection		400 nm
55670...	Ident. No.	180 ●

Prod. Gr. 5XA

Safety glasses (EN standard 166 | 170)
Model: super OTG

Execution:
- Lightweight goggles with unrestricted peripheral perception, suitable for wearing over glasses
- Completely metal-free
- Hingeless side arms
- Highly flexible and soft arm ends for a comfortable fit
- Frame designation: W 166 F

Category		II
EN standard		166 | 170
Model		super OTG
Marking of safety lens		2C-1,2 W 1 FT K
Material of safety lens		Polycarbonate
Coating		Uvex supravision sapphire
Colour of disc		Colourless
Non-fogging		No
Scratch-resistant		Yes
Resistance against		Chemicals
UV protection		400 nm
55670...	Ident. No.	191 ●

Prod. Gr. 5XA

uvex Safety glasses (EN standard 166 | 170)

Models pheos s and pheos

Execution:
- Modern safety goggles with a fashionable appearance and duospherical lens technology
- Completely metal-free
- Soft non-slip arm ends (uvex duo component technology) prevent discomfort at pressure points
- Very large field of vision without frame
- Narrow arms enable comfortable wearing of ear protectors, helmets and hard hats
- **Ident. No. 213:**
  - Smaller version allows an optimal fit for users with smaller heads
  - Frame designation: W 166 F
- **Ident. No. 214:** Frame designation: W 166 FT

Ident. No. 213

Ident. No. 214

Category		II	II
EN standard		166 | 170	166 | 170
Model		pheos s	pheos
Marking of safety lens		2C-1,2 W 1 FTKN	2C-1,2 W 1 FT
Material of safety lens		Polycarbonate	Polycarbonate
Coating		Uvex supravision excellence	Uvex supravision excellence
Colour of disc		Colourless	Colourless
Non-fogging		Yes	Yes
Scratch-resistant		Yes	Yes
Resistance against		Chemicals	Chemicals
UV protection		400 nm	400 nm
55670...	Ident. No.	213 ●	214 ●

Prod. Gr. 5XA

uvex Safety glasses (EN standard 166 | 170)

Model: 9161

Execution:
- Can be worn over prescription glasses
- Large panoramic lens with integrated side protection for optimal eye cover
- duo-flex strap for a pressure-free fit
- Length-adjustable strap for an easy fit
- Frame designation: W 166 F

Category		II
EN standard		166 | 170
Model		9161
Marking of safety lens		2C-1,2 W 1 FT K
Material of safety lens		Polycarbonate
Coating		Uvex supravision sapphire
Colour of disc		Colourless
UV protection		400 nm
55670...	Ident. No.	165 ●

Prod. Gr. 5XA

uvex Safety glasses

Models: pheos nxt clear and pheos nxt CBR23

Execution:
- Classic, sporty lightweight with a new temple design for optimal, secure retention at all times
- Ergonomic temples with grip structure and soft temple ends ensure secure, comfortable retention without pressure points
- Increased air circulation for excellent climate-optimised comfort thanks to numerous recesses in the temples
- Anatomically shaped nose pads for all-day comfort
- Large panoramic lens for a distortion-free, large field of vision to always ensure a clear view
- Frame designation: W 166 FT
- **Ident. No. 275:** With CBR23 tint: Enhances contrast, reduces blue light and ensures relaxed vision at 23 % transmission

Ident. No. 270

Ident. No. 275

Category		II	II
EN standard		166 | 170	166 | 172
Model		pheos nxt	pheos nxt CBR
Marking of safety lens		2C-1,2 W 1 FTKN	5-2,5 W 1 FTKN
Material of safety lens		Polycarbonate	Polycarbonate
Coating		Uvex supravision excellence	Uvex supravision excellence
Colour of disc		Colourless	Brown
Non-fogging		Yes	Yes
Scratch-resistant		Yes	Yes
Resistance against		Chemicals	Chemicals
UV protection		400 nm	400 nm
Design		-	Blue light reducing | Contrast increasing | Signal color detection
55670...	Ident. No.	270 ●	275 ●

Prod. Gr. 5XA

uvex Infrared safety glasses (EN standard 166 | 169 | 170 | 171)

Model: pheos cx2

Application:
For work in the metal, steel, ceramic and glass industry

Execution:
- Reliable protection against infrared radiation while providing optimal colour and signal light recognition
- Sporty safety goggles with high level of wearability
- X-tended eyeshield: Soft-seal frame technology surrounds the forehead and protects against penetrating particles
- Ergonomic temples with soft ends ensure secure, comfortable retention without pressure points
- Soft, flexible nose pads adapt to the wearer, ensuring a non-slip, pressure-free fit
- Large field of vision
- Frame designation: W 166 FT

Ident. No. 280

Ident. No. 281

Ident. No. 282

Category		II	II	II
EN standard		166 | 169 | 170 | 171	166 | 169 | 170 | 171	166 | 169 | 170 | 171
Model		pheos cx2	pheos cx2	pheos cx2
Marking of safety lens		4C-1,7 W 1 FTKN	4C-3 W 1 FTKN	4C-5 W 1 FTKN
Material of safety lens		Polycarbonate	Polycarbonate	Polycarbonate
Coating		Uvex infradur plus	Uvex infradur plus	Uvex infradur plus
Colour of disc		Grey	Grey	Grey
Non-fogging		Yes	Yes	Yes
Scratch-resistant		Yes	Yes	Yes
UV protection		400 nm	400 nm	400 nm
55670...	Ident. No.	280 ●	281 ●	282 ●

Prod. Gr. 5XA

uvex Safety glasses (EN standard 166 | 170)

Model: i-vo

Execution:
- Multi-stage arm angle and length adjustment for individual adjustment to any face shape
- Soft components on the nose and forehead for a comfortable and pressure-free fit
- Soft uvex quatroflex arms for a comfortable and pressure-free fit
- Lens geometry allows unrestricted peripheral perception
- Frame designation: W 166 FT

Category		II
EN standard		166 | 170
Model		i-vo
Marking of safety lens		2C-1,2 W 1 FTKN
Material of safety lens		Polycarbonate
Coating		Uvex supravision excellence
Colour of disc		Colourless
Non-fogging		Yes
Scratch-resistant		Yes
Resistance against		Chemicals
UV protection		400 nm
55670...	Ident. No.	121 ●

Prod. Gr. 5XA

uvex Safety glasses

Model: uvex suXXeed

Category		II	II
EN standard		166	166 | 172
Model		uvex suXXeed	uvex suXXeed
Marking of safety lens		2C-1,2 W 1 FTKN	5-2,5 W 1 FTKN
Material of safety lens		Polycarbonate	Polycarbonate
Coating		Uvex supravision excellence	Uvex supravision excellence
Colour of disc		Colourless	Grey
Non-fogging		Yes	Yes
Scratch-resistant		Yes	Yes
Resistance against		Chemicals	Chemicals
UV protection		400 nm	400 nm
55670...	Ident. No.	285 ●	286 ●

Prod. Gr. 5XA

NEW

Ident. No. 285

Ident. No. 286

uvex Safety glasses (EN standard 166 | 170)

Model uvex i-lite planet and i-guard planet

Execution:

- Large, flat lens design for an unrestricted field of view
- Completely metal-free
- x-tended side shield provides additional protection at the sides
- Multi-stage frame tilt adjustment allows a high degree of customisation to ensure a good fit for all head and face shapes
- Ergonomically shaped frame ensures a secure fit without pressure points
- **Ident. No. 221:**
  - Sustainably produced with the use of bio-based materials
  - Glass made of bio-based polyamide, frame made of bio-based material
  - Frame designation: W 166 F
- **Ident. No. 222:**
  - Sustainably produced with the use of recycled and bio-based materials
  - Lens made of bio-based polyamide, frame made of bio-based material, auxiliary frame made of recycled materials
  - Soft, flexible face support that adapts to the wearer for optimal protection and comfort
  - Frame designation: W 166 34 F

Ident. No. 221

Ident. No. 222

Category		II	II
EN standard		166 | 170	166 | 170
Model		uvex i-lite planet	uvex i-guard planet
Marking of safety lens		2C-1,2 W 1 FKN	2C-1,2 W 1 FKN
Material of safety lens		Polycarbonate	Polycarbonate
Coating		Uvex supravision excellence	Uvex supravision excellence
Colour of disc		Colourless	Colourless
Non-fogging		Yes	Yes
Scratch-resistant		Yes	Yes
Resistance against		Chemicals	Chemicals
UV protection		400 nm	400 nm
55670...	Ident. No.	221 ●	222 ●

Prod. Gr. 5XA

uvex Safety glasses (EN standard 166 | 170)

Model: i-3

Execution:

- Multi-level arm angle adjustment for individual adjustment to any face shape
- Three-component technology for high wearing comfort and to avoid discomfort at pressure points: Soft adjustable nose pad, soft non-slip arm ends and metal-free arm hinges
- Completely metal-free
- Frame designation: W 166 FT

Category		II
EN standard		166 | 170
Model		i-3
Marking of safety lens		2C-1,2 W 1 FTKN
Material of safety lens		Polycarbonate
Coating		Uvex supravision excellence
Colour of disc		Colourless
Non-fogging		Yes
Scratch-resistant		Yes
Resistance against		Chemicals
UV protection		400 nm
55670...	Ident. No.	241 ●

Prod. Gr. 5XA

uvex Safety glasses
model: i-5

Execution:
- Multi-stage arm angle and length adjustment for individual adjustment to any face shape
- Soft components on the nose for a comfortable and pressure-free fit
- Soft straps for a comfortable, pressure-free fit
- Extended eye shield for improved protection against airborne particles, dust and dirt
- Extended side shield for improved side protection
- Metal-free
- Frame designation: W 166 FT

Category		II	II
EN standard		166 | 170	166 | 172
Model		i-5	i-5
Marking of safety lens		2C-1,2 W 1 FTKN	5-2,5 W 1 FTKN
Material of safety lens		Polycarbonate	Polycarbonate
Coating		Uvex supravision excellence	Uvex supravision excellence
Colour of disc		Colourless	Grey
Non-fogging		Yes	Yes
Scratch-resistant		Yes	Yes
Resistance against		Chemicals	Chemicals
UV protection		400 nm	400 nm
55670...	Ident. No.	245 ●	246 ●

Prod. Gr. 5XA

Ident. No. 245

Ident. No. 246

uvex Safety glasses (EN standard 166 | 170)
Model: astrospec 2.0

Execution:
- Multi-level arm angle adjustment for individual adjustment to any face shape
- Integrated side protection
- Optimal eye area coverage and unrestricted peripheral perception due to panoramic lens with flat side geometry
- Soft, non-slip duo-flex arm ends to avoid pressure points
- Frame designation: W 166 FT

Category		II	II
EN standard		166 | 170	166 | 170
Model		astrospec 2.0	astrospec 2.0
Marking of safety lens		2C-1,2 W 1 FTKN	2C-1,2 W 1 FT K
Material of safety lens		Polycarbonate	Polycarbonate
Coating		Uvex supravision extreme	Uvex supravision excellence
Colour of disc		Colourless	Colourless
Non-fogging		Yes	Yes
Scratch-resistant		Yes	Yes
Resistance against		-	Chemicals
UV protection		400 nm	400 nm
Colour		Anthracite | Petrol	Black | Lime green
55670...	Ident. No.	145 ●	155 ●

Prod. Gr. 5XA

Ident. No. 145

Ident. No. 155

3M Safety glasses (EN standard 166)
Model: Visitor

Execution:
- Lightweight goggles with good side and eyebrow protection
- Can either be worn alone or over prescription glasses
- Transparent frame
- Frame designation: 166

Category		II
EN standard		166
Model		Visitor
Marking of safety lens		2C-1,2 3M 1 F
Material of safety lens		Polycarbonate
Colour of disc		Clear
55672...	Ident. No.	010 ●

Prod. Gr. 5SC

Safety glasses (EN standard 166)
Model SecureFit™ 200

Execution:
- Automatically adapts to different head shapes
- Temple pressure distribution technology distributes pressure above the ears, increasing wearing comfort
- Frame designation: 166 FT

Category		II
EN standard		166
Model		SecureFit 200
Marking of safety lens		2C-1,2 3M 1 FT
Material of safety lens		Polycarbonate
Colour of disc		Clear
Non-fogging		No
Scratch-resistant		Yes
UV protection		99,9 %
Weight (g)		18
55672...	Ident. No.	020 ●

Prod. Gr. 5SC

Safety glasses (EN standard 166 | 170)
Model SecureFit™ 400

Execution:
- Automatically adapts to different head shapes
- Temple pressure distribution technology distributes pressure above the ears, increasing wearing comfort
- Arm ends with soft padding
- Soft, easy to adjust nose bridge ensures secure fit
- Frame designation: 166 F

Category		II
EN standard		166 | 170
Model		SecureFit 400
Marking of safety lens		2C-1,2 3M 1 FT
Material of safety lens		Polycarbonate
Colour of disc		Clear
UV protection		99,9 %
Weight (g)		19
55672...	Ident. No.	030 ●

Prod. Gr. 5SC

Safety glasses
SecureFit™ 400X model

Execution:
- Integrated eyebrow protection: Sits comfortably on the forehead and provides protection against airborne particles
- Temple pressure distribution technology distributes pressure above the ears, increasing wearing comfort
- Soft nose bridge
- When water droplets condense on the lens, the Scotchguard™ anti-fog coating turns them into a thin, transparent film so that the safety goggles with frame do not fog
- Frame designation: 166 FT

Ident. No. 050

Ident. No. 051

Ident. No. 052

Category		II	II	II
EN standard		166 | 170	166 | 170	166 | 172
Model		SecureFit 400X	SecureFit 400X	SecureFit 400X
Marking of safety lens		2C-1,2 3M 1 FTKN	5-1,7 3M 1 FTKN	2C-1,2 3M 1 FTKN
Material of safety lens		Polycarbonate	Polycarbonate	Polycarbonate
Coating		Scotchguard® anti-fog coating	Scotchguard® anti-fog coating	Scotchguard® anti-fog coating
Colour of disc		Clear	Grey	Yellow
Non-fogging		Yes	Yes	Yes
Scratch-resistant		Yes	Yes	Yes
UV protection		99,9 %	99,9 %	99,9 %
Weight (g)		22	22	22
55672...	Ident. No.	050 ●	051 ●	052 ●

Prod. Gr. 5SC

3M Safety glasses

Model SecureFit™ 3700

Execution:
- Can be worn over prescription glasses
- Integrated eyebrow protection: Sits comfortably on the forehead and provides protection against airborne particles
- Temple pressure distribution technology distributes pressure above the ears, increasing wearing comfort
- Multi-level arm angle adjustment for individual adjustment to any face shape
- When water droplets condense on the lens, the Scotchguard™ anti-fog coating turns them into a thin, transparent film so that the safety goggles with frame do not fog
- Frame designation: 166 FT

Ident. No. 060

Ident. No. 061

Category		II	II
EN standard		166 | 170	166 | 172
Model		SecureFit 3700	SecureFit 3700
Marking of safety lens		2C-1,2 3M 1 FTKN	5-1,7 3M 1 FTKN
Material of safety lens		Polycarbonate	Polycarbonate
Coating		Scotchguard® anti-fog coating	Scotchguard® anti-fog coating
Colour of disc		Clear	Grey
Non-fogging		Yes	Yes
Scratch-resistant		Yes	Yes
Weight (g)		48	48
55672...	Ident. No.	060 ●	061 ●

Prod. Gr. 5SC

ATORN Full-vision safety goggles (EN standard 166 | 170)

Model: A-View 5

Application:
Grinding, assembly and laboratory work, protection against dust, liquids and mechanical hazards, suitable for wearingas overspecs

Execution:
- Trendy full-vision goggles with a very soft face pad that provides a tight seal without pressure points
- Large lens with unrestricted side view
- Tight fit with indirect ventilation to prevent fogging of the lens
- Wide, individually adjustable head harness for maximum comfort and perfect fit
- Suitable for wearing over conventional prescription glasses
- Tested in accordance with EN 166, EN 170
- Frame designation EN166 B 3 CE

HIGHLIGHT

Category		II
EN standard		166 | 170
Model		A-View 5
Marking of safety lens		2C-1,2 MX 1 BKN
Material of safety lens		Polycarbonate
Coating		Clear HC
Colour of disc		Clear
Non-fogging		Yes
Scratch-resistant		Yes
UV protection		400 nm
Weight (g)		160
Colour		Blue | White
55690...	Ident. No.	005 ●

Prod. Gr. 5RE

uvex Safety glasses (EN standard 166 | 170)

Model: uvex i-guard+ planet

Execution:
- Sustainably produced with the use of recycled and bio-based materials
- Textile headband and auxiliary frame made of recycled materials
- Large, flat lens design for an unrestricted field of view
- Completely metal-free
- x-tended side shield provides additional protection at the sides
- Soft, flexible face support that adapts to the wearer for optimal protection and comfort
- Individually adjustable headband for a perfect fit
- Frame designation: W 166 34 B

Category		II
EN standard		166 | 170
Model		uvex i-guard+ planet
Marking of safety lens		2C-1,2 W 1 BKN
Material of safety lens		Polycarbonate
Coating		Uvex supravision excellence
Colour of disc		Colourless
Non-fogging		Yes
Scratch-resistant		Yes
Resistance against		Chemicals
UV protection		400 nm
55670...	Ident. No.	223 ●

Prod. Gr. 5XA

uvex Full-vision safety goggles (EN standard 166 | 170)

Model: megasonic

Execution:
- Revolutionary full-vision goggles with maximally optimised field of vision
- Unique frameless lens design
- Suitable for wearing over glasses: Recess for spectacle earpieces
- Maximum comfort: Flexible frame and extra-wide textile headband
- Very large field of vision for an optimum view
- Frame designation: W 166 34 BT

Category		II
EN standard		166 | 170
Model		megasonic
Marking of safety lens		2C-1,2 W 1 BTKN
Material of safety lens		Polycarbonate
Coating		Uvex supravision ETC
Colour of disc		Colourless
Non-fogging		Yes
Scratch-resistant		Yes
Resistance against		Chemicals
UV protection		400 nm
55670...	Ident. No.	**122** ●

Prod. Gr. 5XA

uvex Full-vision safety goggles (EN standard 166 | 170)

Model: ultrasonic

Execution:
- Suitable for wearing over glasses
- With textile headband
- Two different materials (hard component/soft component) ensure there are no pressure points, even when worn for long periods of time
- Large field of vision
- Frame designation: W 166 34 B

Category		II
EN standard		166 | 170
Model		Ultrasonic
Marking of safety lens		2C-1,2 W 1 BKN
Material of safety lens		Polycarbonate
Coating		Uvex supravision excellence
Colour of disc		Colourless
Non-fogging		Yes
Scratch-resistant		Yes
Resistance against		Chemicals
UV protection		400 nm
55670...	Ident. No.	**130** ●

Prod. Gr. 5XA

uvex Full-vision safety goggles (EN standard 166 | 170)

Model: pheos CX2 sonic

Execution:
- Extremely light and small full-vision goggles
- With textile headband
- Comfortable protection through forehead and nose support moulded directly onto lens
- Frame designation: W 166 34 BT

Category		II
EN standard		166 | 170
Model		pheos cx2 sonic
Marking of safety lens		2C-1,2 W 1 BTKN
Material of safety lens		Polycarbonate
Coating		Uvex supravision extreme
Non-fogging		Yes
Scratch-resistant		Yes
Resistance against		Chemicals
UV protection		400 nm
Weight (g)		34
55670...	Ident. No.	**260** ●

Prod. Gr. 5XA

3M Full-vision safety goggles (EN standard 166)

Model: GoggleGear

Execution:
- Spherical curved lenses provide an optimal horizontal and vertical field of view
- Easy-to-fit textile band for a secure and comfortable wearing
- Soft rubber seal
- Wide and flexible nose area enables a good fit
- Indirect ventilation to prevent fogging
- Can also be worn over prescription glasses
- Frame designation: 166

Category		II
EN standard		166
Model		GoggleGear
Marking of safety lens		2C-1,2 3M 1 BTKN
Material of safety lens		Polycarbonate
Coating		Scotchguard® anti-fog coating
Colour of disc		Clear
Non-fogging		Yes
Scratch-resistant		Yes
55672...	Ident. No.	070 ●

Prod. Gr. 5SC

3M Full-vision safety goggles (EN standard 166)

Model: FAHRENHEIT

Execution:
- Full-vision goggles with cylindrical lens for 180°C distortion-free view
- Easily adjustable thanks to buckle system and moving belt fastener
- prevents the entry of moisture and dust
- Can also be worn over prescription glasses
- Soft, large, crystal-clear PVC frame
- Frame designation: 166

Category		II
EN standard		166
Model		FAHRENHEIT
Marking of safety lens		2C-1,2 3M 1 BT
Material of safety lens		Polycarbonate
Colour of disc		Clear
Non-fogging		Yes
Scratch-resistant		Yes
55672...	Ident. No.	040 ●

Prod. Gr. 5SC

uvex Cleaning wipes

Execution:
- Suitable for all uvex safety goggles
- Individually packaged moist cleaning wipes
- Not antistatic
- silicone-free

Delivery:
Pack of 100

55670...	Ident. No.	501 ●

Prod. Gr. 5XA

uvex Spectacles cleaning station and accessories

Execution:
- **Ident. No. 512:**
  - For the uvex glasses cleaning station (art. no. 55670510)
  - Antistatic
  - silicone-free
  - approx. 700 blades
- **Ident. No. 512–514:** Suitable for all uvex safety goggles
- **Ident. No. 513:**
  - Spectacles cleaning station set including cleaning fluid (0.5 l), cleaning paper (2 x approx. 700 sheets) and plastic pump
  - Replacement paper: Anti-static and silicone-free
- **Ident. No. 514:**
  - For the uvex spectacles cleaning station (art. no. 55670513)
  - 0.5 litre bottle
- **Ident. No. 515:** For uvex cleaning solution (55670514)

Ident. No. 513

Ident. No. 514

Ident. No. 515

Ident. No. 512

55670...	Glasses cleaning station	Ident. No.	513 ●
55670...	Cleaning liquid	Ident. No.	514 ●
55670...	Plastic pump for cleaning solution	Ident. No.	515 ●
55670...	Cleaning paper	Ident. No.	512 ●

Prod. Gr. 5XA

GEBRA Secure boxes for safety goggles

Model: SecuBox

Application:
For clean and secure glasses storage

Execution:
- With “Wear safety goggles” symbol
- For wall mounting (includes mounting materials)
- Made of impact-resistant ABS plastic

Ident. No. 030

Ident. No. 040

Ident. No. 050

Ident. No. 060

Model		SecuBox Mini	SecuBox Midi	SecuBox Mini	SecuBox Midi
Length x width x height		236 x 120 x 120 mm	236 x 225 x 125 mm	236 x 120 x 120 mm	236 x 225 x 125 mm
Colour		Blue	Blue	Transparent	Transparent
55680...	Ident. No.	030 ●	040 ●	050 ●	060 ●

Prod. Gr. 565

ATORN Disposable ear plugs (EN standard 352-2)

Execution:
- High-performance T-shaped ear plugs for easy insertion
- The ear plugs offer excellent noise insulation and a high level of comfort
- A closed surface prevents ingress of foreign objects
- In accordance with EN 352-2
- SNR value: SNR = 37 dB, H = 38 dB, M = 34 dB, L = 32 dB

Technical data:
- Category: III
- EN standard: 352-2
- Sound insulation value: 37 dB
- Material: Polyurethane foam
- Colour: Anthracite | White

55785...	200 pairs (packed in pairs)	Ident. No.	000 ●
55785...	400 pairs (packed loose)	Ident. No.	001 ●

Prod. Gr. 5RD

Ident. No. 000

Ident. No. 001

p. 1716

uvex Disposable ear plugs (EN standard 352-2)
Model: Hi-com

Execution:
- Reduces the sensation of ringing in the ears which can occur when wearing ear protection
- Built-in cavities provide a greater surface area in the direction of the eardrum
- Absorption of disruptive noises
- Excellent speech perception
- Good insulation values
- Closed surface prevents penetration by foreign bodies
- Meets the additional requirements: W (hearing a general warning signal)

Technical data:
- Category: III
- EN standard: 352-2
- Model: Hi-com
- Sound insulation value: 26 dB
- Material: Polyurethane foam
- Colour: Lime green

55781...	200 pairs (packed in pairs)	Ident. No.	024 ●

Prod. Gr. 5XA

p. 1716

uvex Disposable ear plugs (EN standard 352-2)
Model: com4-fit

Execution:
- Excellent insulation
- Quick and easy to insert thanks to embossed X
- Ergonomically shaped
- Excellent carrying comfort
- Closed surface prevents penetration by foreign bodies
- Meets the additional requirements: S (hearing a signal in railway track superstructure construction), V (hearing a signal in road traffic), W (hearing a general warning signal), E1 (hearing a signal relevant to locomotive drivers in railway operations)

Technical data:
- Category: III
- EN standard: 352-2
- Model: com4-fit
- Sound insulation value: 33 dB
- Material: Polyurethane foam
- Size: S
- Colour: Orange

55781...	200 pairs (packed in pairs)	Ident. No.	033 ●
55781...	400 pieces (packed loose)	Ident. No.	133 ●

Prod. Gr. 5XA

p. 1716

uvex Disposable ear plugs (EN standard 352-2)

model: x-fit

Execution:
- Excellent insulation
- Quick and easy to insert thanks to embossed X
- Ergonomically shaped
- Excellent carrying comfort
- Closed surface prevents penetration by foreign bodies
- Meets the additional requirements: S (hearing a signal in railway track superstructure construction), V (hearing a signal in road traffic), W (hearing a general warning signal), E1 (hearing a signal relevant to locomotive drivers in railway operations)

Technical data:
- Category: III
- EN standard: 352-2
- Model: x-fit
- Sound insulation value: 37 dB
- Material: Polyurethane foam
- Size: M/L
- Colour: Lime green

p. 1716

55781...	200 pairs (packed in pairs)	Ident. No.	037 ●
55781...	400 pieces (packed loose)	Ident. No.	137 ●

Prod. Gr. 5XA

Honeywell HOWARD LEIGHT Disposable ear plugs (EN standard 352-2)

Model: Bilsom 303

Execution:
- Excellent insulation
- High user comfort
- Refill bags for earplug dispenser (55782310 and 55782320)
- Closed surface prevents penetration by foreign bodies

Technical data:
- Category: III
- EN standard: 352-2
- Model: Bilsom 303
- Sound insulation value: 33 dB
- Material: Polyurethane foam
- Colour: Yellow | White

Size			S	L
55782...	400 pieces (packed loose)	Ident. No.	182 ●	180 ●

Prod. Gr. 5SH

p. 1717

Honeywell HOWARD LEIGHT Disposable ear plugs (EN standard 352-2)

Model: Laser Lite

Execution:
- Excellent insulation
- High user comfort
- T-shaped for easy insertion and removal
- Closed surface prevents penetration by foreign bodies

Technical data:
- Category: III
- EN standard: 352-2
- Model: Laser Lite
- Sound insulation value: 35 dB
- Material: Polyurethane foam
- Size: L
- Colour: Red | Yellow

55782...	500 pairs (packed loose)	Ident. No.	220 ●

Prod. Gr. 5SH

3M Disposable ear plugs (EN standard 352-2)

Model: EAR CLASSIC II

Execution:
- soft, energy-absorbing single-use ear plugs with minimal pressure development in the ear
- Pre-shaped ear plugs
- Optimal adaptation to any ear canal
- Roughened surface
- Especially skin-friendly
- Moisture-resistant

Technical data:
- Category: III
- EN standard: 352-2
- Model: EAR CLASSIC II
- Sound insulation value: 31 dB
- Material: Polymeric foam
- Colour: Yellow

p. 1717

55782...	500 pairs (in refill attachment container)	Ident. No.	530 ●

Prod. Gr. 5SC

3M Reusable ear plugs (EN standard 352-2)

Model: EAR Flexible Fit

Execution:
- Suitable for workers with gloves or dirty hands, or for employees who have only one hand free to insert the ear plugs
- No pre-shaping of soft foam tips is required, so the tips remain clean
- Tapered shape ensures a good, comfortable fit
- Fixed but flexible stem, which allows one or two-handed insertion
- SNR of 30 dB for one-handed insertion and SNR of 35 dB for two-handed insertion
- Completely covered by foam
- Fully washable and reusable

Technical data:
- Category: III
- EN standard: 352-2
- Model: EAR Flexible Fit
- Sound insulation value: 30 dB | 35 dB
- Material: Polymeric foam
- Colour: Yellow

55782...	400 pairs (packed in pairs in padded packaging)	Ident. No.	540 ●

Prod. Gr. 5SC

ATORN Ear plug dispenser

Suitable for bulk-packed ATORN ear plugs

Application:
Hygienic and safe storage and removal of ear plugs

Execution:
- Easy-to-use and robust ear plug dispenser
- Transparent design for easy filling level control
- Suitable for wall mounting
- Suitable for ear plugs 55785001

Delivery:
Supplied without ear plugs

Notes:
Includes fastening material for wall mounting

Technical data:
- Material: Plastic impact-resistant
- Colour: Anthracite | Transparent

55785...	Ident. No.	002 ●

Prod. Gr. 5RD

uvex one2click ear plug dispenser

Suitable for Hi-com, com4-fit, x-fit

Application:
Hygienic and safe storage and removal of ear plugs

Execution:
- Easy-to-use and robust ear plug dispenser
- Suitable for wall-mounting
- Transparent design for easy filling level control

Delivery:
Supplied without ear plugs

55781...	Ident. No.	100 ●

Prod. Gr. 5XA

Honeywell HOWARD LEIGHT Ear plug dispenser

Suitable for all bulk-packed ear plugs

Application:
Hygienic and safe storage and removal of ear plugs

Execution:
- Easy-to-use and robust ear plug dispenser
- Suitable for wall-mounting
- Transparent design for easy filling level control
- Antimicrobial protection

Delivery:
Dispenser including 400 pairs of Bilsom 303 ear plugs

55782...	For wall mounting	Ident. No.	310 ●

Prod. Gr. 5SH

3M One Touch Pro ear plug dispenser

Suitable for refill attachment

Application:
Hygienic and safe storage and removal of ear plugs

Execution:
- Easy-to-use and robust ear plug dispenser
- Suitable for wall-mounting

Delivery:
Supplied without ear plugs

55782...	Ident. No.	600 ●

Prod. Gr. 5SC

ATORN Reusable corded ear plugs (EN standard 352-2)

Execution:
- High-performance, reusable ear plugs with soft fins for high noise insulation and optimum adaptation to the ear canal
- The smooth surface is washable
- Corded ear plugs for individual use
- In accordance with EN 352-2
- SNR value: SNR = 30 dB, H = 31 dB, M = 26 dB, L = 24 dB

Delivery:
Minimum order quantity: 10 pieces

Technical data:
- Category: III
- EN standard: 352-2
- Sound insulation value: 30 dB
- Material: Thermoplastic elastomer
- Colour: Anthracite | White

55785...	Ident. No.	003 ●

Prod. Gr. 5RD

uvex Reusable corded ear plugs (EN standard 352-2)

Model: Whisper

Execution:
- Always available and close at hand thanks to cord
- Smooth and dirt-repellent surface
- Washable
- Meets the additional requirements S (hearing a signal in railway track superstructure construction) and W (hearing a general warning signal)

Technical data:
- Category: III
- EN standard: 352-2
- Model: Whisper
- Sound insulation value: 22 dB
- Colour: Orange

Notes:
Minimum order quantity: 1 pack of 50

55784...	Ident. No.	105 ●

Prod. Gr. 5XA

uvex Reusable corded ear plugs (EN standard 352-2)

Model: Whisper+

Execution:
- Always available and close at hand thanks to cord
- Smooth and dirt-repellent surface
- Washable
- Meets the additional requirements S (hearing a signal in railway track superstructure construction), V (hearing a signal in road traffic), W (hearing a general warning signal) and E1 (hearing a signal relevant to locomotive drivers in railway operations)

Notes:
Minimum order quantity: 1 piece

Technical data:
- Category: III
- EN standard: 352-2
- Model: Whisper+
- Sound insulation value: 27 dB
- Colour: Lime green

55784...	Ident. No.	115 ●

Prod. Gr. 5XA

uvex Corded disposable ear plugs (EN standard 352-2)

Model: xact-fit

Execution:
- Always available and close at hand thanks to cord
- With thumb recesses for easy and fast insertion
- Adapts perfectly to the ear canal and minimises sound leaking through
- Very comfortable to wear thanks to the shape based on the anatomy of the human ear
- With interchangeable plugs (article number: 55784165)
- Meets the additional requirement W (hearing a general warning signal)

Notes:
Minimum order quantity: 1 piece

Technical data:
- Category: III
- EN standard: 352-2
- Model: xact-fit
- Sound insulation value: 26 dB
- Colour: Lime green

55784...	Ident. No.	155 ●

Prod. Gr. 5XA

p. 1718

uvex Spare plug

Suitable for xact-fit

Notes:
Minimum order quantity: 1 pack of 50 mini boxes each with 5 pairs

Technical data:
- Model: xact-fit
- Size: Universal
- Colour: Lime green

55784...	Ident. No.	165 ●

Prod. Gr. 5XA

Reusable corded ear plugs (EN standard 352-2)

Model: EAR Ultrafit

Execution:
- Always available and close at hand thanks to cord
- Patented, triple-flange ear plugs
- Optimal adaptation to the ear canal
- Remain comfortably in place for long periods
- Washable
- Ref. no. 730 with particularly comfortable pistol grip with plug-in aid

Delivery:
50 pairs (packed in pairs in plastic box)

Notes:
Minimum order quantity: 1 pack of 50

Technical data:
- Category: III
- EN standard: 352-2
- Model: EAR Ultrafit

Sound insulation value		29 dB	33 dB
55782...	Ident. No.	720 ●	730 ●

Prod. Gr. 5SC

Ident. No. 720

Ident. No. 730

Banded ear plugs (EN standard 352-2)

Execution:
- Lightweight banded ear plugs in anatomically adapted design
- The design and wearing position ensure contact with the body, thereby minimising noise transmission
- The soft, replaceable ear plugs are made of polyurethane foam and ensure maximum comfort and protection, even when worn for long periods
- In accordance with EN 352-2
- SNR value: SNR = 32 dB, H = 33 dB, M = 29 dB, L = 28 dB
- For replacement ear plugs, see art. no. 55785005

Delivery:
Minimum order quantity: 5 pieces

Technical data:
- Category: III
- EN standard: 352-2
- Sound insulation value: 32 dB
- Colour: Anthracite | White

55785...	Ident. No.	004 ●

Prod. Gr. 5RD

p. 1719

Spare plug for ear plug band

Suitable for ATORN banded ear plugs

Execution:
- Replacement ear plugs for ATORN banded ear plugs
- Made of polyurethane foam
- Replacement ear plugs for ATORN banded ear plugs art. no. 55785004

Delivery:
Pack of 10 pairs

Technical data:
- Colour: Anthracite

55785...	Ident. No.	005 ●

Prod. Gr. 5RD

uvex Banded ear plugs (EN standard 352-2)

model: x-cap

Execution:
- Ideal for frequent wearing and removal
- Ergonomically shaped banded ear plugs for high wearing comfort
- With rigid headband
- With interchangeable polyurethane foam plugs (article number: 55783155)
- Oval shape
- Meets the additional requirements: W (hearing a general warning signal) and E3 (hearing a signal relevant to locomotive drivers in railway operations)

Notes:
Minimum order quantity: 1 pack of 15

Technical data:
- Category: III
- EN standard: 352-2
- Model: X-cap
- Sound insulation value: 23 dB

55783...	Ident. No.	115 ●

Prod. Gr. 5XA

p. 1720

uvex Banded ear plugs (EN standard 352-2)

Model: x-fold

Execution:
- Ideal for frequent wearing and removal
- Ergonomically shaped banded ear plugs for high wearing comfort
- With folding headband
- With interchangeable polyurethane foam plugs (article number: 55783155)
- Oval shape

Notes:
Minimum order quantity: 1 piece

Technical data:
- Category: III
- EN standard: 352-2
- Model: x-fold
- Sound insulation value: 27 dB

55783...	Ident. No.	125 ●

Prod. Gr. 5XA

p. 1720

uvex Banded ear plugs (EN standard 352-2)

Model: xact-band

Execution:
- Reduce the transmission of noise thanks to the sound blockers incorporated into the head band
- Ideal for frequent wearing and removal
- Thumb recesses allow quick and easy handling
- Ergonomically shaped banded ear plugs for high wearing comfort
- With interchangeable polyurethane foam ear plugs

Notes:
Minimum order quantity: 1 pack of 5

Technical data:
- Category: III
- EN standard: 352-2
- Model: xact-band
- Sound insulation value: 26 dB

55783...	Ident. No.	135 ●

Prod. Gr. 5XA

uvex Spare plugs for banded ear plugs

Suitable for x-cap and x-fold

Execution:
- High user comfort
- Made of polyurethane foam
- Oval shape

Delivery:
pair

Notes:
Minimum order quantity: 1 pack of 12 bags, each with 5 pairs

Technical data:
- Size: Universal

55783...	Ident. No.	155 ●

Prod. Gr. 5XA

ATORN Ear defenders (EN standard 352-1)

Execution:
- Comfortable ear defenders with padded headband and soft capsule padding
- Simple height adjustment allows the ear defenders to be individually adjusted and ensures maximum comfort
- In accordance with EN 352-1

- **Ident. No. 006:** SNR value: SNR = 33 dB, H = 35 dB, M = 31 dB, L = 24 dB
- **Ident. No. 007:** SNR value: SNR = 37 dB, H = 39 dB, M = 35 dB, L = 27 dB

Technical data:
- Category: III
- EN standard: 352-1
- Colour: Anthracite

Sound insulation value		33 dB	37 dB
55785...	Ident. No.	006 ●	007 ●

Prod. Gr. 5RD

Ident. No. 006

Ident. No. 007

uvex Ear defenders (EN standard 352-1)
Model: K 200

Application:
For use in work areas with electrical voltage

Execution:
- Easy vertical adjustment of the band
- 360° rotating ear cups

Technical data:
- Category: III
- EN standard: 352-1
- Model: K 200
- Sound insulation value: 28 dB
- Colour: Black | Yellow

55788...	Ident. No.	121 ●

Prod. Gr. 5XA

uvex Ear defenders (EN standard 352-1)
Model: K10 series

Execution:
- Ear defenders with folding headband: Can be stored compactly and easily when not in use
- Easy and infinitely variable length adjustment for optimal positioning
- Padded headband
- Padded cups made from extra-soft memory foam for a comfortable fit, even during long-term use
- An optimal ear cup geometry also ensures pressure-free enclosure around the outer ear

Technical data:
- Category: III
- EN standard: 352-1

Ident. No. 200

Ident. No. 201

Ident. No. 202

Model		K10	K20	K30
Sound insulation value		30 dB	33 dB	36 dB
Colour		Black | Green	Black | Yellow	Black | Red
55788...	Ident. No.	200 ●	201 ●	202 ●

Prod. Gr. 5XA

uvex Ear defenders (EN standard 352-1)

Model: K series

Execution:
- Easy vertical adjustment of the band
- Padded headband

- **Ident. No. 132–135:** Padded cups made from extra-soft memory foam for a comfortable fit, even during long-term use
- **Ident. No. 133–135:** high insulation in the high-frequency range

Technical data:
- Category: III
- EN standard: 352-1

Ident. No. 128

Ident. No. 132

Ident. No. 133

Ident. No. 135

Model		K 1	K 2	K 3	K 4
Sound insulation value		28 dB	32 dB	33 dB	35 dB
Colour		Black | Green	Black | Yellow	Black | Red	Neon green
55788...	Ident. No.	128 ●	132 ●	133 ●	135 ●

Prod. Gr. 5XA

Honeywell HOWARD LEIGHT Ear defenders (EN standard 352-1)

Model VeriShield 100

Execution:
- Wide range of sizes: Fits a wide range of head sizes
- Lightweight, padded headband
- Wide cup opening: Ideal for people with larger ears

- Memory foam sealing cushions: Reduces pressure on the head while improving comfort and noise reduction
- Secure SNR is printed on the outside of the ear defenders
- Air Flow Control technology: For optimum noise reduction across all frequencies

Technical data:
- Category: III
- EN standard: 352-1
- Colour: Black

Ident. No. 210

Ident. No. 220

Ident. No. 230

Model		VS 110	VS 120	VS 130
Sound insulation value		27 dB	31 dB	35 dB
55789...	Ident. No.	210 ●	220 ●	230 ●

Prod. Gr. 5SH

3M Ear defenders (EN standard 352-1)

model: Peltor OPTIME

Execution:
- Simple and infinitely variable height adjustment of the band
- Sturdy steel band

- Two-point spring-steel suspension for low contact pressure
- Padded headband
- Comfortable, soft sealing pads filled with a unique combination of fluid and foam for maximum wearing comfort

Technical data:
- Category: III
- EN standard: 352-1

Ident. No. 010

Ident. No. 020

Ident. No. 030

Model		Peltor OPTIME I	Peltor OPTIME II	Peltor OPTIME III
Sound insulation value		27 dB	31 dB	34 dB
Colour		Yellow	Anthracite	Black | Red
55791...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 5SC

3M Ear defenders (EN standard 352-1)

Model: Peltor X

Execution:
- Simple and infinitely variable height adjustment of the band
- Electrically insulated wire-reinforced bracket
- Comfortable, soft sealing pads

Technical data:
- Category: III
- EN standard: 352-1

Ident. No. 110

Ident. No. 120

Ident. No. 130

Ident. No. 140

Ident. No. 150

Model		Peltor X1	Peltor X2	Peltor X3	Peltor X4	Peltor X5
Sound insulation value		27 dB	31 dB	33 dB	35 dB	37 dB
Colour		Black | Green	Black | Yellow	Black | Red	Black | Green	Black
55791...	Ident. No.	110 ●	120 ●	130 ●	140 ●	150 ●

Prod. Gr. 5SC

Honeywell Howard Leight Ear defenders (EN standard 352-1)

Model VeriShield 100

Execution:
- Wide range of sizes: Fits a wide range of head sizes
- Lightweight, padded headband
- Wide cup opening: Ideal for people with larger ears
- Memory foam sealing cushions: Reduces pressure on the head while improving comfort and noise reduction
- Secure SNR is printed on the outside of the ear defenders
- Air Flow Control technology: For optimum noise reduction across all frequencies

Technical data:
- Category: III
- EN standard: 352-1
- Colour: Black

Ident. No. 210

Ident. No. 220

Ident. No. 230

Model		VS 110	VS 120	VS 130
Sound insulation value		27 dB	31 dB	35 dB
55789...	Ident. No.	210 ●	220 ●	230 ●

Prod. Gr. 5SH

Honeywell HOWARD LEIGHT Active ear plugs (EN standard 352-2 | 352-7 | 352-9 | 352-10)

Model: Impact In-Ear Pro

Application:
For communication in demanding environments with high and varying noise levels

Execution:
- Hear-through function: Enables clear perception of ambient sound while reliably isolating harmful noise
- Safe maximum level: Limits and stops actively when the ambient volume exceeds 82 dB
- Hear-through volume can be adjusted separately in 6 levels
- Comfortable: Flexible, mouldable ear hook for added comfort
- Reusable silicone ear plugs in three different sizes (S, M and L)
- Compact storage case
- Rechargeable USB-C lithium battery (battery life: 50 hours)

Delivery:
1x storage case, 1x USB-C charging cable, 1 pair of silicone ear plugs S, 1 pair of silicone ear plugs M, 1 pair of silicone ear plugs L

Technical data:
- Category: III
- EN standard: 352-2 | 352-7 | 352-9 | 352-10
- Model: Impact In-Ear PRO
- Sound insulation value: 30 dB
- Colour: Black

55782...	Ident. No.	205 ●

Prod. Gr. 5SH

Honeywell HOWARD LEIGHT Active ear plugs (EN standard 352-2 | 352-7 | 352-9 | 352-10)

Model: Impact In-Ear Pro, Bluetooth

Application:
For communication in demanding environments with high and varying noise levels

Execution:
- Hear-through function: Enables clear perception of ambient sound while reliably isolating harmful noise
- Safe maximum level: Limits and stops actively when the ambient volume exceeds 82 dB
- Hear-through volume can be adjusted separately in 6 levels
- Bluetooth(R) volume can be adjusted separately in 15 levels
- Separate controls for Bluetooth(R) and hear-through volume levels
- Bluetooth(R) 5.0 feature enables wireless connectivity to your devices, while the powerful 9 mm speakers provide a dynamic sound range
- Comfortable: Flexible, mouldable ear hook for added comfort
- Reusable silicone ear plugs in three different sizes (S, M and L)
- Compact storage case
- Rechargeable USB-C lithium battery (battery life: 10 hours)

Delivery:
1x storage case, 1x USB-C charging cable, 1 pair of silicone ear plugs S, 1 pair of silicone ear plugs M, 1 pair of silicone ear plugs L

Technical data:
- Category: III
- EN standard: 352-2 | 352-7 | 352-9 | 352-10
- Model: Impact In-Ear PRO
- Sound insulation value: 30 dB
- Colour: Black

55782...	Ident. No.	206 ●

Prod. Gr. 5SH

uvex Active ear defenders (EN standard 352-1 | 352-4 | 352-6 | 352-8)

Model: uvex aXess one

Execution:
- Real-Active Listening (RAL) function for clear perception of environmental noise
- Communication without interruption of work: The Bluetooth(R) 5.2 connection can be used, for example, to connect a telephone or radio
- Communication without interruption of work: The Bluetooth 5.0 connection can be used, for example, to connect a telephone or radio
- Intuitive function keys on the hearing protector muffs allow quick and easy operation and free hands at work
- Audio Assistant announces the current status so that the hearing protector muffs do not need to be removed in the hazardous area
- Padded textile headband, shell padding made from extra-soft memory foam and an infinitely variable length adjustment guarantee a hight level of comfort even during extended use
- When not in use, the ear defenders can be stored small and handy with the foldable headband
- USB-C charging socket

Technical data:
- Category: III
- EN standard: 352-1 | 352-4 | 352-6 | 352-8
- Model: uvex aXess one
- Sound insulation value: 31 dB
- Colour: Black | Grey

55788...	Ident. No.	140 ●

Prod. Gr. 5XA

GEBRA Secure boxes for hearing protection

Model: SecuBox

Application:
For the clean and secure storage of ear plugs

Execution:
- With “Wear hearing protection” symbol
- For wall mounting (includes mounting materials)
- Made of impact-resistant ABS plastic

Ident. No. 030

Ident. No. 040

Ident. No. 050

Ident. No. 060

Model		SecuBox Mini	SecuBox Midi	SecuBox Mini	SecuBox Midi
Length x width x height		236 x 120 x 120 mm	236 x 225 x 125 mm	236 x 120 x 120 mm	236 x 225 x 125 mm
Colour		Blue	Blue	Transparent	Transparent
55798...	Ident. No.	030 ●	040 ●	050 ●	060 ●

Prod. Gr. 565

ATORN Particulate-filtering half face mask (EN standard 149)

A-Mask series

Execution:
- Flexibly adjustable nose clip
- Soft sealing lip ensures that the mask fits securely and comfortably
- Soft material edges for excellent comfort
- **Ident. No. 001, 003, 005:**
- Full-length head harness for a comfortable and secure fit
- Folding FFP mask: Design in three pieces allows facial movements during speech, making it particularly comfortable to wear

HIGHLIGHT

- **Ident. No. 002, 004, 006:** Full-length head harness for a comfortable and secure fit (A-Mask 2 and A-Mask 4)

Ident. No. 001

Ident. No. 002

Ident. No. 003

Ident. No. 004

Ident. No. 005

Ident. No. 006

Category		III	III	III	III	III	III
EN standard		149	149	149	149	149	149
Filter class		FFP2 NR D	FFP2 NR D	FFP2 NR D	FFP2 NR D	FFP3 NR D	FFP3 NR D
Model		A-Mask 1	A-Mask 2	A-Mask 3	A-Mask 4	A-Mask 5	A-Mask 6
Design		Without exhalation valve | With nose bridge | With headband | With sealing lip	Without exhalation valve | With nose bridge | With headband | With sealing lip	With exhalation valve | With nose bridge | With headband | With sealing lip	With exhalation valve | With nose bridge | With headband | With sealing lip	With exhalation valve | With nose bridge | With headband | With sealing lip	With exhalation valve | With nose bridge | With headband | With sealing lip
Included in delivery		20 pieces	20 pieces	15 pieces	10 pieces	15 pieces	5 pieces
55837...	Ident. No.	001 ●	002 ●	003 ●	004 ●	005 ●	006 ●

Prod. Gr. 565

3M Particulate-filtering half face mask (EN standard 149)

Series 8000

Category		III	III
EN standard		149	149
Filter class		FFP1 NR D	FFP2 NR D
Model		8710	8822
Design		Without exhalation valve | With nose bridge | With headband | With sealing lip	With exhalation valve | With nose bridge | With headband | With sealing lip
Included in delivery		20 pieces	10 pieces
55836...	Ident. No.	100 ●	130 ●

Prod. Gr. 5SC

Ident. No. 100

Ident. No. 130

3M Particulate-filtering half face mask (EN standard 149)

Series 8300

Category		III	III
EN standard		149	149
Filter class		FFP3 R D	FFP2 NR D
Model		8833	8810
Design		With exhalation valve | With nose bridge | With headband | With sealing lip	Without exhalation valve | With nose bridge | With headband | With sealing lip
Included in delivery		10 pieces	20 pcs
55836...	Ident. No.	180 ●	155 ●

Prod. Gr. 5SC

Ident. No. 155

Ident. No. 180

3M Particulate-filtering half face mask (EN standard 149)

Series 8800

Execution:
- With adjustable buckle strap
- Soft, inner sealing lip ring improves the face seal and provides greater comfort
- Can be hygienically cleaned when used across several shifts

Category		III	III
EN standard		149	149
Filter class		FFP2 R D	FFP3 R D
Model		8825	8835
Design		With exhalation valve | With nose bridge | With headband | With sealing lip	With exhalation valve | With nose bridge | With headband | With sealing lip
Included in delivery		5 pieces	5 pieces
55836...	Ident. No.	160 ●	190 ●

Prod. Gr. 5SC

Ident. No. 160

Ident. No. 190

3M Particulate-filtering half face mask (EN standard 149)

Aura, Series 9300+Gen 3

Execution:
- Design with three pieces allows face movements during speech and is therefore particularly comfortable to wear
- Grip function makes it easier to put on, adjust and remove the mask
- With 3M™ Cool Flow™ comfort valve

Category		III	III
EN standard		149	149
Filter class		FFP2 NR D	FFP3 NR D
Model		Aura 9322 +	Aura 9332 +
Design		With exhalation valve | With nose bridge | With headband | With sealing lip	With exhalation valve | With nose bridge | With headband | With sealing lip
Included in delivery		10 pieces	10 pieces
55836...	Ident. No.	210 ●	220 ●

Prod. Gr. 5SC

Ident. No. 210

Ident. No. 220

Breathing protection half face mask (EN standard 405)

Series 4000+

Execution:
- Ready-to-use, maintenance-free half face mask with built-in filter elements
- Lightweight and well-balanced mask
- Slim design for an optimal field of view
- Adjustable strap for secure and comfortable fit
- Soft and skin-friendly face seal
- Resealable pouch for practical and clean storage after use

Ident. No. 010

Ident. No. 020

Ident. No. 030

Category			III	III	III
EN standard			405	405	405
Model			4255+	4277+	4279+
55848...	FFA2P3RD – against organic gases and vapours and particulates up to 30 times the threshold value	Ident. No.	010 ●	-	-
55848...	FFABE1P3RD – against organic, inorganic and acidic gases and vapours and particulates up to 30 times the threshold value	Ident. No.	-	020 ●	-
55848...	FFAEKP3RD – against organic and inorganic gases and vapours, acidic gases and ammonia and particulates up to 30 times the threshold value	Ident. No.	-	-	030 ●

Prod. Gr. 5SC

Breathing protection half face mask (EN standard 140)

Secure-Click™ HF-800SD series

Execution:
- With voice membrane: For easier communication during work
- Unique and fast Secure-Click™ filter connection: Align the filter and push to hear a click
- Adjustable strap for a secure and comfortable fit
- Push-button seal check: Provides increased confidence that the respirator is being worn properly
- Face seal with flexible nose piece: Soft and comfortable to wear
- Reduced breathing resistance: Two dual-flow filters combine four airflow paths for easier breathing

NEW

- Exhalation valve helps direct heat from breath and moisture downwards
- Slim filter design for a good field of vision

Ident. No. 080

Ident. No. 081

Ident. No. 082

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Category		III	III	III
EN standard		140	140	140
Model		HF-801SD	HF-802SD	HF-803SD
Size		S	M	L
55848...	Ident. No.	080 ●	081 ●	082 ●

Prod. Gr. 5SC

Breathing protection half face mask (EN standard 140)

Model: 6500QL

Application:
For use in harsh and very dirty work environments

Execution:
- Quick-release mechanism: Quick release makes putting on and taking off quick and easy
- Durable and adjustable head strap for an optimal fit and high wearing comfort
- With Cool Flow exhalation valve
- Soft yet durable and robust silicone cover on the face
- Flat and compact design for a good view
- With bayonet click-connection for various filters

Category		III	III	III
EN standard		140	140	140
Model		6500QL	6500QL	6500QL
Size		S	M	L
55848...	Ident. No.	100 ●	110 ●	120 ●

Prod. Gr. 5SC

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Combination filter (EN standard 14387)

Secure-Click™ D8000 series

Application:
Suitable for 3M™ HF-800 breathing protection half face masks

Execution:
- Slim filter design for a good field of vision
- Reduced breathing resistance: Two dual-flow filters combine four airflow paths for easier breathing
- Even weight distribution when attached to the mask

Category		III	III
EN standard		14387	14387
Filter class		ABEK1P3R	A2P3R
Protection against		Organic vapours | Inorganic and acid gases | Ammoniac | Particles of toxic and acutely toxic substances | Formaldehyde	Organic vapours | Particles of toxic and acutely toxic substances
Model		D8094	D8095
Included in delivery		Pack of 2	Pack of 2
55848...	Ident. No.	200 ●	205 ●

Prod. Gr. 5SC

Ident. No. 200

Ident. No. 205

Filters and accessories for Breathing protection half face masks (EN standard 143)

Application:
Suitable for all reusable 3M™ half and full face masks with bayonet connection system

Execution:
- Trapezoidal gas and vapour filters combine outstanding protection with excellent wearing comfort
- Low breathing resistance
- Even weight distribution when attached to the mask
- Ref. no. 365 and 375: Insert filter to be used in combination with the gas filters
- Ref. no. 405: The filter cover is required for combining the particle insert filters (55848365 and 55848375) with the gas and vapour filters.

NEW

- Ref. no. 411: For attaching the particulate filter insert (55848365 and 55848375) to a respirator system. Equips gas and vapour filters with additional particulate protection.

Ident. No. 305

Ident. No. 315

Ident. No. 325

Ident. No. 335

Ident. No. 345

Ident. No. 355

Ident. No. 365

Ident. No. 375

Ident. No. 405

Ident. No. 411

Category		III	III	III	III	III	III	III	III	III	III
EN standard		143	143	143	143	143	143	143	143	143	143
Filter class		A1	K1	A2	A1 | B1	ABEK1	P3R	P2R	P3R	-	-
Protection against		Organic vapours and gases (boiling point above 65°C)	Ammoniac	Organic vapours and gases (boiling point above 65°C)	Inorganic and acid gases | Organic vapours and gases (boiling point above 65°C)	Inorganic and acid gases | Organic vapours and gases (boiling point above 65°C)	Fine dusts up to 30 times the limit value	Fine dusts up to 10 times the limit value	Fine dusts up to 30 times the limit value	-	-
Included in delivery		Pack of 8	Pack of 8	Pack of 8	Pack of 8	Pack of 8	Pack of 20	Pack of 20	Pack of 20	Pack of 2	-
55848...	Ident. No.	**305** ●	**315** ●	**325** ●	**335** ●	**345** ●	**355** ●	**365** ●	**375** ●	**405** ●	**411** ●

Prod. Gr. 5SC

ORION® Protective gloves (EN standard 388)

EN 388:2016 2111x

Application:
for working with high mechanical loads

Execution:
- with cotton on the back of the hand for optimum breathability

Notes:
Minimum order quantity: 12 pairs

Technical data:
- Category: II
- EN standard: 388
- ISO: 21420:2020
- Backing material: Pigskin

Size		8	9	10
55551...	Ident. No.	**108** ●	**109** ●	**110** ●

Prod. Gr. 5RC

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ATORN Protective gloves for assembly work (EN standard 388)

A-Mech 1

EN 388:2016 3131x

Application:
Ideal for all work with high requirements around touch sensitivity, e.g. in the automotive industry, fine assembly or for transport and sorting work

Execution:
- Extremely thin and with good sensitivity for excellent tactile feel
- Good grip
- Excellent fit
- Breathable
- With extended knitted cuff

Technical data:
- Category: II
- EN standard: 388
- ISO: 21420:2020
- Abrasion resistance: 3
- Cut resistance according to EN 388: 1
- Tearing strength: 3
- Puncture resistance: 1
- Cut resistance according to ISO 13997: X
- Model: A-Mech 1
- Backing material: Nylon
- Gauge: 18
- Coating: Polyurethane
- Use of protective gloves: For dry conditions

Notes:
Minimum order quantity: 12 pairs

Size		7	8	9	10	11	6
55551...	Ident. No.	**507** ●	**508** ●	**509** ●	**510** ●	**511** ●	**506** ●

Prod. Gr. 5RB

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ATORN Protective gloves for assembly work (EN standard 388)

A-Mech 2

EN 388:2016 4131x

Application:
Ideal for all work with high requirements around touch sensitivity, e.g. in the automotive industry, fine assembly, for precision work or transport and sorting work

Execution:
- Extremely thin and with good sensitivity for excellent tactile feel
- Good grip
- Excellent fit
- Breathable
- With extended knitted cuff

Notes:
Minimum order quantity: 12 pairs

Technical data:
- Category: II
- EN standard: 388
- ISO: 21420:2020
- Abrasion resistance: 4
- Cut resistance according to EN 388: 1
- Tearing strength: 3
- Puncture resistance: 1
- Cut resistance according to ISO 13997: X
- Model: A-Mech 2
- Backing material: Nylon with spandex fiber
- Gauge: 15
- Coating: Nitrile foam
- Use of protective gloves: For humid/slightly oily conditions
- Silicone-free: Yes
- Approval mark: OEKO-TEX Standard 100

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Size		6	7	8	9	10	11	12
55551...	Ident. No.	516 ●	517 ●	518 ●	519 ●	520 ●	521 ●	522 ●

Prod. Gr. 5RB

ATORN Protective gloves for assembly work (EN standard 388)

A-Mech 22

EN 388:2016 4131x

Application:
Ideal for all work with high requirements around touch sensitivity, e.g. in the automotive industry, fine assembly, for precision work or transport and sorting work

Execution:
- Extremely thin and with good sensitivity for excellent tactile feel
- Good grip
- Point pimples on the palms
- Excellent fit
- Breathable
- With extended knitted cuff

Notes:
Minimum order quantity: 12 pairs

Technical data:
- Category: II
- EN standard: 388
- ISO: 21420:2020
- Abrasion resistance: 4
- Cut resistance according to EN 388: 1
- Tearing strength: 3
- Puncture resistance: 1
- Cut resistance according to ISO 13997: X
- Model: A-Mech 22
- Backing material: Nylon with spandex fiber
- Gauge: 15
- Coating: Nitrile foam
- Use of protective gloves: For humid/slightly oily conditions
- Silicone-free: Yes

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Size		7	8	9	10	11	12	6
55551...	Ident. No.	527 ●	528 ●	529 ●	530 ●	531 ●	532 ○	526 ●

Prod. Gr. 5RB

ATORN Protective gloves for assembly work (EN standard 388)

A-Mech 3

EN 388:2016 3121x

Application:
Ideal for all work with high requirements around touch sensitivity, e.g. in the automotive industry, fine assembly, for precision work or transport and sorting work

Execution:
- Extremely thin and with good sensitivity for excellent tactile feel
- Good grip
- Excellent fit
- Breathable
- With extended knitted cuff
- DMF- and silicone-free

Notes:
Minimum order quantity: 12 pairs

Technical data:
- Category: II
- EN standard: 388
- ISO: 21420:2020
- Abrasion resistance: 3
- Cut resistance according to EN 388: 1
- Tearing strength: 2
- Puncture resistance: 1
- Cut resistance according to ISO 13997: X
- Model: A-Mech 3
- Backing material: Nylon
- Gauge: 18
- Coating: Nitrile foam
- Use of protective gloves: For humid/slightly oily conditions
- Silicone-free: Yes

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Size		7	8	9	10	11
55551...	Ident. No.	537 ●	538 ●	539 ●	540 ●	541 ●

Prod. Gr. 5RB

ATORN Protective gloves for assembly work (EN standard 388 | 16350)

A-Mech 4

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Application:
Ideal for all work with high requirements around touch sensitivity, e.g. in the automotive industry, fine assembly, for precision work or for ESD applications

Execution:
- Suitable for operating touchscreen displays
- Extremely thin and with superb sensitivity for excellent tactile feel
- Good grip
- Excellent fit
- Breathable
- With extended knitted cuff

Notes:
Minimum order quantity: 12 pairs

Technical data:
- Category: II
- EN standard: 388 | 16350
- ISO: 21420:2020
- Abrasion resistance: 4
- Cut resistance according to EN 388: 1
- Tearing strength: 3
- Puncture resistance: 1
- Cut resistance according to ISO 13997: X
- Model: A-Mech 4
- Backing material: Nylon-Carbon
- Gauge: 15
- Coating: Nitrile foam
- Use of protective gloves: For humid/slightly oily conditions
- Silicone-free: Yes

Size		7	8	9	10	11
55551...	Ident. No.	547 ●	548 ●	549 ●	550 ●	551 ●

Prod. Gr. 5RB

ORION Protective gloves for assembly work (EN standard 388)

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Application:
Ideal for all work with high requirements around touch sensitivity, e.g. in the automotive industry, fine assembly or for transport and sorting work

Execution:
- High tactile feel
- Good grip
- Excellent fit
- Breathable
- With knitted cuff

Notes:
Minimum order quantity: 12 pairs

Technical data:
- Category: II
- EN standard: 388
- ISO: 21420:2020
- Backing material: Nylon
- Gauge: 13
- Coating: Polyurethane
- Colour: Black

Size		7	8	9	10	11
55551...	Ident. No.	117 ●	118 ●	119 ●	120 ●	121 ●

Prod. Gr. 5RC

ORION Protective gloves for assembly work (EN standard 388)

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Application:
Ideal for all work with high requirements around touch sensitivity, e.g. in the automotive industry, fine assembly or for transport and sorting work

Execution:
- High tactile feel
- Good grip
- Excellent fit
- Breathable
- With knitted cuff

Notes:
Minimum order quantity: 12 pairs

Technical data:
- Category: II
- EN standard: 388
- ISO: 21420:2020
- Backing material: Nylon
- Gauge: 13
- Coating: Polyurethane
- Colour: White

Size		7	8	9	10	11
55551...	Ident. No.	127 ●	128 ●	129 ●	130 ●	131 ●

Prod. Gr. 5RC

ATORN Cut-resistant gloves (EN standard 388)

A-Shield 1

EN 388:2016 4x41B

Application:
Ideal for precision work with medium cut protection requirements, e.g. in metal and plastic processing, fine assembly and the automotive industry

Execution:
- Extremely thin and with good sensitivity for excellent tactile feel
- Good grip
- Excellent fit
- Breathable
- With extended knitted cuff
- Filamented fibres for cooling effect

Technical data:
- Category: II
- EN standard: 388
- ISO: 21420:2020
- Cut resistance according to EN 388: X
- Tearing strength: 4
- Puncture resistance: 1
- Cut resistance according to ISO 13997: B
- Model: A-Shield 1
- Backing material: HPPE
- Gauge: 18
- Abrasion resistance: 4
- Coating: Nitrile foam
- Use of protective gloves: For humid/slightly oily conditions

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Notes:
Minimum order quantity: 6 pairs

Size		7	8	9	10	11
55551...	Ident. No.	707 ●	708 ●	709 ●	710 ●	711 ●

Prod. Gr. 5RB

ATORN Cut-resistant gloves (EN standard 388)

A-Shield 2

EN 388:2016 4x43C

Application:
Ideal for precision work with high cut protection requirements, e.g. in metal and plastic processing, the paper and glass industry and the automotive industry

Execution:
- Extremely thin and with good sensitivity for excellent tactile feel
- Good grip
- Excellent fit
- Breathable
- With extended knitted cuff
- Filamented fibres for cooling effect
- Additional nitrile reinforcement in the crook of the thumb

Notes:
Minimum order quantity: 6 pairs

Technical data:
- Category: II
- EN standard: 388
- ISO: 21420:2020
- Cut resistance according to EN 388: X
- Tearing strength: 4
- Puncture resistance: 3
- Cut resistance according to ISO 13997: C
- Model: A-Shield 2
- Backing material: HPPE | Glass fiber
- Gauge: 15
- Abrasion resistance: 4
- Coating: Nitrile foam
- Use of protective gloves: For humid/slightly oily conditions

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Size		7	8	9	10	11
55551...	Ident. No.	717 ●	718 ●	719 ●	720 ●	721 ●

Prod. Gr. 5RB

ATORN Cut-resistant gloves (EN standard 388)

A-Shield 3

EN 388:2016 4x43D

Application:
Ideal for precision work with extremely high cut protection requirements, e.g. in metal and plastic processing, the paper and glass industry and the automotive industry

Execution:
- Extremely thin and with good sensitivity for excellent tactile feel
- Good grip
- Excellent fit
- Breathable
- With extended knitted cuff
- Additional nitrile reinforcement in the crook of the thumb

Notes:
Minimum order quantity: 6 pairs

Technical data:
- Category: II
- EN standard: 388
- ISO: 21420:2020
- Cut resistance according to EN 388: X
- Tearing strength: 4
- Puncture resistance: 3
- Cut resistance according to ISO 13997: D
- Model: A-Shield 3
- Backing material: HPPE | Basalt fibre with spandex
- Gauge: 18
- Abrasion resistance: 4
- Coating: Nitrile foam
- Use of protective gloves: For humid/slightly oily conditions

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Size		7	8	9	10	11
55551...	Ident. No.	727 ●	728 ●	729 ●	730 ●	731 ●

Prod. Gr. 5RB

ATORN Cut-resistant gloves (EN standard 388)

A-Shield 4

Application:
Ideal for working with extremely high cut protection requirements, e.g. in sheet steel and metal processing, maintenance and assembly

Execution:
- High tactile feel
- Good grip
- Excellent fit
- With extended knitted cuff
- Additional nitrile reinforcement in the crook of the thumb

Notes:
Minimum order quantity: 6 pairs

Technical data:
- Category: II
- EN standard: 388
- ISO: 21420:2020
- Cut resistance according to EN 388: X
- Tearing strength: 4
- Puncture resistance: 3
- Cut resistance according to ISO 13997: F
- Model: A-Shield 4
- Backing material: HPPE | Basalt fibre with spandex
- Gauge: 13
- Abrasion resistance: 4
- Coating: Nitrile foam
- Use of protective gloves: For humid/slightly oily conditions

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Size		7	8	9	10	11
55551...	Ident. No.	737 ●	738 ●	739 ●	740 ●	741 ●

Prod. Gr. 5RB

ORION Cut-resistant gloves (EN standard 388)

Application:
Ideal for work with high cut protection requirements, e.g. in metal and plastic processing, the paper and glass industry and the automotive industry

Execution:
- High tactile feel
- Good grip
- Excellent fit
- Breathable
- With knitted cuff

Notes:
Minimum order quantity: 12 pairs

Technical data:
- Category: II
- EN standard: 388
- ISO: 21420:2020
- Backing material: Polyester | Nylon with spandex fiber | Glass fiber
- Gauge: 13
- Coating: Polyurethane
- Colour: Grey

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Size		7	8	9	10	11
55551...	Ident. No.	137 ●	138 ●	139 ●	140 ●	141 ●

Prod. Gr. 5RC

uvex Chemical protective gloves (EN standard 388 | 374)

Application:
for working with the required chemical protection

Execution:
- good resistance against many chemicals, acids, bases, mineral oils and solvents
- ergonomic fit, very high flexibility
- cotton lining has very high vapour absorbency
- with reinforced cuff
- Suitable for handling food

Notes:
Minimum order quantity: 10 pairs

Technical data:
- Category: III
- EN standard: 388 | 374
- ISO: 21420:2020
- Suitable for use with food products: Yes
- Model: Rubiflex S NB 27 S
- Backing material: Cotton interlock
- Material thickness: 0.5 mm
- Length: 270 mm
- Coating: Nitrile natural rubber
- Approval mark: OEKO-TEX Standard 100

Size		8	9	10
55563...	Ident. No.	008 ○	009 ●	010 ●

Prod. Gr. 5XA

uvex Chemical protective gloves (EN standard 388 | 374)

Rubiflex S NB 35 S

EN 388:2016 2121x | EN ISO 374-1:2016/TYP A JKNOPT

Application:
for working with the required chemical protection

Execution:
- good resistance against many chemicals, acids, bases, mineral oils and solvents
- ergonomic fit, very high flexibility
- cotton lining has very high vapour absorbency
- with reinforced cuff
- Suitable for handling food

Notes:
Minimum order quantity: 10 pairs

Technical data:
- Category: III
- EN standard: 388 | 374
- ISO: 21420:2020
- Suitable for use with food products: Yes
- Model: Rubiflex S NB 35 S
- Backing material: Cotton interlock
- Material thickness: 0.5 mm
- Length: 350 mm
- Coating: Nitrile natural rubber
- Approval mark: OEKO-TEX Standard 100

OEKO-TEX STANDARD 100

Size		8	9	10
55563...	Ident. No.	108 ●	109 ●	110 ●

Prod. Gr. 5XA

uvex Chemical protective gloves (EN standard 388 | 374)

Rubiflex S NB 27 B

EN 388:2016 2111x | EN ISO 374-1:2016/TYP A JKNOPT

Application:
for working with the required chemical protection

Execution:
- ergonomic fit, very high flexibility
- good resistance against many chemicals, greases and mineral oils
- cotton lining has very high vapour absorbency

Notes:
Minimum order quantity: 10 pairs

Technical data:
- Category: II
- EN standard: 388 | 374
- ISO: 21420:2020
- Suitable for use with food products: No
- Model: Rubiflex S NB 27 B
- Backing material: Cotton
- Material thickness: 0.4 mm
- Length: 270 mm
- Coating: Nitrile natural rubber
- Approval mark: OEKO-TEX Standard 100

OEKO-TEX STANDARD 100

Size		7	8	9	10
55563...	Ident. No.	207 ●	208 ●	209 ●	210 ●

Prod. Gr. 5XA

uvex Chemical protective gloves (EN standard 388 | 374)

Rubiflex S NB 35 B

EN 388:2016 2111x | EN ISO 374-1:2016/TYP A JKNOPT

Application:
for working with the required chemical protection

Execution:
- ergonomic fit, very high flexibility
- good resistance against many chemicals, greases and mineral oils
- cotton lining has very high vapour absorbency

Notes:
Minimum order quantity: 10 pairs

Technical data:
- Category: II
- EN standard: 388 | 374
- ISO: 21420:2020
- Suitable for use with food products: No
- Model: Rubiflex S NB 35 B
- Backing material: Cotton
- Material thickness: 0.4 mm
- Length: 350 mm
- Coating: Nitrile natural rubber
- Approval mark: OEKO-TEX Standard 100

OEKO-TEX STANDARD 100

Size		7	8	9	10
55563...	Ident. No.	307 ●	308 ●	309 ●	310 ●

Prod. Gr. 5XA

uvex **Chemical protective gloves** (EN standard 388 | 374)

Rubiflex S XG 27 B

Application:
for working with the required chemical protection

Execution:
- light glove with innovative Xtra Grip Technology
- combines protection and grip with excellent comfort and flexibility
- good resistance against many chemicals, greases and mineral oils
- cotton lining has very high vapour absorbency

Notes:
Minimum order quantity: 10 pairs

Technical data:
- Category: III
- EN standard: 388 | 374
- ISO: 21420:2020
- Suitable for use with food products: No
- Model: Rubiflex S XG 27 B
- Backing material: Cotton
- Material thickness: 0.4 mm
- Length: 270 mm
- Coating: Nitrile natural rubber
- Approval mark: OEKO-TEX Standard 100

Size		7	8	9	10
55563...	Ident. No.	407 ●	408 ●	409 ●	410 ●

Prod. Gr. 5XA

MAPA PROFESSIONAL **Chemical protective gloves** (EN standard 388 | 407)

JERSETTE 300

Application:
for working with the required chemical protection

Execution:
- absolute long-term comfort in aggressive environments
- freedom of movement thanks to anatomical shape and extremely comfortable to wear thanks to fabric backing with seamless gripping surface
- High tear resistance
- good resistance to many diluted acids and alkalis

Notes:
Minimum order quantity: 5 pairs

Technical data:
- Category: III
- EN standard: 388 | 407
- ISO: 21420:2020
- Suitable for use with food products: No
- Model: JERSETTE 300
- Backing material: Velour
- Material thickness: 1.15 mm
- Coating: Natural latex
- Silicone-free: Yes

Length (mm)		300	310	320	330
Size		7	8	9	10
55521...	Ident. No.	007 ●	008 ●	009 ●	010 ●

Prod. Gr. 5SA

MAPA PROFESSIONAL **Chemical protective gloves** (EN standard 388 | 374 | 407)

ULTRANITRIL 381

Application:
for working with the required chemical protection

Execution:
- extremely smooth thanks to the patented MAPA multi-layer procedure
- Structured palm grip
- bonded cotton inner knitted lining ensures the highest comfort and thermal insulation
- long-term protection against aggressive chemical substances

Notes:
Minimum order quantity: 12 pairs

Technical data:
- Category: III
- EN standard: 388 | 374 | 407
- ISO: 21420:2020 | 18889
- Suitable for use with food products: No
- Model: ULTRANITRIL 381
- Backing material: Cotton
- Material thickness: 0.85 mm
- Length: 355 mm
- Coating: Nitrile
- Silicone-free: Yes

Size		7	8	9	10
55521...	Ident. No.	107 ●	108 ●	109 ●	110 ●

Prod. Gr. 5SA

MAPA PROFESSIONAL Chemical protective gloves (EN standard 388 | 374)

ULTRANITRIL 492

Application:
to make sure you are working with the required chemical protection when handling oils, solvents and cleaning agents

Execution:
- good mechanical resistance and long-term protection against chemicals
- anatomical shape and high-quality velour lining for dexterity and comfort
- Structured palm grip

Notes:
Minimum order quantity: 10 pairs

Technical data:
- Category: III
- EN standard: 388 | 374
- ISO: 21420:2020 | 18889
- Suitable for use with food products: No
- Model: ULTRANITRIL 492
- Backing material: Velour
- Material thickness: 0.38 mm
- Length: 320 mm
- Coating: Nitrile
- Silicone-free: Yes

Size		7	8	9	10
55521...	Ident. No.	207 ●	208 ●	209 ●	210 ●

Prod. Gr. 5SA

ORION Disposable protective gloves (EN standard 374)

Application:
For assembly and cleaning work, for laboratory work, for painting and polishing work as well as for work in the food sector

Execution:
- approved for contact with food
- powder-free
- Can be worn on both sides

Notes:
Minimum order quantity: 1 box with 100 pieces

Technical data:
- Category: III
- EN standard: 374
- ISO: 21420:2020
- Suitable for use with food products: Yes
- Backing material: Nitrile
- Material thickness: 0.1 mm
- Length: 240 mm
- Silicone-free: Yes
- Colour: Black

Size		7	8	9	10
55551...	Ident. No.	147 ●	148 ●	149 ●	150 ●

Prod. Gr. 5RC

uvex Disposable protective gloves (EN standard 374)

Application:
For light assembly and cleaning work, as well as laboratory work

Execution:
- good mechanical strength and reliable protection against oil and contamination
- good grip and excellent fit
- textured surface
- powder-free

Notes:
Minimum order quantity: 1 box of 100 units

Technical data:
- Category: III
- EN standard: 374
- ISO: 21420:2020
- Suitable for use with food products: No
- Model: u-fit
- Backing material: Nitrile natural rubber
- Material thickness: 0.1 mm
- Length: 240 mm
- Silicone-free: Yes
- Colour: Blue

Size		S	M	L	XL
55563...	Ident. No.	001 ●	002 ●	003 ●	004 ●

Prod. Gr. 5XA

ORION® Glove holder, small

your gloves are always within reach!

Execution:
- Suitable for all glove types, especially for thin gloves (e.g. Knitted, assembly and cut protection gloves)
- attach to your work clothes using a snap hook or belt clip
- attach the gloves by squeezing the clip
- easily open the glove holder by applying slight pressure to the toothed rack
- Made from impact-resistant polycarbonate

Technical data:
- Colour: Anthracite grey RAL 7016

55530...	Ident. No.	005 ●

Prod. Gr. 5RC

ORION® Glove holder

your gloves are always within reach!

Execution:
- Suitable for all glove types, especially for heavy gloves (e.g. leather gloves)
- attach to your work clothes using a snap hook or belt clip
- attach the gloves by squeezing the clip
- easily open the glove holder by applying slight pressure to the toothed rack
- made from impact-resistant and robust polycarbonate

Technical data:
- Colour: Anthracite grey RAL 7016

55530...	Ident. No.	000 ●

Prod. Gr. 5RC

WKS **Hand-held shield** (EN standard 175)

GF-K1

Execution:
- Offset version
- Temperature-resistant composite fibreglass
- Suitable for 90 x 110 mm lenses
- Safe and tool-free lens replacement using two knurled thumb screws

Delivery:
Lens not included

Technical data:
- Category: II
- EN standard: 175

55700...	Ident. No.	100 ●

Prod. Gr. 565

WKS **Hand-held welding shield** (EN standard 175)

GF-K2

Execution:
- Offset version
- Temperature-resistant composite fibreglass
- Handle with integrated plastic clear-view mechanism
- Suitable for 90 x 110 mm lenses
- Safe and tool-free lens replacement using two knurled thumb screws

Delivery:
No lens

Technical data:
- Category: II
- EN standard: 175

55700...	Ident. No.	101 ●

Prod. Gr. 565

Flip-down welding shield (EN standard 175)

GF-K4

Execution:
- Temperature-resistant composite fibreglass
- Suitable for 90 x 110 mm lenses
- Safe and tool-free lens replacement using two knurled thumb screws

Delivery:
Lens not included

Technical data:
- Category: II
- EN standard: 175

55700...	Ident. No.	102 ●

Prod. Gr. 565

External lens (EN standard 166)

Suitable for 55700100, 55700101 and 55700102

Execution:
- Mineral glass lens
- Thickness: 2 mm

Delivery:
Pack of 10

Technical data:
- Category: II
- EN standard: 166
- Width of glass: 110 mm
- Glass height: 90 mm
- Colour: Clear

55700...	Ident. No.	103 ●

Prod. Gr. 565

Welding lens (EN standard 166 | 169)

Suitable for 55700100, 55700101 and 55700102

Execution:
- Green

Technical data:
- Category: II
- EN standard: 166 | 169
- Width of glass: 110 mm
- Glass height: 90 mm
- Colour: Green

Protection level		9	10	11	12	13	14
55700...	Ident. No.	104 ●	105 ●	106 ●	107 ●	108 ●	109 ●

Prod. Gr. 565

Mirrored welding lens (EN standard 166 | 169)

Suitable for 55700100, 55700101 and 55700102

Technical data:
- Category: II
- EN standard: 166 | 169
- Width of glass: 110 mm
- Glass height: 90 mm

Protection level		9	10	11	12	13
55700...	Ident. No.	111 ●	112 ●	113 ●	114 ●	115 ●

Prod. Gr. 565

Inner lens (EN standard 166)

Suitable for 55700100, 55700101 and 55700102

Execution:
- PET-G plastic
- Thickness: 0.8 mm

Technical data:
- Category: II
- EN standard: 166
- Width of glass: 110 mm
- Glass height: 90 mm
- Colour: Clear

55700...	Ident. No.	110 ●

Prod. Gr. 565

Automatic welding helmet (EN standard 166 | 175 | 379)

Model: p550 neo

Application:
Electrode welding (stick welding, SMAW), MIG/MAG (gas metal arc welding, GMAW), GMAW high-performance welding, flux-core welding, TIG welding (GTAW), plasma welding, microplasma welding, plasma cutting

Execution:
- Classic helmet featuring the latest in cartridge technology for shade control
- True-colour view: A specially developed UV/IR filter enables colour perception and brings colours into the world of the welder
- Perfect protection due to short response times when darkening
- New energy concept: “Super sleep mode” means the electronics are significantly more energy efficient and can be used for approx. 3000 hours without changing the battery
- Manual adjustment
- Power supply: Solar cells, 2 lithium button cells (approx. 3000 hours operating time)
- Switching time from light to dark: 0.1 ms
- Switch-off time: 0.05-1.0 s
- Y Series

Technical data:
- Category: II
- EN standard: 166 | 175 | 379
- Classification according to EN 379: 1 / 1 / 1 / 2
- Model: p550 neo
- Width of glass: 50 mm
- Glass height: 100 mm
- Min./max. protection level: 9-13
- Translucency when not activated: Protection level 4

55700...	Ident. No.	200 ●

Prod. Gr. 5SI

Automatic welding helmet (EN standard 166 | 175 | 379)

Model: crystal 2.0

Application:
Electrode welding (stick welding, SMAW), MIG/MAG (gas metal arc welding, GMAW), GMAW high-performance welding, flux-core welding, TIG welding (GTAW), plasma welding, microplasma welding, plasma cutting, gas welding, grinding mode

Execution:
- Crystal Lens Technology: Crystal-clear visibility before, during and after welding
- In the light state, colour perception is exceptionally realistic and in the darkened state, a detailed, high-contrast view of the welding bath is possible
- Heat-reflective paint keeps your head cool
- Grinding mode: The brightest view for grinding that a welding helmet has ever offered
- Autopilot or manual adjustment
- Power supply: Solar cells, 2 lithium button cells (approx. 3000 hours operating time)
- Switching time from light to dark: 0.1 ms
- Switch-off time: 0.05-1.0 s, with dimming function
- Sphere series

Technical data:
- Category: II
- EN standard: 166 | 175 | 379
- Classification according to EN 379: 1 / 1 / 1 / 2
- Model: crystal 2.0
- Width of glass: 100 mm
- Glass height: 50 mm
- Min./max. protection level: 4-12
- Translucency when not activated: Protection level 2

55700...	Ident. No.	201 ●

Prod. Gr. 5SI

Automatic welding helmet with powered air respirator (EN standard 166 | 175 | 379 | 12941)

Model: crystal 2.0

Application:
Electrode welding (stick welding, SMAW), MIG/MAG (gas metal arc welding, GMAW), GMAW high-performance welding, flux-core welding, TIG welding (GTAW), plasma welding, microplasma welding, plasma cutting, gas welding, grinding mode

Execution:
- Crystal Lens Technology: Crystal-clear visibility before, during and after welding
- In the light state, colour perception is exceptionally realistic and in the darkened state, a detailed, high-contrast view of the welding bath is possible
- Heat-reflective paint keeps your head cool
- Grinding mode: The brightest view for grinding that a welding helmet has ever offered
- Autopilot or manual adjustment
- Power supply: Solar cells, 2 lithium button cells (approx. 3000 hours operating time)
- Switching time from light to dark: 0.1 ms
- Switch-off time: 0.05-1.0 s, with dimming function
- Includes powered air respirator e3000x: Constant breathing protection throughout the welding process
- Sphere series

Technical data:
- Category: II
- EN standard: 166 | 175 | 379 | 12941
- Classification according to EN 379: 1 / 1 / 1 / 2
- Model: crystal 2.0
- Width of glass: 100 mm
- Glass height: 50 mm
- Min./max. protection level: 4-12
- Translucency when not activated: Protection level 2

55700...	Ident. No.	202 ●

Prod. Gr. 5SI

Automatic welding helmet (EN standard 166 | 175 | 379)

Model: vegaview 2.5

Application:
Electrode welding (stick welding, SMAW), MIG/MAG (gas metal arc welding, GMAW), GMAW high-performance welding, flux-core welding, TIG welding (GTAW), plasma welding, microplasma welding, plasma cutting, gas welding, grinding mode

Execution:
- Detailed and true-colour view of the welding process
- Extremely bright shade cartridge, which offers around 400 % better visibility than conventional automatic welding helmets in the light state at protection level 2.5
- Grinding mode: A simple push of a button on the outside of the welding helmet activates the grinding mode
- Manual adjustment (outside)
- Power supply: Solar cells, 2 lithium button cells (approx. 3000 hours operating time)
- Switching time from light to dark: 0.1 ms
- Switch-off time: 0.05-1.0 s, with dimming function
- Sphere series

Technical data:
- Category: II
- EN standard: 166 | 175 | 379
- Classification according to EN 379: 1 / 1 / 1 / 2
- Model: vegaview 2.5
- Width of glass: 100 mm
- Glass height: 50 mm
- Min./max. protection level: 8-12
- Translucency when not activated: Protection level 2,5

55700...	Ident. No.	203 ●

Prod. Gr. 5SI

Automatic welding helmet with fresh air connection (EN standard 166 | 175 | 379)

Model: vegaview 2.5

Application:
Electrode welding (stick welding, SMAW), MIG/MAG (gas metal arc welding, GMAW), GMAW high-performance welding, flux-core welding, TIG welding (GTAW), plasma welding, microplasma welding, plasma cutting, gas welding, grinding mode

Execution:
- Detailed and true-colour view of the welding process
- Extremely bright shade cartridge, which offers around 400 % better visibility than conventional automatic welding helmets in the light state at protection level 2.5
- With fresh air connection: May be upgraded with a powered air respirator e3000x
- Grinding mode: A simple push of a button on the outside of the welding helmet activates the grinding mode
- Manual adjustment (outside)
- Power supply: Solar cells, 2 lithium button cells (approx. 3000 hours operating time)
- Switching time from light to dark: 0.1 ms
- Switch-off time: 0.05-1.0 s, with dimming function
- Sphere series

Technical data:
- Category: II
- EN standard: 166 | 175 | 379
- Classification according to EN 379: 1 / 1 / 1 / 2
- Model: vegaview 2.5
- Width of glass: 100 mm
- Glass height: 50 mm
- Min./max. protection level: 8-12
- Translucency when not activated: Protection level 2,5

55700...	Ident. No.	204 ●

Prod. Gr. 5SI

Grinding helmet (EN standard 166 | 169 | 170 | 12941)

Model: clearmaxx

Application:
Ideal for grinding applications in metalworking, paint shops or the automotive industry

Execution:
- Unrestricted and clear view of the workplace
- clearmaxx series

Technical data:
- Category: II
- EN standard: 166 | 169 | 170 | 12941
- Model: clearmaxx

55700...	Ident. No.	205 ●

Prod. Gr. 5SI

Grinding helmet with fresh air connection (EN standard 166 | 169 | 170 | 12941)

Model: clearmaxx

Application:
Ideal for grinding applications in metalworking, paint shops or the automotive industry

Execution:
- Unrestricted and clear view of the workplace
- Can be combined with powered air respirator e3000x
- Individually controlled air distribution: A stepless rotary switch allows up to 20 % of the air from the fresh air system to be fed into the forehead area for additional cooling. Avoids direct air flow over the eyes that could cause them to dry out.
- clearmaxx series

Technical data:
- Category: II
- EN standard: 166 | 169 | 170 | 12941
- Model: clearmaxx

55700...	Ident. No.	206 ●

Prod. Gr. 5SI

Swiss air respirator system (EN standard 12941)

Application:
Ideal for welding and grinding work in the automotive, heavy metals and chemical industries

Execution:
- Flexible to use and completely independent of the helmet system used
- Guaranteed TH3 protection: 99.8 % of all harmful particulates, aerosols, vapours, smoke and viruses are reliably filled out of the surrounding air
- Ventilated half face mask made of flame retardant material completely covers the mouth and nose
- Y-hose with adjustable neck strap and flexible hose elements guides the air directly into the half face mask
- Shoulder support unit allows the weight of the super-light filter system (550 g) to be perfectly ergonomically distributed and thus avoids pain in the neck and back
- Infinitely adjustable headband for all sizes from XS to XL
- Blower unit with automatic airflow calibration and 14-hour high-capacity battery for an uninterrupted working day
- Easy and safe use, as no fit test is necessary
- Improve performance with clean air
- Increased productivity by eliminating forced breaks

Delivery:
Consisting of comfort half face mask, blower unit, hose connections, head and neck strap, shoulder support unit, control panel, charger and backpack

Technical data:
- Category: III
- EN standard: 12941
- Model: swiss air

55700...	Ident. No.	207 ○

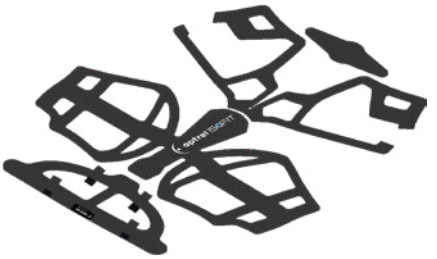
Prod. Gr. 5SI

Replacement pad

For ISO FIT headgear

Execution:
- Replacement jersey pad is designed to provide optimal cushioning for the ISO FIT headgear
- Easy to clean or replace with a new pad

Delivery:
PU of 5 units



55700...	Ident. No.	208 ●

Prod. Gr. 5SI

ISO FIT headgear

Fits all OPTREL helmets

Execution:
- Revolutionary headband for maximum, individual comfort
- Strong outer headband pad
- Flexible inner headband pad
- Individually adjustable forehead stabiliser and rear head stabiliser
- Precise, infinitely adjustable cable feed system for a perfect fit
- Three-dimensionally adjustable in width, length and height
- Perfect for all head sizes, from S to XL
- Large, replaceable comfort pad is comfortable to wear, offering 100 % more contact surface for perfect weight distribution
- With quick release function for immediate opening

Technical data:
- Min./max. size: 52 cm-62 cm

55700...	Ident. No.	209 ●

Prod. Gr. 5SI

External lens

For sphere series

Delivery: PU of 5 units

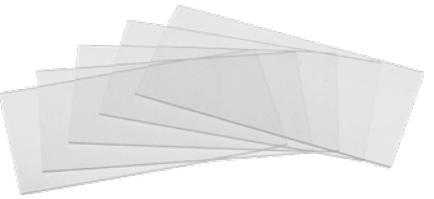
55700...	Ident. No.	210 ●

Prod. Gr. 5SI

Inner lens

For sphere series and Y series

Delivery: PU of 5 units



55700...	Ident. No.	211 ●

Prod. Gr. 5SI

Magnifying lenses
For sphere series and Y series

55700...	Correction lens +1.0	Ident. No.	212 ●
55700...	Correction lens +1.5	Ident. No.	213 ●
55700...	Correction lens +2.0	Ident. No.	214 ●
55700...	Correction lens +2.5	Ident. No.	215 ●

Prod. Gr. 5SI

Tear off film
For clearmaxx series

Delivery: PU of 10 units

55700...	Ident. No.	216 ●

Prod. Gr. 5SI

Lenses
For clearmaxx series

Delivery: PU of 5 units

55700...	Ident. No.	217 ●

Prod. Gr. 5SI

Lens protection level 5
For clearmaxx series

Delivery: PU of 2 units

55700...	Ident. No.	218 ●

Prod. Gr. 5SI

Lens protection level 3
For clearmaxx series

Delivery: PU of 2 units

55700...	Ident. No.	219 ●

Prod. Gr. 5SI

Screw-in safety device

To secure the comfort headband

Delivery: PU of 2 units

55700...	Ident. No.	220 ●

Prod. Gr. 5SI

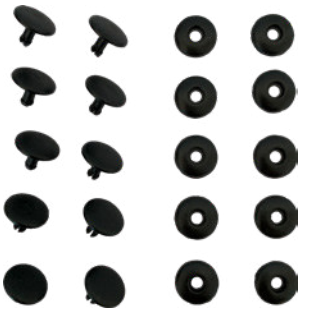
Repair set

To secure the head seal

Execution:
- Includes 10 rivets and 10 clamping washers

55700...	Ident. No.	221 ●

Prod. Gr. 5SI



Head sweatband

Suitable for comfort headband

Execution:
- Cotton
- With hook-and-loop fastener

Delivery: PU of 2 units

55700...	Ident. No.	222 ●

Prod. Gr. 5SI

Rear comfort headband

Suitable for comfort headband

Execution:
- Cotton
- With hook-and-loop fastener

Delivery: PU of 2 units

55700...	Ident. No.	223 ●

Prod. Gr. 5SI

Leather chest protection

Execution:
- For mounting on various welding helmets
- Reliable protection against welding spatters

55700...	Ident. No.	224 ●

Prod. Gr. 5SI

Leather head and neck protection

Execution:
- For mounting on various welding helmets
- With hook-and-loop fastener
- Reliable protection against welding spatters

55700...	Ident. No.	225 ●

Prod. Gr. 5SI

Comfort headband

55700...	Ident. No.	226 ●

Prod. Gr. 5SI

halo clip-on comfort pad

Suitable for all OPTREL headbands

55700...	Ident. No.	227 ●

Prod. Gr. 5SI

Bumpcap

Impact protection for attaching to headband

Execution:

- Protection against impacts and abrasions

55700...	Ident. No.	228 ●

Prod. Gr. 5SI

TH3 particulate filter including prefilter

For swiss air respirator system

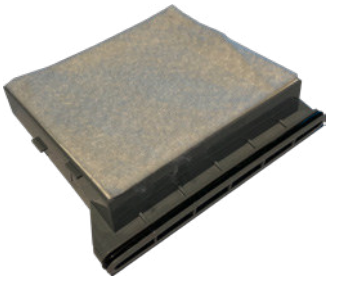
Execution:

- TH3/TM3 particulate filter for 99.8 % clean breathing air
- Particulate filter against dust, aerosols, smoke or viruses
- Includes prefilter

NEW

55701...	Ident. No.	251 ●

Prod. Gr. 5SI



Particulate prefilter

For swiss air respirator system

Execution:

- To protect the particulate filter

Delivery:

PU of 50 units

55700...	Ident. No.	230 ●

Prod. Gr. 5SI

Half face mask

For swiss air respirator system

Execution:

- Exhalation valve with silicone diaphragm

55700...	Ident. No.	231 ●

Prod. Gr. 5SI

Nose foam

For swiss air respirator system

Delivery: PU of 5 units

55700...	Ident. No.	232 ●

Prod. Gr. 5SI

Spark protection grid

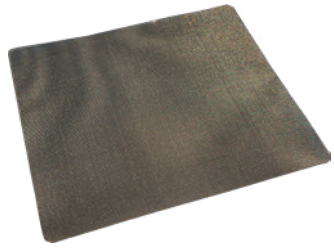
For swiss air respirator system

Execution:
- Protects the particulate prefilter against flying sparks

Delivery: PU of 2 units

55700...	Ident. No.	233 ●

Prod. Gr. 5SI



Neckband

For swiss air respirator system

Execution:
- For mounting to the half face mask

Delivery: PU of 2 units

55700...	Ident. No.	234 ●

Prod. Gr. 5SI

Headband for half face mask

For swiss air respirator system

Execution:
- For mounting to the half face mask

Delivery: PU of 2 units

55700...	Ident. No.	235 ●

Prod. Gr. 5SI

Shoulder harness

For swiss air respirator system

55700...	Ident. No.	236 ●

Prod. Gr. 5SI

Spare rechargeable battery

For swiss air respirator system

Execution:
- Battery life: 14 hours
- Rechargeable

55700...	Ident. No.	237 ●

Prod. Gr. 5SI

Sealing ring for hose

For swiss air respirator system

Delivery: PU of 5 units

55700...	Ident. No.	238 ●

Prod. Gr. 5SI

Storage box

For swiss air respirator system

55700...	Ident. No.	239 ●

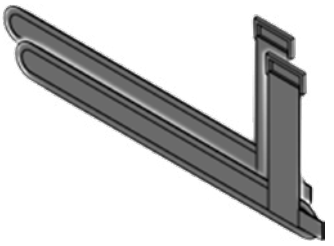
Prod. Gr. 5SI

Extension for shoulder harness

For swiss air respirator system

55700...	Ident. No.	240 ●

Prod. Gr. 5SI



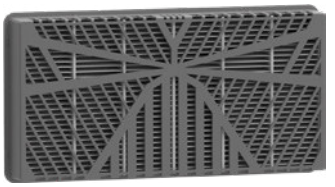
TH3 particulate filter including prefilter

For e3000x

Execution:
- TH3 particulate filter for 99.8 % clean breathing air
- Particulate filter against dust, aerosols, smoke or viruses
- Includes prefilter

55700...	Ident. No.	241 ●

Prod. Gr. 5SI



Particulate prefilter

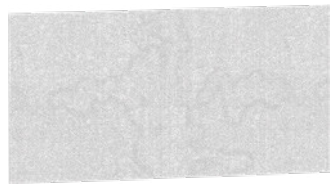
For e3000x

Execution:
- To protect the particulate filter

Delivery:
PU of 50 units

55700...	Ident. No.	242 ●

Prod. Gr. 5SI



Sealing kit

For e3000x

Execution:
- Sealing kit for replacing the filter unit sealing ring

55700...	Ident. No.	243 ●

Prod. Gr. 5SI

Air hose

For e3000x

55700...	Ident. No.	244 ●

Prod. Gr. 5SI

Gas filter cartridge A1B1E1

For e3000x

Execution:
- Protects the user from vapours as well as organic, inorganic and acidic gases

55700...	Ident. No.	245 ●

Prod. Gr. 5SI

Spark protection grid

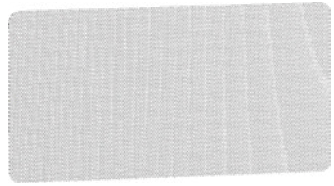
For e3000x

Execution:
- Protects the particulate prefilter against flying sparks

Delivery:
PU of 2 units

55700...	Ident. No.	246 ●

Prod. Gr. 5SI



Speedglas™ Automatic welding helmets (EN standard 166 | 175 | 379)

Model: 100 V

Application:
For MIG/MAG and WIG welding, manual metal arc welding, tack welding and grinding

Execution:
- Comfortable headband with smooth ratchet mechanism for a perfect fit
- Power supply: Lithium button cell (approx. 1500 hours operating time)
- Switching time from light to dark: 0.1 ms

Technical data:
- Category: II
- EN standard: 166 | 175 | 379
- Classification according to EN 379: 1 / 2 / 2 / 2
- Model: 100V
- Width of glass: 93 mm
- Glass height: 44 mm
- Min./max. protection level: 8-12
- Translucency when not activated: Protection level 3

55730...	Ident. No.	400 ●

Prod. Gr. 5SC

Accessories for		55730 400
55730... Replacement sweatband Suitable for models 100V and 9002NC, Towelling, pack of 2	Ident. No.	401 ●
55730... Replacement sweatband Suitable for models 100V and 9002NC, Leather	Ident. No.	402 ●
55730... Replacement sweatband Suitable for models 100V and 9002NC, Fleece, pack of 2	Ident. No.	403 ●
55730... Spare clear external shield suitable for 100V model,	Ident. No.	450 ●
55730... Spare clear inside shield suitable for 100V model,	Ident. No.	460 ●

Speedglas™ Automatic welding helmets (EN standard 166 | 175 | 379)

Model: 9002NC

Application:
For MIG/MAG and WIG welding, manual metal arc welding, plasma arc welding, tack welding and grinding

Execution:
- 3M™ Speedglass™ Natural Colour Technology for natural colour reproduction, increased contrast and enhanced visibility
- Increased freedom of movement as the mask can be worn closer to the face thanks to the exhalation valve integrated into the helmet shell
- Comfortable headband with smooth adjustment wheel for a perfect fit
- Power supply: Lithium button cell (approx. 2000 hours operating time)
- Switching time from light to dark: 0.1 ms

Technical data:
- Category: II
- EN standard: 166 | 175 | 379
- Classification according to EN 379: 1 / 1 / 1 / 2
- Model: 9002NC
- Width of glass: 107 mm
- Glass height: 54 mm
- Min./max. protection level: 8-12
- Translucency when not activated: Protection level 3

55730...	Ident. No.	410 ●

Prod. Gr. 5SC

Accessories for		55730 410
55730... Replacement sweatband Suitable for models 100V and 9002NC, Towelling, pack of 2	Ident. No.	401 ●
55730... Replacement sweatband Suitable for models 100V and 9002NC, Leather	Ident. No.	402 ●
55730... Replacement sweatband Suitable for models 100V and 9002NC, Fleece, pack of 2	Ident. No.	403 ●
55730... Spare clear external shield Suitable for model 9002NC,	Ident. No.	470 ●
55730... Spare clear inside shield Suitable for model 9002NC,	Ident. No.	480 ●

Speedglas™ Automatic welding helmets (EN standard 166 | 175 | 379)

Model: 9100

Application:
For MIG/MAG and WIG welding, manual metal arc welding, plasma arc welding, tack welding and grinding

Execution:
- Patented comfort headband for enhanced comfort also with the mask flipped up
- Optimum results for versatile welding thanks to a choice of seven protection levels (5, 8, 9-13)
- Enhanced ear and side protection provide additional safety
- Lateral valves allow exhaled air to escape more easily
- Power supply: Lithium button cell (approx. 2800 hours operating time for ref. no. 310, approx. 2500 hours operating time for ref. no. 320 and approx. 2000 hours operating time for ref. no. 330)
- Switching time from light to dark: 0.1 ms

Technical data:
- Category: II
- EN standard: 166 | 175 | 379
- Classification according to EN 379: 1 / 1 / 1 / 2
- Min./max. protection level: 5-13
- Translucency when not activated: Protection level 3

Model		9100V	9100 X	9100 XX
Width of glass (mm)		93	107	107
Glass height (mm)		45	54	73
55733...	Ident. No.	310 ●	320 ●	330 ●

Prod. Gr. 5SC

Accessories for		55733 310	55733 320	55733 330
55733... Spare external shield Suitable for model 9100	Ident. No.	400 ●	400 ●	400 ●
55733... Spare inside shield Suitable for model 9100 V	Ident. No.	410 ●	-	-
55733... Replacement head band Suitable for model 9100	Ident. No.	450 ●	450 ●	450 ●
55733... Spare inside shield Suitable for model 9100 X	Ident. No.	-	420 ●	-
55733... Spare inside shield Suitable for model 9100 XX	Ident. No.	-	-	430 ●

Welding bay and accessories

Execution:
- **Ident. No. 005–015:**
  - All-round multiple seam
  - Reinforced hem to prevent tearing
  - Reinforced plastic eyelets, 12 mm
  - Plastic press studs to link multiple curtains
  - Easy self-assembly thanks to modular system
  - Other sizes available on request
- **Ident. No. 030:**
  - Comprises stand, base plate, top plate and C-rail mount
  - Stand height max. 2300 mm
  - Other heights available on request
- **Ident. No. 030–050:** Galvanised steel
- **Ident. No. 040:**
  - With screws and plugs
  - For attaching the C rail
- **Ident. No. 050:**
  - Length: 2000 mm
  - Other lengths available on request
- **Ident. No. 050–060:** For attaching the curtains
- **Ident. No. 060:**
  - Easy glide
  - 7 hooks needed per curtain

Delivery:
Ident. No. 030: Kit consisting of stand, base plate and clamping chuck for C-rail

Length (mm)			1800	2300	-	2000
Width (mm)			1300	-	-	-
Weight (kg)			1.6	7.2	-	5
55740...	Curtain T 50	Ident. No.	005 ○+	-	-	-
55740...	Curtain T 55	Ident. No.	006 ○+	-	-	-
55740...	Curtain T 75	Ident. No.	015 ○+	-	-	-
55740...	Stands	Ident. No.	-	030 ○+	-	-
55740...	Wall mounting	Ident. No.	-	-	040 ○+	-
55740...	C-loop	Ident. No.	-	-	-	050 ○+
55740...	PA-hooks	Ident. No.	-	-	060 ○	-

Prod. Gr. 560

Ident. No. 005

Ident. No. 006

Ident. No. 015

Ident. No. 030

Ident. No. 040

Ident. No. 050

Ident. No. 060

Portable protective welding screen

Execution:
- Quick and easy to assemble thanks to modular system
- Can be dismantled
- Space-saving and easy to transport
- **Ident. No. 100:**
  - Protective welding screen, 1 piece
  - Can be moved
  - With two locking swivel castors
  - Film
- **Ident. No. 110:**
  - With three lockable castors
  - Film curtain
  - Secured using rip-tape
- **Ident. No. 110–210:**
  - On castors
  - Little space required thanks to swivelling side parts
- **Ident. No. 210:**
  - Enables long workpieces to be moved without light escaping
  - With four lockable castors
  - Lamella curtain
  - Securing using clips

Ident. No. 100

Ident. No. 110

Ident. No. 210

Model		Autogen T 55	Elektro T 75/F	Elektro T 75/L
Height (mm)		1950	1950	1950
Width (mm)		2100	2100	3700
Clearance height (mm)		300	300	600
Weight (kg)		43	43	55
55740...	Ident. No.	100 ○+	110 ○+	210 ○+

Prod. Gr. 560

Swarf shield

Execution:
- Flexible metal tube
- Aluminium base
- Magnet
- PVC lens

Technical data:
- Length x width: 200 x 300 mm
- Adherence strength: 160 N
- Arm length: 300 mm

55760...	Ident. No.	030 ●

Prod. Gr. 565

Accessories for		55760 030
55760... Replacement visor for swarf shield	Ident. No.	130 ●

YOU TAKE ON DIFFICULT CHALLENGES.
WE HAVE WHAT IT TAKES.
Do you need more than just a hammer, pair of pliers or a screwdriver?
We have the full range for you. Machining tools, handling systems and
measuring technology. However, we also offer tailor-made system solutions,
large and small machinery and complete factory equipment.
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HAHN+KOLB
GROUP
LET'S WORK TOGETHER.

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Workplace

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Environment + disposal

	Information - selection aid for tilting containers	1960
	Swarf containers for manual emptying	1960
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	Information - selection aid for collection trays	1991
	Steel collection trays	1992
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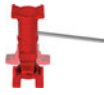	Mechanical lifting devices	2106
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Drawer cabinets - selection overview

HK drawer cabinets facilitate and simplify the proper storage and provision of tools of all kinds, equipment and accessories. Store your tools in these cabinets to save space and time. Your tools are kept clearly organised at your fingertips and held gently and securely. The cabinets are deliverable in a wide range of variants for all operating conditions.

A high level of adaptability is required in the storage facilities due to the wide range of possible tools and equipment, as well as requirements within facilities. Therefore, flexibility must be guaranteed with regard to drawer design and equipment materials, especially when it comes to cabinet housings.

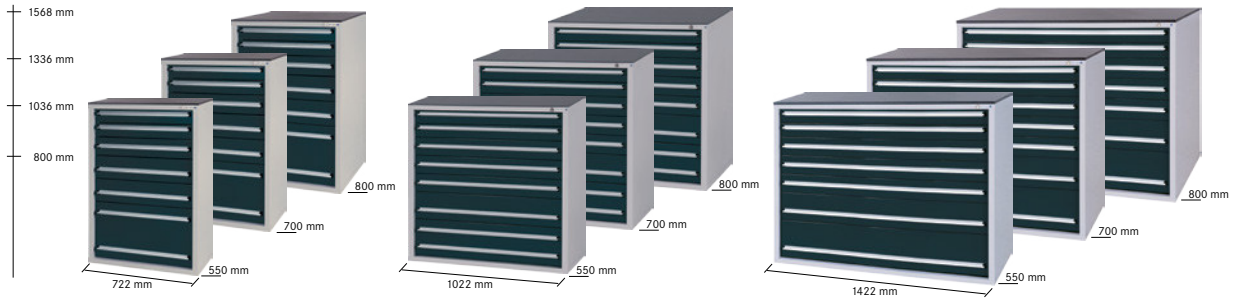
The **HAHN+KOLB drawer cabinet range** fulfils all these requirements.

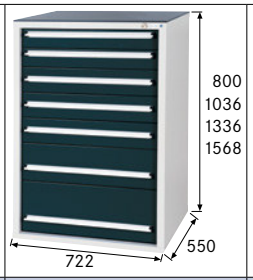
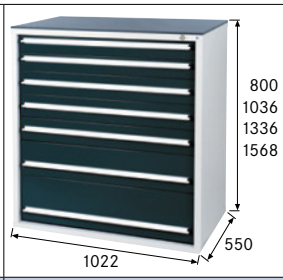
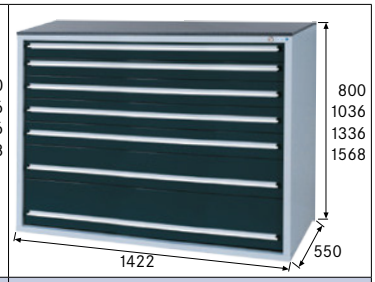
Depending on the goods stored, and for optimum use of space, we offer:

3 different models in depths of 550 mm (550 series), 700 mm (700 series) and 800 mm (800 series). These are each available in widths of S (narrow), B (wide) and BX (extra wide) as well as in 4 different heights (800, 1036, 1336, 1568 mm).

The many potential combinations resulting from this modular design can even stretch to complete tool distribution systems and storage facilities. All components are largely interchangeable and can be removed and converted at any time, depending on operational and spatial requirements.

S (narrow = 722 mm) | **B (wide = 1022 mm)** | **BX (extra wide = 1422 mm)**



				
system 500		**550 S**	**550 B**	**550 BX**
depth	mm	550	550	550
width	mm	722	1022	1422
height	mm	800/1036/1336/1568	800/1036/1336/1568	800/1036/1336/1568
drawer internal dimensions W x D	mm	600 x 450	900 x 450	1300 x 450
storage area per drawer	m^2	0,27	0,41	0,59
extendable drawer		part / full extension	part / full extension	full extension
load capacity per drawer with uniformly distributed load	kg	100/200	100/200	200
art. no.		**50295 010-012**	**50298 010-012**	**on request**
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			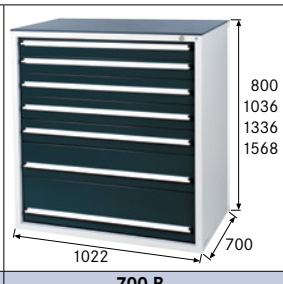	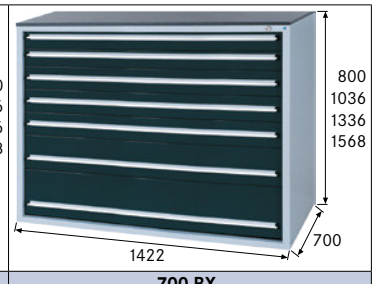
system 700		**700 S**	**700 B**	**700 BX**
depth	mm	700	700	700
width	mm	722	1022	1422
height	mm	800/1036/1336/1568	800/1036/1336/1568	800/1036/1336/1568
drawer internal dimensions W x D	mm	600 x 600	900 x 600	1300 x 600
storage area per drawer	m^2	0,36	0,54	0,78
extendable drawer		part / full extension	part / full extension	full extension
load capacity per drawer with uniformly distributed load	kg	100/200	100/200	200
art. no.		**50300 010-012**	**50302 010-012**	**on request**
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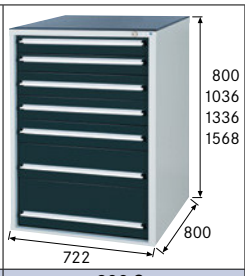
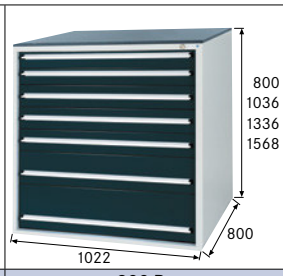
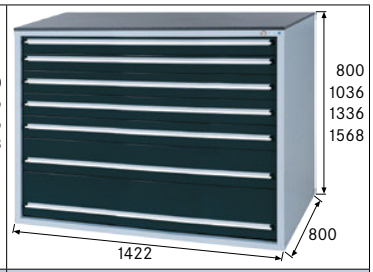
				
system 800		**800 S**	**800 B**	**800 BX**
depth	mm	800	800	800
width	mm	722	1022	1422
height	mm	800/1036/1336/1568	800/1036/1336/1568	800/1036/1336/1568
drawer internal dimensions W x D	mm	600 x 700	900 x 700	1300 x 700
storage area per drawer	m^2	0,42	0,63	0,91
extendable drawer		part / full extension	part / full extension	full extension
load capacity per drawer with uniformly distributed load	kg	100/200	100/200	200
art. no.		**50310 010-012**	**50315 010-012**	**50320 010-012**
Page		1797	1803	online

powder-coated surface: body RAL 7035, light grey with fronts RAL 7016, anthracite grey

RAL colour selection for HK products with no surcharge

Choose your preferred colour (no extra charge) for products with this logo:

RAL 1007 daffodil yellow	RAL 1015 light ivory	RAL 1028 melon yellow	RAL 3002 carmine red	RAL 3020 traffic red	RAL 5005 signal blue	RAL 5010 gentian blue	RAL 5012 light blue
RAL 5014 pigeon blue	RAL 5015 sky blue	RAL 6011 reseda green	RAL 6018 yellow green	RAL 7016 anthracite grey	RAL 7021 black grey	RAL 7023 concrete grey	RAL 7032 pebble grey
RAL 7035 light grey	RAL 7038 agate grey	RAL 7042 traffic grey	RAL 8019 grey brown	RAL 9005 jet black	RAL 9006 white aluminium	RAL 9010 pure white	

Colours may be subject to printing-related differences; the original colours according to RAL are definitive.

advantages and features of HK drawer cabinets

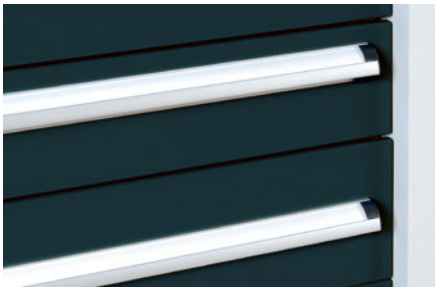
housing:
- robust welded sheet steel construction
- all cabinets are equipped with a plastic-coated, 8 mm cover panel as standard.
- tip-proof thanks to built-in drawer individual extension lock
- grid system – 30: 30 mm enables individual division of drawers within the useful height on all models. the layout can subsequently be changed as required.
- partially and fully extendible drawers can be combined in the cabinet housings as required.

drawers:
- with high-quality Delrin rollers.
- rails are laterally inserted, not screwed.
- slots 'all around' for inserting compartment rails and dividers.
- perforated steel sheet base (25 mm hole spacing) for attaching and fastening individual components.
- in addition to our complete sets, there is also a large selection of individual equipment features for customising your cabinet set-up.

full extension:
- 100% full extension with 70 kg and 100 kg load capacity, 100% full extension with 200 kg load capacity with uniformly distributed load.
- ideal sliding properties due to specially formed profile and two-sided positive guide with lateral guide rollers.

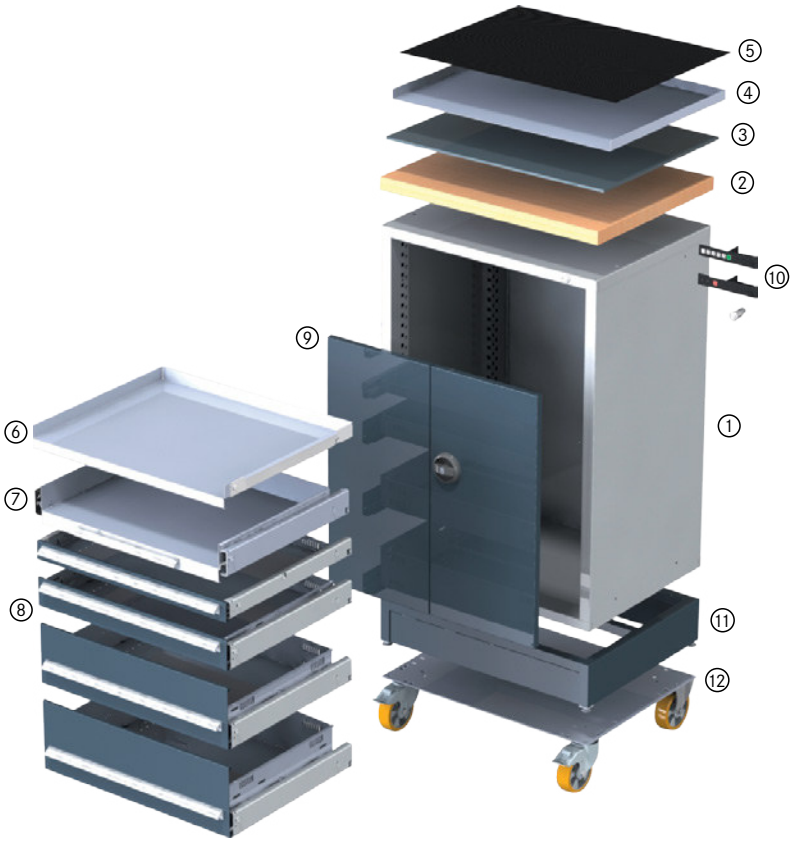
partial extension:
- approx. 80% partial extension with 70 kg and 100 kg load capacity with uniformly distributed load.
- forced guiding by formed profile, smooth operation due to Delrin rollers.

hard foam inserts:
- we offer suitable hard foam inserts completely fitted with tools for all HK drawer cabinets.
- safe and protected storage of expensive tools with customised recesses
- clearly arranged and organised drawers
- contrasting blue immediately shows missing tools
- we offer our light box or contour scanner for creating customised layouts for existing and special tools



handle strips:
- aluminium handle strips with paper and cellon strips and side cover caps.
- load capacity of the drawers is visible by the coloured marking on the cover caps.
- drawers flush with cabinet housing, no protruding handle strips.
- equipped with 2 handle strips from a drawer front height of 240 mm, for improved handling when opening the drawer

HK drawer cabinets
Best quality – made in Germany



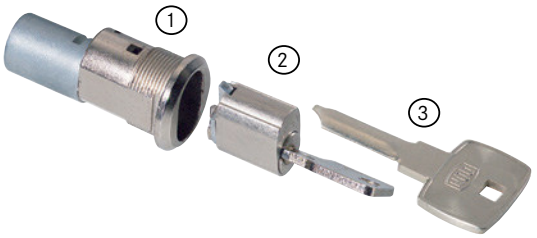
① Cabinet housing consisting of a robust welded sheet steel construction
② Multiplex panel, painted, height 20 mm
③ Cover panel, plastic-coated
④ Cover panel with raised edge on 3 sides
⑤ Ribbed rubber lining
⑥ Shelf, height-adjustable
⑦ Shelf with full extension, height-adjustable
⑧ Drawers with full extension and a front height of 60–360 mm, with aluminium handle strips. Optionally with SOFT-CLOSE.
⑨ Front-mounted hinged doors with solid sheet metal doors
⑩ Locking systems (KEY LOCK, E-CODE, RFID)
⑪ Fork lift-compatible base with removable panel
⑫ Steel panel with 2 fixed castors and 2 steering rollers with wheel blocks

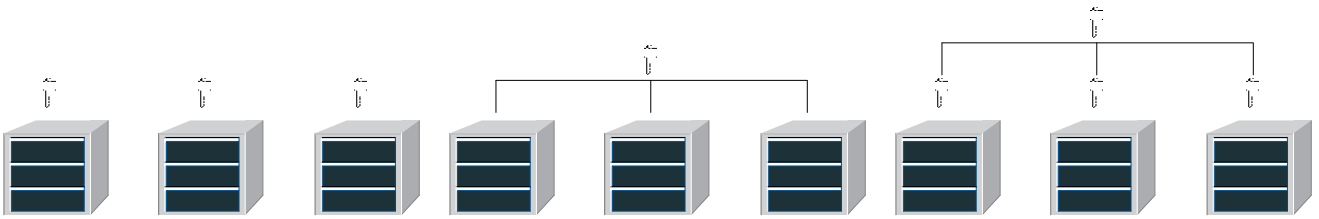
Drawer front height (mm)	Corresponds to the following drawer box height (mm) / system height (mm) **System 550**	Corresponds to the following drawer box height (mm) system **System 700**	Corresponds to the following drawer box height (mm) system **System 800**
60	40/40	40/40	40/40
90	70/70	70/70	70/70
120	100/100	100/100	100/100
150	130/130	100/130	100/130
180	130 / 160	100/160	100/160
210	130/190	100/190	100/190
240	130/220	100/220	100/220
270	130/250	100/250	100/250
300	130/280	100/280	100/280
330	130/310	100/310	100/310
360	130/340	100/340	100/340

locking systems for drawer cabinets

DOM® locking system:
- Central lock in the form of a DOM safety rotary cylinder lock, located laterally on the right side
- The connector system allows an easy exchange of the cylinder without the need to remove the drawer

Easy modification thanks to the plug-in system
① Sleeve for cylinder locks
② Plug-in cylinder insert
③ Key





single locking, keyed differently
the locks have different closures. each key can open only one particular lock.

single locking, keyed alike
locks have the same closure. all locks can be opened with one key.

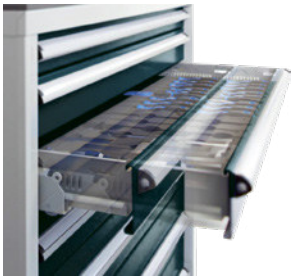
main locking system
the locks have a different closures. each key can open only one particular lock. however, the master key can open every lock.

Optionally available: ELECTRONIC CODE locking system

- open the tool cabinet using a 4-digit to 8-digit numerical code
- battery powered, no external power required, LED display for low battery warning
- no key required to open and close, therefore no loss of key possible
- up to 100 individual user PINs can be programmed to a single cabinet

Operating instructions: www.hk-code.com/u.php?c=c04Zy4

Optionally available: SOFT-CLOSE-AUTOMATIC for drawers



- particularly suitable for the safe storage of delicate, sensitive tools and parts in drawers
- when you close the drawer, the damper system decelerates and closes the drawer gently and silently with the self-closing mechanism
- suitable for our HK workbenches, undercounter cabinets, drawer blocks, group workbenches, assembly trolleys, roller containers, workbench trolleys and tool cabinets
- gently closing drawers reduce impact loads on the tools and parts to a minimum

Product video: YouTube-ID x5ry8OqhFKw

Optionally available: RFID locking system for drawer cabinets

- All marked products in the catalogue can be delivered with RFID locking system on request.
- The NFC locking system is set to active state by an approaching tag or by pressing a button. After checking the access rights of the user tag, the TM-NFC lock unlocks the turning knob for 4 s.
- It is possible to store more than 100 user tags for each lock.
- NFC system operating frequency: 13.56 MHz

RFID

Online tool cabinet configurator
For independent planning of drawer cabinets

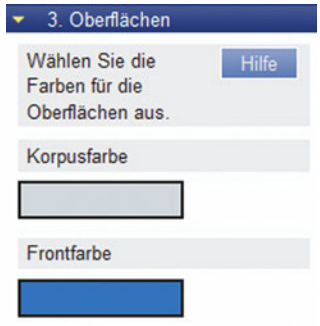
Individuality for your tool cabinets - just click to start planning!

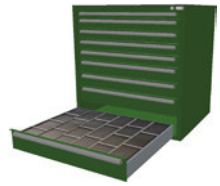
You can now plan our HK tool cabinet systems online and combine them according to your individual requirements. The easy-to-use configurator enables you to plan your cabinet in only a few minutes. Admire your cabinet from all sides in the 3D view and order directly.

www.werkzeugschrank-konfigurator.de

Advantages:

- Easy to configure your ideal cabinet
- Clearly organised, intuitive and easy to use
- Large choice of insert assortments and tool inserts for the drawers
- Can be ordered directly





Product video: YouTube ID: V3vQX9VUSOs

Drawer cabinets, system 550 S - standard versions

Depth 550 mm, width 722 mm

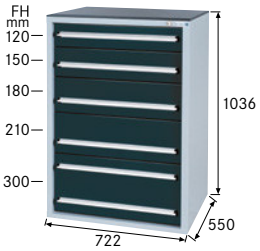
Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Perforated steel sheet base (25 mm hole spacing) for fastening and fixing components
- Aluminium grip handles with paper and cellophane strips and lateral cover caps

- **Ident. No. 040–052, 070–072, 090–092:** For drawer front height 60 mm, the load capacity is 70 kg with evenly distributed load
- **Ident. No. 080–082:** With door height 740 mm
- **Ident. No. 090–092:** With door height 440 mm

Advantage:
- Optimum operating characteristics of drawers
- High quality - made in Germany

Notes:
To order customised hard foam inserts, please use the following clear internal dimensions: Width 585 mm, depth 435 mm.
Front height = FH, cabinet height = KH, see illustrations.

Technical data:
- Drawer width (inner dimension): 600 mm
- Drawer depth (inner dimension): 450 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 100 kg
- With SOFT-CLOSE closing function: No
- Drawer surface: 0.27 m^2
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Surface: Powder-coated

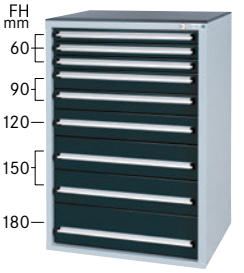


Ident. No. 011

Ident. No. 021

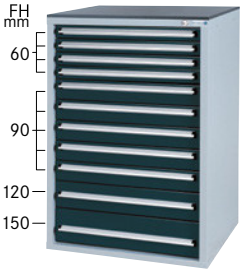
Ident. No. 031

Ident. No. 041



Ident. No. 051

Ident. No. 061



Ident. No. 071

Ident. No. 081
1 removable shelf behind the doors

Ident. No. 091
1 removable shelf behind the doors

					Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
					Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	With doors	Functions	50295... Ident. No.		50295... Ident. No.		50295... Ident. No.	
5	1036	722	550	No	RFID possible	010	○+	012	○+	011	○+
6	1036	722	550	No	RFID possible	020	○+	022	○+	021	○+
7	1036	722	550	No	RFID possible	030	○+	032	○+	031	○+
8	1036	722	550	No	RFID possible	040	○+	042	○+	041	○+
9	1036	722	550	No	RFID possible	050	○+	052	○+	051	○+
10	1036	722	550	No	RFID possible	060	○+	062	○+	061	○+
11	1036	722	550	No	RFID possible	070	○+	072	○+	071	○+
2	1036	722	550	Yes	-	080	○+	082	○+	081	○+
5	1036	722	550	Yes	-	090	○+	092	○+	091	○+

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Drawer cabinets, system 550 S - standard versions with SOFT-CLOSE

Depth 550 mm, width 722 mm

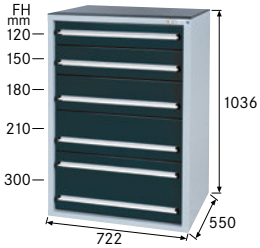
Application:
Particularly suitable for careful storage of delicate, sensitive tools and parts in drawers.

Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Perforated steel sheet base (25 mm hole spacing) for fastening and fixing components
- Aluminium grip handles with paper and cellophane strips and lateral cover caps
- **Ident. No. 740–752, 770–772, 790–792:** For drawer front height 60 mm, the load capacity is 70 kg with evenly distributed load
- **Ident. No. 780–782:** With door height 740 mm
- **Ident. No. 790–792:** With door height 440 mm

Advantage:
- The damping system brakes the drawer while closing; it closes the drawer smoothly and soundlessly by means of the self-closing mechanism
- Impact load on tools and parts stored in the drawer is reduced to a minimum due to the smooth-closing drawers
- High quality - made in Germany

Notes:
To order customised hard foam inserts, please use the following clear internal dimensions: Width 585 mm, depth 435 mm. Front height = FH, cabinet height = KH, see illustrations.

Technical data:
- Drawer width (inner dimension): 600 mm
- Drawer depth (inner dimension): 450 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 100 kg
- With SOFT-CLOSE closing function: Yes
- Drawer surface: 0.27 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Surface: Powder-coated

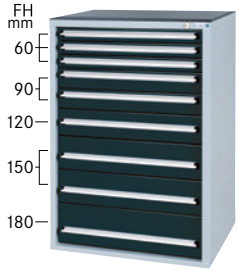


Ident. No. 712

Ident. No. 722

Ident. No. 732

Ident. No. 741



Ident. No. 751

Ident. No. 761

Ident. No. 771

Ident. No. 781
1 removable shelf behind the doors

Ident. No. 791
1 removable shelf behind the doors

					Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
					Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	With doors	Functions	50295... Ident. No.		50295... Ident. No.		50295... Ident. No.	
5	1036	722	550	No	RFID possible	711	o+	713	o+	712	o+
6	1036	722	550	No	RFID possible	721	o+	723	o+	722	o+
7	1036	722	550	No	RFID possible	731	o+	733	o+	732	o+
8	1036	722	550	No	RFID possible	740	o+	742	o+	741	o+
9	1036	722	550	No	RFID possible	750	o+	752	o+	751	o+
10	1036	722	550	No	RFID possible	760	o+	762	o+	761	o+
11	1036	722	550	No	RFID possible	770	o+	772	o+	771	o+
2	1036	722	550	Yes	-	780	o+	782	o+	781	o+
5	1036	722	550	Yes	-	790	o+	792	o+	791	o+

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Cabinet housing, system 550 S

Depth 550 mm, width 722 mm

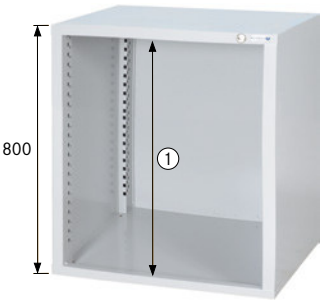
Application:
For the individual configuration of drawer cabinets, can be fitted with drawers and shelves.

Execution:
- Robustly welded sheet steel construction
- Tilt-proof due to built-in single drawer extension locking
- Central locking with central combination safely lock, optional installation of electronic combination lock, see no. 50392 010
- **Ident. No. 196–200:** With plastic-coated cover panel 8 mm

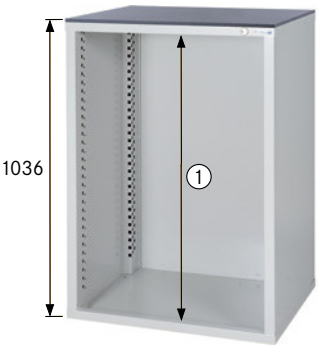
Advantage:
- The empty cabinet housing can be individually fitted with drawers and shelves in accordance with tool and part storage requirements
- The plug-in system means that the DOM cylinder lock can easily be replaced without removing the drawers

Notes:
Ident. No. 186–190: Suitable floor or wall mounting is required if the cabinet housing is fitted with extending shelves.
Ident. No. 196–200: Suitable floor or wall mounting is required if the cabinet housing is fitted with extending shelves

Technical data:
- With doors: No
- Door design
- With single pull-out safety brake: Yes
- Central locking: Yes
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated



Ident. No. 186–190
1=Useful height 720 mm



Ident. No. 196–200
1=Useful height 960 mm

						Cabinet colour	Light grey RAL 7035		Optional	
Height (mm)	Effective height (mm)	Width (mm)	Depth (mm)	With cover panel	Material of cover panel	50295... Ident. No.			50295... Ident. No.	
800	720	722	550	No	-	186	○+		190	○+
1036	960	722	550	Yes	Wood, plastic-coated	196	○+		200	○+

Prod. Gr. 5BB

Accessories for		50295 186	50295 190	50295 196	50295 200
50392... TM-NFC user tag for locking system, RFID Teach-in of 5 pieces	Ident. No.	021 ○	021 ○	021 ○	021 ○
50392... RFID TM1AB1, TM-NFC locking system RFID locking system for self-retrofitting.	Ident. No.	022 ○	022 ○	022 ○	022 ○
50392... RFID TM1AB1, TM-NFC locking system Additional price, cannot be ordered separately.	Ident. No.	023 ○	023 ○	023 ○	023 ○

For colours available without a surcharge, see page 1759

ELECTRONIC CODE combination lock - surcharge

Locking system for drawer cabinets from HK

Application:
Ideal for shift work, schools and training workshops where a variety of people require access to the cabinet.

Execution:
- Cabinet opened using a 4- to 8-digit numerical code
- Battery-operated, no main power required
- Battery empty warning via LED display
- For hinged door version see no. 50392 020

Advantage:
- Up to 100 individual user PIN numbers can be programmed for one cabinet
- No key is required for opening and closing – no keys to lose
- Programmed directly on the cabinet or a PC/laptop programming kit, see programming kit no. 50392 015

Delivery:
Incl. 3 x Lithium batteries 1.5 V type Micro/AAA

Notes:
The price shown is the extra price charged. Retrofitting of existing cabinets, trolleys or workbenches is not possible.

Technical data:
- Type: For HK drawer cabinets (extra charge)

50392...	Ident. No.	010 ○

Prod. Gr. 586

Cabinet housing with doors, system 550 S

Depth 550 mm, width 722 mm

Application:
For individual configuration, can be fitted with drawers and shelves.

Execution:
- Robustly welded sheet steel construction
- With plastic-coated cover panel 8 mm
- Lockable hinged doors with rotary block lock and linkage

Advantage:
- The empty cabinet housing can be individually fitted with drawers and shelves in accordance with tool and part storage requirements

Notes:
Suitable floor or wall mounting is required if the cabinet housing is fitted with extending shelves

Technical data:
- With doors: Yes
- Door design: Full-sheet panel
- With single pull-out safety brake: Yes
- With cover panel: Yes
- Material of cover panel: Wood, plastic-coated
- Central locking: Yes
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 199

				Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
				Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Height (mm)	Effective height (mm)	Width (mm)	Depth (mm)		50295... Ident. No.		50295... Ident. No.		50295... Ident. No.	
1036	960	722	550		198	○+	210	○+	199	○+

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Drawer cabinets, system 550 B - standard versions

Depth 550 mm, width 1,022 mm

Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Perforated steel sheet base (25 mm hole spacing) for fastening and fixing components
- Aluminium grip handles with paper and cellophane strips and lateral cover caps

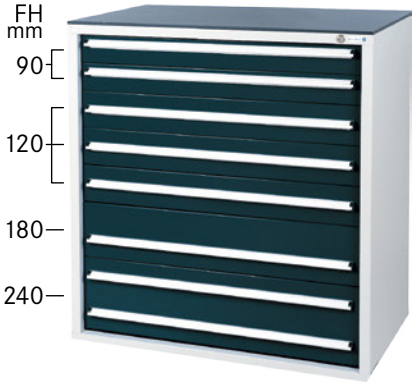
- **Ident. No. 030–032, 050–062:** For drawer front height 60 mm, the load capacity is 70 kg with evenly distributed load

Advantage:
- Optimum operating characteristics of drawers
- High quality - made in Germany

Notes:
To order customised hard foam inserts, please use the following clear internal dimensions: Width 885 mm, depth 435 mm.
Front height = FH, cabinet height = KH, see illustrations.

Technical data:
- Drawer width (inner dimension): 900 mm
- Drawer depth (inner dimension): 450 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 100 kg
- With SOFT-CLOSE closing function: No
- Drawer surface: 0.41 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated

Ident. No. 011



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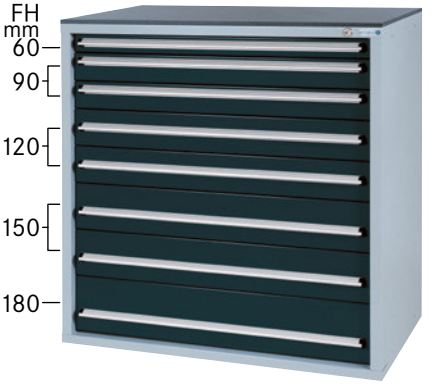

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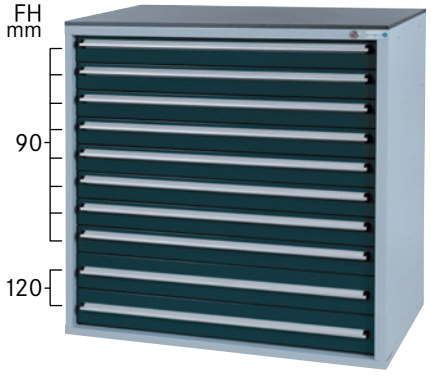
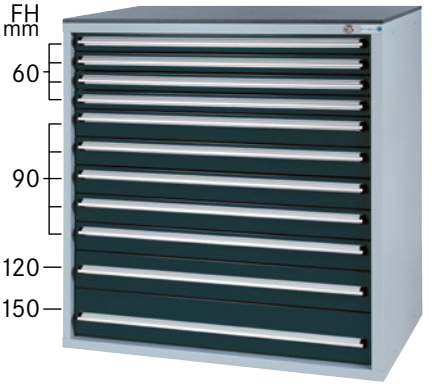


Ident. No. 041



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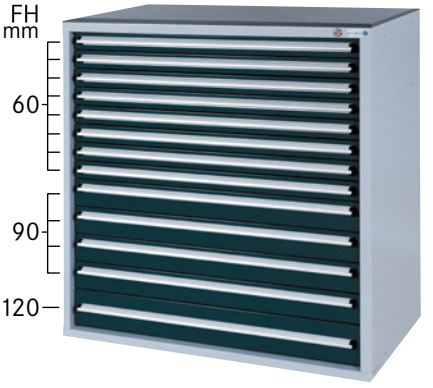


Ident. No. 061

				Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
				Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)		50298... Ident. No.		50298... Ident. No.		50298... Ident. No.	
5	1036	1022	550		010	○⁺	012	○⁺	011	○⁺
7	1036	1022	550		020	○⁺	022	○⁺	021	○⁺
8	1036	1022	550		030	○⁺	032	○⁺	031	○⁺
10	1036	1022	550		040	○⁺	042	○⁺	041	○⁺
11	1036	1022	550		050	○⁺	052	○⁺	051	○⁺
13	1036	1022	550		060	○⁺	062	○⁺	061	○⁺

Prod. Gr. 5BB
For colours available without a surcharge, see page 1759

Drawer cabinets, system 550 B - standard versions with SOFT-CLOSE

Depth 550 mm, width 1,022 mm

Application:
Particularly suitable for careful storage of delicate, sensitive tools and parts in drawers.

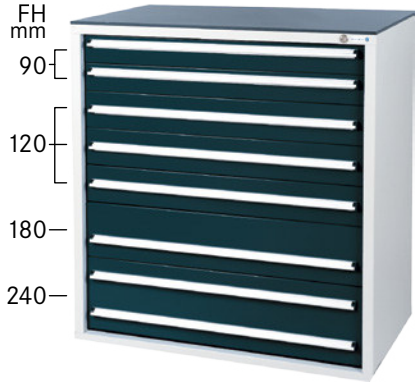
Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Perforated steel sheet base (25 mm hole spacing) for fastening and fixing components
- Aluminium grip handles with paper and cellophane strips and lateral cover caps
- **Ident. No. 730–732, 750–762:** For drawer front height 60 mm, the load capacity is 70 kg with evenly distributed load

Advantage:
- The damping system brakes the drawer while closing; it closes the drawer smoothly and soundlessly by means of the self-closing mechanism
- Impact load on tools and parts stored in the drawer is reduced to a minimum due to the smooth-closing drawers
- High quality - made in Germany

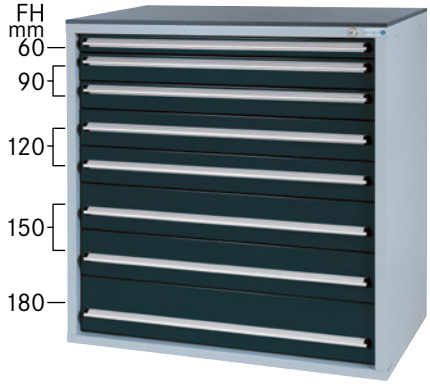
Notes:
To order customised hard foam inserts, please use the following clear internal dimensions: Width 885 mm, depth 435 mm. Front height = FH, cabinet height = KH, see illustrations.

Technical data:
- Drawer width (inner dimension): 900 mm
- Drawer depth (inner dimension): 450 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 100 kg
- With SOFT-CLOSE closing function: Yes
- Drawer surface: 0.41 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated

Ident. No. 711



Ident. No. 721



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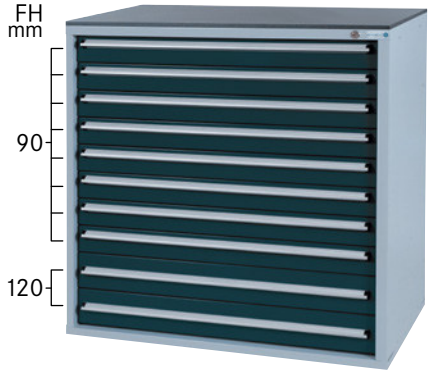

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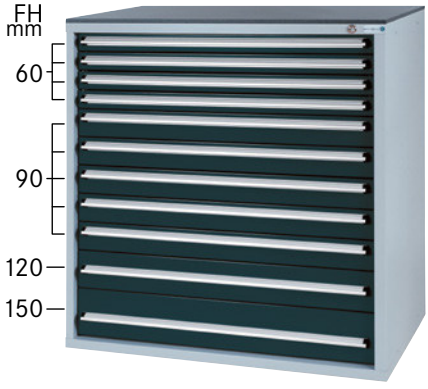
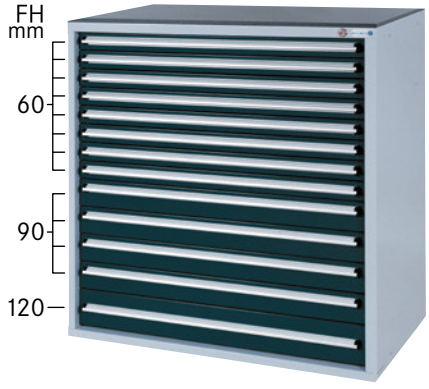


Ident. No. 751



Ident. No. 761

			Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
			Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	50298... Ident. No.		50298... Ident. No.		50298... Ident. No.	
5	1036	1022	550	710	○⁺	712	○⁺	711	○⁺
7	1036	1022	550	720	○⁺	722	○⁺	721	○⁺
8	1036	1022	550	730	○⁺	732	○⁺	731	○⁺
10	1036	1022	550	740	○⁺	742	○⁺	741	○⁺
11	1036	1022	550	750	○⁺	752	○⁺	751	○⁺
13	1036	1022	550	760	○⁺	762	○⁺	761	○⁺

Prod. Gr. 5BB
For colours available without a surcharge, see page 1759

Cabinet housing, system 550 B

Depth 550 mm, width 1,022 mm

Application:
For individual configuration, can be fitted with drawers and shelves.

Execution:
- Robustly welded sheet steel construction
- Tilt-proof due to built-in single drawer extension locking
- Central locking with central combination safely lock, optional installation of electronic combination lock, see no. 50392 010
- **Ident. No. 196–200:** With plastic-coated cover panel 8 mm

Advantage:
- The plug-in system means that the cylinder lock can easily be replaced without removing the drawer
- The empty cabinet housing can be individually fitted with drawers in accordance with tool and part storage requirements

Notes:
Suitable floor or wall mounting is required if the cabinet housing is fitted with extending shelves

Technical data:
- With doors: No
- Door design
- With single pull-out safety brake: Yes
- Central locking: Yes
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 196–200
1=Useful height 960 mm

						Cabinet colour	Light grey RAL 7035		Optional	
Height (mm)	Effective height (mm)	Width (mm)	Depth (mm)	With cover panel	Material of cover panel		50298... Ident. No.		50298... Ident. No.	
800	720	1022	550	No	-		194	○+	195	○+
1036	960	1022	550	Yes	Wood, plastic-coated		196	○+	200	○+

Prod. Gr. 5BB

Accessories for		50298 194	50298 195	50298 196	50298 200
50392... TM-NFC user tag for locking system, RFID Teach-in of 5 pieces	Ident. No.	021 ○	021 ○	021 ○	021 ○
50392... RFID TM1AB1, TM-NFC locking system RFID locking system for self-retrofitting.	Ident. No.	022 ○	022 ○	022 ○	022 ○
50392... RFID TM1AB1, TM-NFC locking system Additional price, cannot be ordered separately.	Ident. No.	023 ○	023 ○	023 ○	023 ○

For colours available without a surcharge, see page 1759

Cabinet housing with doors, system 550 B

Depth 550 mm, width 1,022 mm

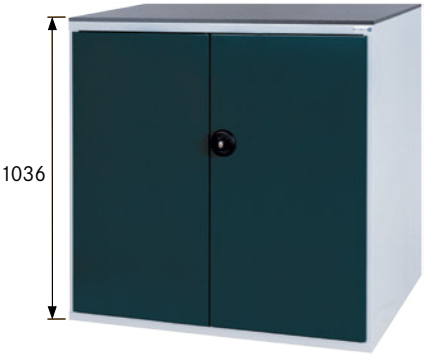
Application:
For individual configuration, can be fitted with drawers and shelves.

Execution:
- Robustly welded sheet steel construction
- With plastic-coated cover panel 8 mm
- Hinged doors with rotary bolt lock and linkage

Advantage:
- The empty cabinet housing can be individually fitted with shelves in accordance with tool and part storage requirements

Notes:
Suitable floor or wall mounting is required if the cabinet housing is fitted with extending shelves

Technical data:
- With doors: Yes
- Door design: Full-sheet panel
- With single pull-out safety brake: Yes
- With cover panel: Yes
- Material of cover panel: Wood, plastic-coated
- Central locking: Yes
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated



Ident. No. 199

				Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
				Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Height (mm)	Effective height (mm)	Width (mm)	Depth (mm)		50298... Ident. No.		50298... Ident. No.		50298... Ident. No.	
1036	960	1022	550		198	○+	205	○+	199	○+

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Light case and light panel

for scanning contours and creating individual hard foam inserts

Application:
For simple and rapid arrangement of your individual hard foam insert, for your existing tool stock.

Execution:
- LED panel 600 x 600 mm incl. transformer and socket
- Step 1: Decide how you want your tools to be arranged and partitioned and place them within the reference frame on the white area of the light box/light panel.
- Step 2: Take a photograph with your digital camera, transfer it to your computer and then upload it to the HK Designer Software for hard foam inserts.
- Step 3: The shapes of the photographed tools, parts or items are digitised, processed individually by you using the HK Designer Software and provided with recessed handles.
- Step 4: After the order has been placed and confirmed, the customised hard foam insert will be manufactured and delivered.
- Please request log-in and access details for the HK Designer Software.
- **Ident. No. 980:**
  - Case lid equipped with hard foam insert for all accessories
  - Digital camera with memory card and accessories
  - Flight case with combination lock for the secure transport of reusable items without additional packaging
- **Ident. No. 985:** LED panel inserted in a hard foam insert, colour black/blue

Advantage:
- Existing tools can be captured directly on site and ordered and partitioned as you wish
- simple and straightforward recording using a digital camera (for version with light panel no. 50537 985, not included in scope of delivery)
- Little effort required
- Can be ordered as a hard foam insert from lot size 1

Delivery:
Ident. No. 980: Incl. flight case with combination lock, digital camera with memory card and accessories
Ident. No. 985: LED panel incl. transformer inserted in hard foam insert

Notes:
Our device is, of course, also available on a lease basis.

Ident. No. 980

Ident. No. 985

Use the digital camera to take pictures of your tools on the light panel, then load the pictures into the HK designer software to process and design the hard foam insert

Height (mm)	Depth (mm)	Width (mm)	Weight (kg)	50537... Ident. No.	
130	620	620	15	980	○
80	730	650	10	985	○

Prod. Gr. 586

Contour scanner

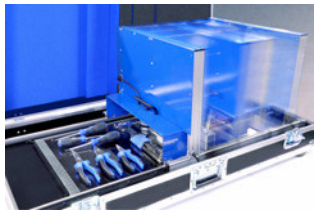
for scanning contours and creating individual hard foam inserts

Application:
For simple, straightforward and rapid scanning of all kinds of tools and components, and designing custom hard foam inserts.

Execution:
- scanning area: 750 x 400 mm, max. load capacity of scanning area: 10 kg (with uniform distribution)
- scanning height: max. 115 mm (component height)
- depending on range of parts, up to 10x more precise recording of contours than with conventional scanning systems with cameras

Advantage:
- immediately ready to use with plug & play function
- works with HK Designer planning software for custom hard foam solutions, no further software needs installing
- no need to transfer images, contours can be called up directly from the HK Designer planning software after scanning
- highly accurate and precise recording of small and narrow components, no shadowing, even with tall components
- no distortion of perspective and independent of ambient conditions (light, brightness etc.)

Delivery:
incl. USB connection cable, power connection cable and case with trolley function



Saves a great deal of time compared to conventional scanning systems with photographs

Can be used to store tools and parts up to an overall height of 115 mm

Includes case with trolley function

50537...	Ident. No.	988 ○

Prod. Gr. 586

ELECTRONIC CODE combination lock

keyless locking system for hinged door cabinets from HK

Application:
Ideal for shift work, schools and training workshops where a variety of people require access to the cabinet.

Execution:
- Cabinet opened using a 4-digit to 8-digit numeric code
- Battery-operated, no mains power required
- Battery discharge warning via LED display
- **Ident. No. 020:** Additional charge only applies when ordered together with a cabinet with doors.
- **Ident. No. 025:** Retrofit kit for existing HK cabinets with turning handle lock with three-point locking and Euro holes

Advantage:
- No key is required to open and close - no keys to lose
- **Ident. No. 020:**
  - Up to 100 individual user PINs can be programmed on a single cabinet
  - Programming possible directly on the cabinet or via a PC/laptop programming kit, see programming kit no. 50392 015
- **Ident. No. 025:**
  - Simple conversion of existing doors with twist lock to electronic locking system with numeric code
  - Up to 100 individual user PINs can be programmed on a cabinet
  - Programmed directly on the cabinet or via a PC/laptop programming kit, see programming kit no. 50392 015

Delivery:
incl. batteries

Type		For HK hinged door cabinets (extra charge)	For HK hinged door cabinets (retrofit kit)
50392...	Ident. No.	020 ○	025 ○

Prod. Gr. 586

Emergency unlocking device

for ELECTRONIC CODE combination lock

Application:
For rapid emergency unlocking of the ELECTRONIC CODE combination lock. The required power is supplied by batteries. Simple plug connection.

Execution:
- Battery-powered emergency unlocking device with plug
- Battery compartment for 3 x 1.5 V AA batteries

Advantage:
- Quick and easy emergency unlocking

Notes:
Supplied without batteries.

50392...	Ident. No.	013 ●

Prod. Gr. 586

Programming kit

for ELECTRONIC CODE combination lock

Application:
For connection to an ELECTRONIC CODE combination lock and for connection with a PC or laptop. Can also be used for emergency unlocking.

Execution:
- Interface converter for connection with a PC so that data can be transferred to the system
- USB cable 2.0 for connecting a converter to a PC or laptop
- Software on USB stick for convenient management of access rights (PIN codes) at the PC or laptop

Advantage:
- Easy and convenient programming and management of PIN numbers via a PC or laptop
- If the batteries have been completely discharged, emergency opening can be carried out together with a laptop or USB power supply

50392...	Ident. No.	015 ○

Prod. Gr. 586

Drawer with full-extension slide for drawer cabinet system 550 S

Depth 450 mm, width 600 mm, load capacity 70 kg and 100 kg

Application:
For individual configuration of the HK cabinet housing/tool shelves. The drawers can be installed in the housing in any sequence, but the sum of the front heights must be equal to the useful height of the housing.

Execution:
- Made of sheet steel with a reinforced, perforated bottom (25 mm hole grid)
- Run on Delrin rollers in rails which are suspended in the housing with plug caps
- Inner sides slotted all around, for attaching and fixing insert material such as compartment rails and dividers
- Equipped with aluminium handle strip, paper and cellon strips and lateral cover caps
- SOFT-CLOSE-AUTOMATIC for smooth and silent drawer closing, see no. 50392 005.

Notes:
Clear internal dimensions for hard foam inserts: 15 mm less than specified internal dimensions

Technical data:
- Pullout type: Full extension
- Drawer with slots: Yes
- Perforated drawer base: Yes
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 279, 281, 283, 285, 287, 289, 291, 293, 295, 297, 299

Ident. No. 300

				Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
				Box colour	Light grey RAL 7035		Light grey RAL 7035		Light grey RAL 7035	
				Drawer width (inner dimension) (mm)	600		600		600	
Drawer front height	Drawer cabinet height (mm)	Mount height (mm)	Drawer depth (inner dimension) (mm)	Load-carrying capacity (kg)	50295... Ident. No.		50295... Ident. No.		50295... Ident. No.	
60 mm	40	40	450	70	278	○+	300	○+	279	○+
90 mm	70	70	450	100	280	○+	305	○+	281	○+
120 mm	100	100	450	100	282	○+	310	○+	283	○+
150 mm	130	130	450	100	284	○+	315	○+	285	○+
180 mm	130	150	450	100	286	○+	320	○+	287	○+
210 mm	130	190	450	100	288	○+	325	○+	289	○+
240 mm	130	220	450	100	290	○+	330	○+	291	○+
270 mm	130	250	450	100	292	○+	335	○+	293	○+
300 mm	130	280	450	100	294	○+	340	○+	295	○+
330 mm	130	310	450	100	296	○+	345	○+	297	○+
360 mm	130	340	450	100	298	○+	350	○+	299	○+

Prod. Gr. 5BB
For colours available without a surcharge, see page 1759

SOFT-CLOSE for drawers with full-extension slide

for smooth and quiet closing of drawers

Application:
Particularly suitable for the safe storage of sensitive tools and parts in drawers in HK drawer cabinets, workbenches, undercounter cabinets, drawer blocks, group workbenches, assembly trolleys, roll containers and workbench trolleys. For drawers with a carrying capacity of up to 100 kg.

Execution:
- The damping system brakes the drawer while closing, and the self-closing mechanism closes the drawer smoothly and without noise

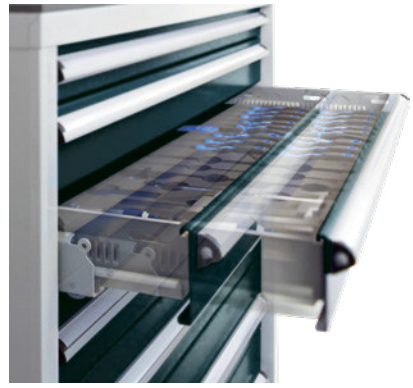
Advantage:
- Due to the smooth closing of the drawers, the impact load on tools and parts stored in the drawer is reduced to a minimum

Notes:
When ordering, please indicate the required number of SOFT-CLOSE drawers. The price shown is the extra price per drawer. Cannot be retrofitted on existing drawers.

Technical data:
- Load-carrying capacity: 100 kg

50392...	Ident. No.	005 ○

Prod. Gr. 586



Drawers with SOFT-CLOSE

Product video: YouTube ID: x5ry8OqhFKw

Drawer cabinets, system 550 S - drawer insert sets

Depth 450 mm, width 600 mm

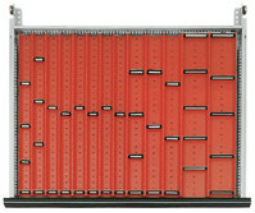
Application:

No. 50484: For customised fitting and partitioning of individual drawers in drawer cabinet, system 550 S.

No. 50485: For customised fitting and partitioning of individual drawers.

Execution:

- **No. 50484:** Suitable for drawer internal dimensions: Width x depth 600 x 450 mm
- **No. 50484 295–50484 303:** with textured mat and boxes
- **No. 50485:** Suitable for internal drawer dimensions: Width x depth 450 x 600 mm
- **No. 50485 210:** Oil-resistant

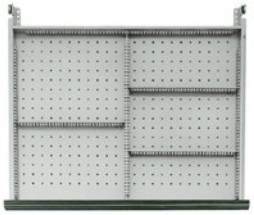


No. 50484 050
① Trough trays

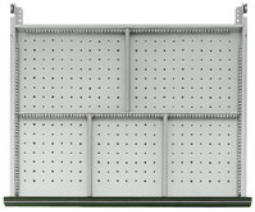
No. 50484 110
② Containers

No. 50484 120
③ Containers

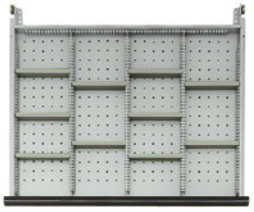
No. 50484 125–50484 130
④ Spare part boxes



No. 50484 150–50484 160
⑤ Compartment dividers



No. 50484 180–50484 195
⑥ Compartment dividers



No. 50484 200–50484 225
⑦ Compartment dividers

No. 50484 295
⑧ AQURADO set with textured mat and 11 boxes, 48 mm high

No. 50484 298
⑨ AQURADO set with textured mat and 16 boxes, 24 mm high

No. 50484 300
⑩ AQURADO set with textured mat and boxes 24 and 48 mm high (without tools)

No. 50484 303
⑪ AQURADO set with textured mat and 18 boxes, 24 mm high

No. 50485 200
⑤ Non-slip mat

No. 50485 210
⑥ Ribbed rubber mat

For drawer cabinet height (mm)				40	70	100	130
HK	50484...	① Trough trays	Ident. No.	050 ○	-	-	-
HK	50484...	② + ③ Containers	Ident. No.	120 ○	110 ○	-	-
HK	50484...	④ Spare part boxes	Ident. No.	125 ○	130 ○	-	-
HK	50484...	⑤ Compartment divisions	Ident. No.	-	150 ○	160 ○	-
HK	50484...	⑥ Compartment divisions	Ident. No.	-	180 ●	190 ○	195 ○
HK	50484...	⑦ Compartment divisions	Ident. No.	200 ○	210 ○	220 ○	225 ○
AQURADO	50484...	⑧ Set with textured mat and 11 boxes	Ident. No.	-	295 ●	-	-
AQURADO	50484...	⑨ Set with textured mat and 16 boxes	Ident. No.	298 ●	-	-	-
HK	50484...	⑩ Set with textured mat and 18 boxes	Ident. No.	-	300 ●	-	-
AQURADO	50484...	⑪ Set with textured mat and 18 boxes	Ident. No.	303 ○	-	-	-
HK	50485...	⑤ Non-slip mat	Ident. No.	200 ●	-	-	-
HK	50485...	⑥ Ribbed rubber mat	Ident. No.	210 ●	-	-	-

HK = Prod. Gr. 503
AQURADO = Prod. Gr. 581
HK = Prod. Gr. 581

Hard foam inserts, equipped with high-quality ATORN tools

Width 435 mm, depth 293 mm, for HK drawer cabinets, system 550 S

Application:
For flexible and modular drawer configuration in HK system 550 S and 550 B drawer cabinets, WGS and WG series workbenches, undercounter cabinets, drawer blocks, assembly trolleys, roller containers and workbench trolleys.

Execution:
- **Ident. No. 625–650:**
  - Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
  - Closed cells provide resistance against most oils and chemicals
  - The PE foam is lightweight, resistant, durable, odour-neutral and safe for foodstuffs
  - One tool insert fills half of the useful area of a drawer with internal dimensions 450 x 600 mm
  - Three tool inserts fill the entire useful area of a drawer with internal dimensions 450 x 900 mm
  - For flexible and modular drawer configuration in HK system 550 S and 550 B drawer cabinets, WGS and WG series workbenches, undercounter cabinets, drawer blocks, assembly trolleys, roller containers and workbench trolleys.
- **Ident. No. 910:**
  - two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
  - resistant against most oils and chemicals due to closed cells
  - The PE foam is lightweight, resistant, durable, odour-neutral and even food safe
  - one tool insert fills half of the useful area of a drawer with internal dimensions 450 x 600 mm
  - Three tool inserts fill the entire usable area of drawers with internal dimensions 450 x 900 mm
  - For flexible and modular drawer configuration in HK drawer cabinets system 550 S (no. 50295) and 550 B (no. 50298), workbenches series WGS and WG (no. 50212), undercounter cabinets (no. 50212), drawer blocks (no. 50211), assembly trolleys (no. 50282), roller containers (no. 50284) and workbench trolleys (no. 50285).

Advantage:
- **Ident. No. 625–650:**
  - For clear order and protected storage of tools in the drawers
  - Precisely dimensioned cut-outs and a contrast colour (blue) means that missing tools can be spotted at a glance, avoiding any loss of tools
  - Expensive tools will be kept safe and protected in the insert
- **Ident. No. 910:**
  - Clearly arranged, organised and protected storage of tools in the drawers
  - Accurately fitting cut-outs in contrasting blue make it easy to spot when tools are missing and help to prevent loss of tools
  - Expensive tools can be stored securely and safely in the insert

Technical data:
- Depth: 293 mm
- Height: 30 mm
- Length: 293 mm
- Width: 435 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Blue

Ident. No. 625

Ident. No. 630

Ident. No. 635

Ident. No. 640

Ident. No. 650

Ident. No. 910

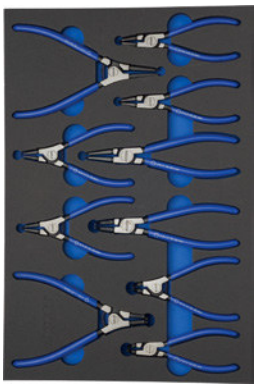
Suitable for drawer	Composition of set	50537... Ident. No.	
60 mm	ATORN hexagonal angle screwdriver 9 pieces, 1 ATORN slotted screwdriver 5.5 x 100/6.5 x 125/8 x 150 mm, 1 ATORN Phillips screwdriver PH 1/PH 2/PH 3/PZ 1/PZ 2	625	●
60 mm	1 each of ATORN slotted screwdriver VDE 2.5 x 75/3.5 x 100/4 x 100/5.5 x 125, 1 each of ATORN Phillips screwdriver VDE PH 0/PH 1/PH 2/PZ 0/PZ 1/PZ 2, ATORN wire-stripping tool, voltage tester 3x0.8 mm	630	●
60 mm	1 ATORN TX screwdriver T 6/T 7/T 8/T 9/T 10/T 15/T 20/T 25/T 27/T 30/T 40, ATORN angled screwdriver 8 pieces T 9-T 40 with ball head	635	●
60 mm	1 ATORN round-nose pliers 160 mm, ATORN triple pliers 160 mm, ATORN side cutters 165 mm, ATORN combination pliers 180 mm, ATORN snipe nose pliers 200 mm, ATORN end cutting nippers 200 mm, ATORN water pump pliers 250 mm	640	●+
60 mm	1 ATORN round-nose pliers VDE 160 mm, ATORN snipe nose pliers VDE 200 mm straight and bent, ATORN combination pliers VDE 180 mm, ATORN side cutters VDE 160 mm, ATORN water pump pliers VDE 250 mm, ATORN wire stripping pliers VDE 160 mm	650	●
90 mm	1 ATORN combination spanner, size 6/7/8/9/10/11/12/13/14/15/16/17/18/19/21/22/24 mm	910	●

Prod. Gr. 547

ATORN Hard foam inserts, equipped with high-quality ATORN tools

Width 435 mm, depth 293 mm, for HK drawer cabinets, system 550 S

Technical data:
- Depth: 293 mm
- Height: 30 mm
- Length: 293 mm
- Width: 435 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Blue



Ident. No. 660

Ident. No. 670

Ident. No. 680

Ident. No. 685

Ident. No. 688

Ident. No. 695

Suitable for drawer	Composition of set	50537... Ident. No.	
60 mm	1 each of ATORN circlip pliers J0/J1/J2/J11/J21/A0/A1/A2/A11/A21	660	●
60 mm	ORION key files 100 mm cut 2 6 pieces | DICK files 200 mm cut 2 5 pieces | ORION file brush 115 x 40 mm	670	●
90 mm	1 each ATORN machinist's hammer 500 g | ATORN carbide scriber 150 mm | flat chisel 150 250 mm | pin punch 2 3 4 5 6 8 10 12 mm | drift punch 2 3 4 5 6 8 mm | centre punch 120 x 10 mm | parting chisel 125 mm	680	●
60 mm	1 ATORN pocket tape measure 3 m | ATORN triangular hollow-ground scraper 150 mm | ORION knife 165 mm | ORION all-purpose shears 180 mm | ORION saw bow 255 mm | saw blades 12 pieces | TICOM metal marker white | telescopic mirror Ø 50 mm | telescopic pick-up magnet retention force 3 kg | LED hand-held lamp Turbo (without batteries)	685	●
90 mm	1 ATORN vernier calipers 150 mm | ATORN external micrometer 0–25 mm | ATORN straight edge 125 mm | ATORN try square 100 x 70 mm | ATORN knife-edge square 75 x 50 mm | ATORN spirit level length 400 mm | ORION spring divider 125 mm | ORION feeler gauges 20 sheets 0.05–1 mm | ORION scale spring steel 300 mm | ORION protractor 120 x 150 mm | ORION marking needle 160 x 5 mm	688	●
90 mm	ATORN socket wrench set 1/2" and 1/4" | 35 pieces | ATORN Bitbox 32 pieces	695	●

Prod. Gr. 547

Hard foam insert

A perfectly organised workplace increases productivity and safety in every process. For optimal performance, this perfect organisation must be maintained down to the last detail. Hard foam inserts can help: Already equipped with high-quality tools or individually planned, the inserts maintain order down to the tiniest screw. High-quality materials and the latest technology allow detailed outlines and a wide range of different cavities to be cut – always near to the surface for easy removal. Each part has its dedicated space. Hard foam inserts also secure the contents during storage and transport. The two-tone material lets you see at a glance if an item is missing.

A strong material:

PE-foam is lightweight yet resilient.

Furthermore it is oil-resistant and water-resistant.

It also has shock-absorbing properties.

The hard foam is durable, odour-free and even suitable for use with foodstuffs.

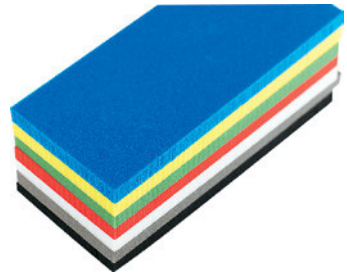
ESD foam is available for electronic parts.

Use the laser engraver to add your personal signature and give the hard foam insert an individual finish.

Versatile applications – many possibilities:

The largest available hard foam insert is 1500 mm long and 1000 mm wide. Almost all dimensions and shapes smaller than this are possible.

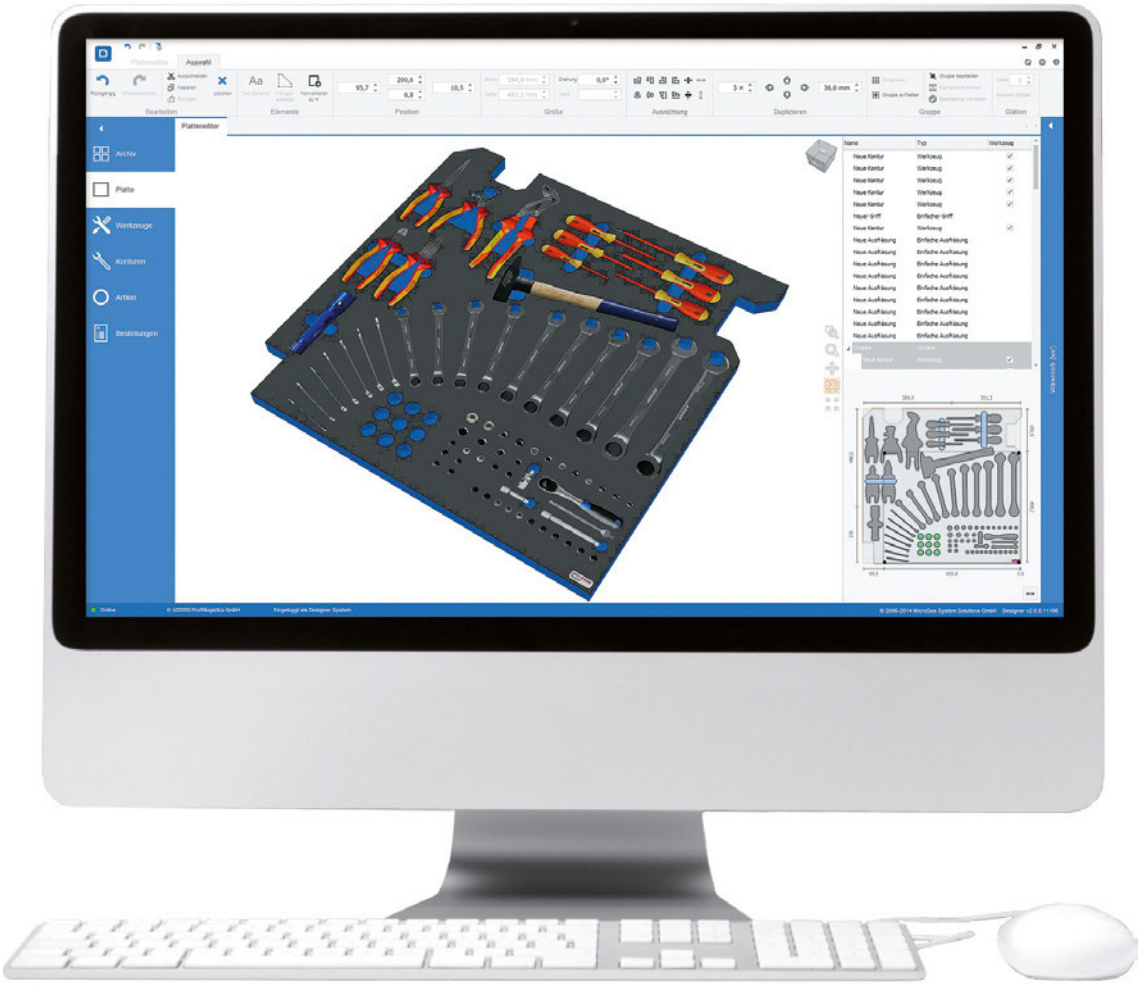
Standard versions of the material are 30 mm, 60 mm or 90 mm thick. Individual versions are possible with smaller and larger thicknesses up to a maximum of 210 mm.

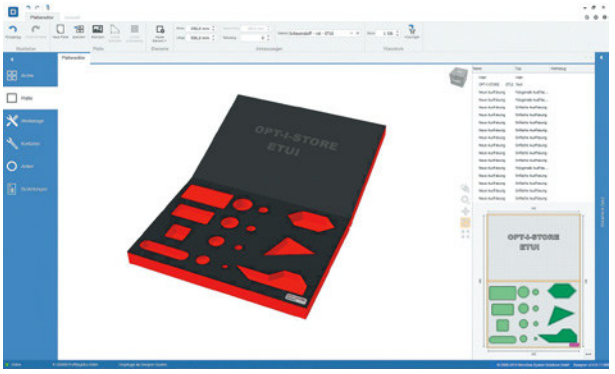


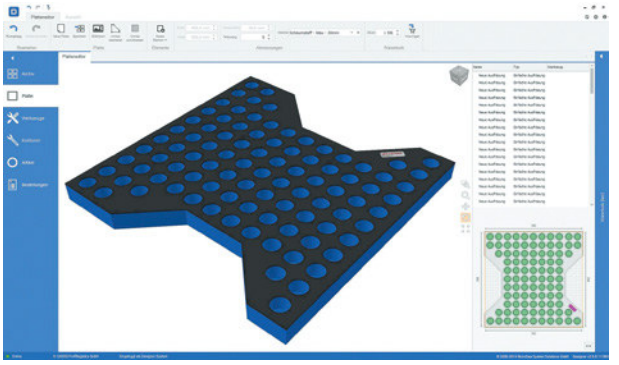
There are many colour options available. The black surface layer can be combined with the following contrasting colours: Standard blue, as well as the optional colours red, green, yellow, white or grey.

Designer software for hard foam inserts
The quick and easy configurator for your individual hard foam inserts

Hard foam inserts can be custom-made for tools from the current HAHN+KOLB-product range and tailored to your existing drawer dimensions. Plan and design fully customised tool-equipped hard foam inserts adapted to your requirements in just a few clicks – either using your existing tool collection by photographing with light box no. 50537 980 or light panel no. 50537 988 and loading the images into our designer software via an SD card, or using the contour scanner no. 50537 988 to transfer the scanned contours directly into our designer software via the USB cable supplied – quick and simple. You also of course have the option of designing the hard foam inserts using new tools from our database, using photo-realistic 3D graphics. Once this is done, order the complete package online. The free Designer Software is easy to use and clearly laid out. In this way, you can make your own personal and completely unique hard foam insert quickly and easily. Planning errors are eliminated by real-time calculation, integrated contour collision testing and technical feasibility checks. Simply position each tool roughly and move it to the required location. Use the laser labeller to add your personal signature and give the hard foam insert a certain individual finish.







The software can be used to create any geometric shape.

Our systems for recording contours
For simple and rapid designing of custom hard foam inserts

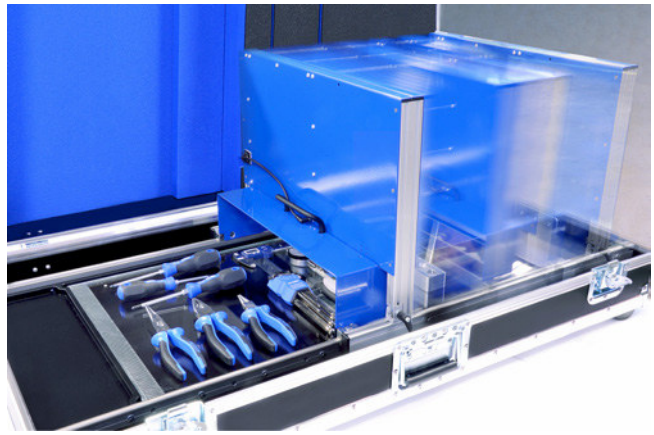
We offer various options for recording the contours of tools, components and other objects directly at your location in order to produce custom hard foam inserts.

HK light panel system no. 50537 985 and HK light case no. 50537 980:
Place the tools and components on the white surface within the reference frame (556 x 556 mm) and photograph these with a digital camera. Transfer the photos produced to your computer and then load these into our designer software for hard foam inserts. The contours of the photographed tools, components or objects can be individually edited in the software and given designated recessed handles.

Use the digital camera to take pictures of your tools on the light panel, then load the pictures into the HK designer software to process and design the hard foam insert

HK contour scanner system no. 50537 988:
Tools and components placed on the scanning surface (750 x 400 mm) are scanned in a quick and simple process. The scanner can be simply connected to a PC/laptop via a USB cable. No further software needs installing. Thanks to the plug & play function, the images and contours are transferred directly to our designer software, where they are available for you to process. The scanner also records small and slender components with great precision; and with tall components, no shadows are captured and no perspective distortions result. With its compact flight case with trolley function, the scanner is mobile and can be moved around easily.

Can be used to store tools and parts up to an overall height of 115 mm



Saves a great deal of time compared to conventional scanning systems with photographs

Online tool cabinet configurator
For independent planning of drawer cabinets

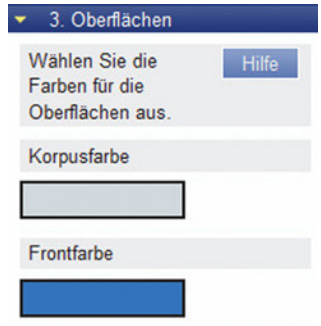
Individuality for your tool cabinets - just click to start planning!

You can now plan our HK tool cabinet systems online and combine them according to your individual requirements. The easy-to-use configurator enables you to plan your cabinet in only a few minutes. Admire your cabinet from all sides in the 3D view and order directly.

www.werkzeugschrank-konfigurator.de

Advantages:

- Easy to configure your ideal cabinet
- Clearly organised, intuitive and easy to use
- Large choice of insert assortments and tool inserts for the drawers
- Can be ordered directly



Product video: YouTube ID: V3vQX9VUSOs

Drawer cabinets, system 700 S - standard versions

Depth 700 mm, width 722 mm

Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Perforated steel sheet base (25 mm hole spacing) for fastening and fixing components
- Aluminium grip handles with paper and cellophane strips and lateral cover caps

- **Ident. No. 035–038, 065–078, 100–102:** For drawer front height 60 mm, the load capacity is 70 kg with evenly distributed load

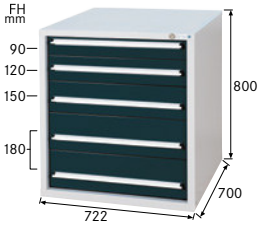
Advantage:
- Optimum operating characteristics of drawers
- High quality - made in Germany

Notes:

To order customised hard foam inserts, please use the following clear internal dimensions: Width 587 mm, depth 587 mm.

Front height = FH, cabinet height = KH, see illustrations.

Technical data:
- Drawer width (inner dimension): 600 mm
- Drawer depth (inner dimension): 600 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 100 kg
- With SOFT-CLOSE closing function: No
- Drawer surface: 0.36 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated



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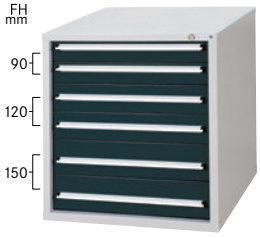

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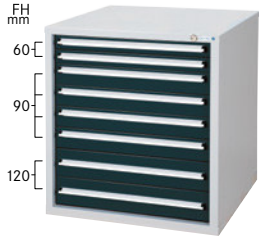

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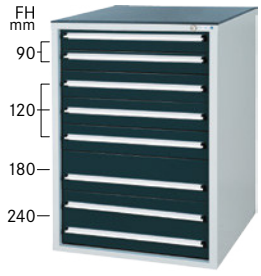
Ident. No. 041



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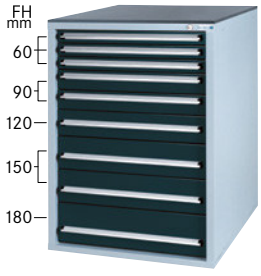

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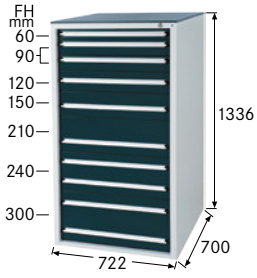

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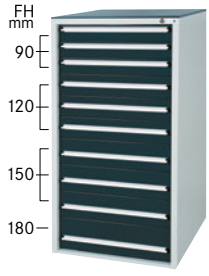

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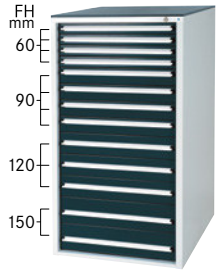


Ident. No. 101

				Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
				Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	With cover panel	50300... Ident. No.		50300... Ident. No.		50300... Ident. No.	
5	800	722	700	No	010	○⁺	012	○⁺	011	○⁺
6	800	722	700	No	020	○⁺	022	○⁺	021	○⁺
8	800	722	700	No	035	○⁺	038	○⁺	036	○⁺
5	1036	722	700	Yes	040	○⁺	042	○⁺	041	○⁺
7	1036	722	700	Yes	050	○⁺	052	○⁺	051	○⁺
9	1036	722	700	Yes	065	○⁺	068	○⁺	066	○⁺
8	1336	722	700	Yes	075	○⁺	078	○⁺	076	○⁺
10	1336	722	700	Yes	080	○⁺	082	○⁺	081	○⁺
13	1336	722	700	Yes	100	○⁺	102	○⁺	101	○⁺

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Drawer cabinets, system 700 S - standard versions with SOFT-CLOSE

Depth 700 mm, width 722 mm

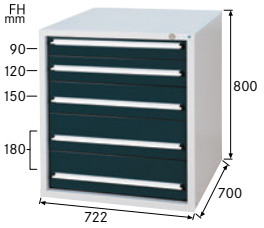
Application:
Particularly suitable for careful storage of delicate, sensitive tools and parts in drawers.

Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Perforated steel sheet base (25 mm hole spacing) for fastening and fixing components
- Aluminium grip handles with paper and cellophane strips and lateral cover caps
- **Ident. No. 735–738, 765–778, 784–786:** For drawer front height 60 mm, the load capacity is 70 kg with evenly distributed load

Advantage:
- The damping system brakes the drawer while closing; it closes the drawer smoothly and soundlessly by means of the self-closing mechanism
- Impact load on tools and parts stored in the drawer is reduced to a minimum due to the smooth-closing drawers
- High quality - made in Germany

Notes:
To order customised hard foam inserts, please use the following clear internal dimensions: Width 587 mm, depth 587 mm. Front height = FH, cabinet height = KH, see illustrations.

Technical data:
- Drawer width (inner dimension): 600 mm
- Drawer depth (inner dimension): 600 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 100 kg
- With SOFT-CLOSE closing function: Yes
- Drawer surface: 0.36 m^2
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Surface: Powder-coated



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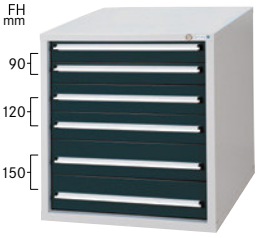

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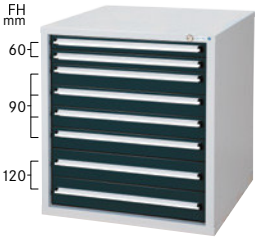
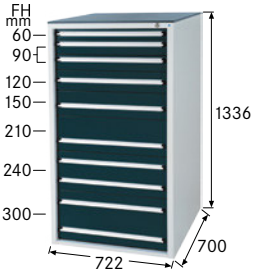


Ident. No. 736

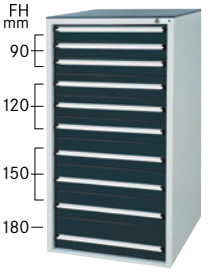
Ident. No. 741

Ident. No. 751

Ident. No. 766



Ident. No. 776



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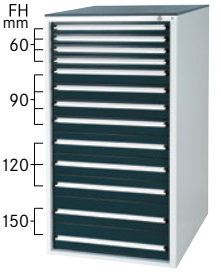


Ident. No. 785

						Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
						Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	With cover panel	Functions	50300... Ident. No.		50300... Ident. No.		50300... Ident. No.	
5	800	722	700	No	RFID possible	710	○+	712	○+	711	○+
6	800	722	700	No	RFID possible	720	○+	722	○+	721	○+
8	800	722	700	No	RFID possible	735	○+	738	○+	736	○+
5	1036	722	700	Yes	RFID possible	740	○+	742	○+	741	○+
7	1036	722	700	Yes	RFID possible	750	○+	752	○+	751	○+
9	1036	722	700	Yes	RFID possible	765	○+	768	○+	766	○+
8	1336	722	700	Yes	RFID possible	775	○+	778	○+	776	○+
10	1336	722	700	Yes	RFID possible	780	○+	782	○+	781	○+
13	1336	722	700	Yes	RFID possible	784	○+	-	-	785	○+
13	1336	722	700	Yes	-	-	-	786	○+	-	-

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Drawer cabinet, system 700 S with 6 drawers

Depth 700 mm, width 722 mm, special price

Execution:
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Perforated steel sheet base (25 mm hole spacing) for fastening and fixing components
- Aluminium grip handles with paper and cellophane strips and lateral cover caps
- **Ident. No. 045–046:**
  - Solidly welded steel sheet construction
  - Tilt-proof due to built-in individual drawer pull-out locking
- **Ident. No. 048–049:**
  - Robustly welded sheet steel structure
  - Tilt-proof due to built-in individual drawer pull-out lock
  - with fork-lift compatible base

Advantage:
- Optimum operating characteristics of drawers
- High quality - made in Germany

Notes:

Ident. No. 045–046: To order customised hard foam inserts, please use the following clear internal dimensions: Width 587 mm, depth 587 mm.
Front height = FH, cabinet height = KH, see illustrations.

Ident. No. 048–049: To order customised hard foam inserts, please use the following clear internal dimensions: Width 587 mm, depth 587 mm.
Front height = FH, cabinet height = KH, see illustrations.

Technical data:
- Drawer width (inner dimension): 600 mm
- Drawer depth (inner dimension): 600 mm
- Pullout type: Single extension slide
- Load-carrying capacity per drawer: 100 kg
- With SOFT-CLOSE closing function: No
- Drawer surface: 0.36 m^2
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 046

Ident. No. 049

					Cabinet colour	Light grey RAL 7035		Light grey RAL 7035	
					Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016	
Design	Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)		50300... Ident. No.		50300... Ident. No.	
Without stapler base	6	1036	722	700		045	●+	046	●+
With stapler base	6	1186	722	700		048	●+	049	●+

Prod. Gr. 586

Cabinet housing, system 700 S

Depth 700 mm, width 722 mm

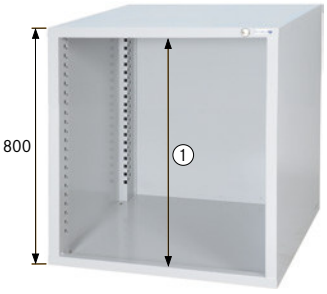
Application:
For individual configuration, can be fitted with drawers and shelves.

Execution:
- Robustly welded sheet steel construction
- Tilt-proof due to built-in single drawer extension locking
- Central locking with central combination safely lock, optional installation of electronic combination lock, see no. 50392 010
- **Ident. No. 184–186, 205–210:** With plastic-coated cover panel 8 mm

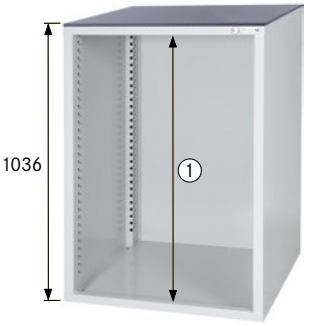
Advantage:
- The plug-in system means that the cylinder lock can easily be replaced without removing the drawer
- The empty cabinet housing can be individually fitted with drawers in accordance with tool and part storage requirements

Notes:
Suitable floor or wall mounting is required if the cabinet housing is fitted with extending shelves

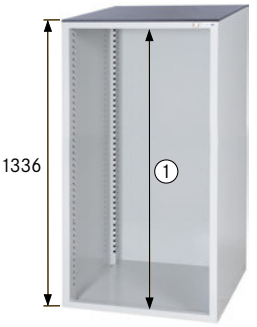
Technical data:
- With doors: No
- Door design
- With single pull-out safety brake: Yes
- With cover panel: Yes
- Central locking: Yes
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated



Ident. No. 182
1=Useful height 720 mm



Ident. No. 184, 205
1=Useful height 960 mm



Ident. No. 186, 210
1=Useful height 1260 mm

				Cabinet colour	Light grey RAL 7035		Optional	
Height (mm)	Effective height (mm)	Width (mm)	Depth (mm)	Material of cover panel	50300... Ident. No.		50300... Ident. No.	
800	720	722	700	-	182	○+	200	○+
1036	960	722	700	Wood, plastic-coated	184	○+	205	○+
1336	1260	722	700	Wood, plastic-coated	186	○+	210	○+

Prod. Gr. 5BB

Accessories for		50300 182	50300 184	50300 186	50300 200	50300 205	50300 210
50392... TM-NFC user tag for locking system, RFID Teach-in of 5 pieces	Ident. No.	021 ○	021 ○	021 ○	021 ○	021 ○	021 ○
50392... RFID TM1AB1, TM-NFC locking system RFID locking system for self-retrofitting.	Ident. No.	022 ○	022 ○	022 ○	022 ○	022 ○	022 ○
50392... RFID TM1AB1, TM-NFC locking system Additional price, cannot be ordered separately.	Ident. No.	023 ○	023 ○	023 ○	023 ○	023 ○	023 ○

For colours available without a surcharge, see page 1759

Cabinet housing with doors system 700 S, height 1,036 mm

Depth 700 mm, width 722 mm

Application:
For individual configuration, can be fitted with drawers and shelves.

Execution:
- Robustly welded sheet steel construction
- With plastic-coated cover panel 8 mm
- Hinged doors with rotary bolt lock and linkage

Advantage:
- The empty cabinet housing can be individually fitted with shelves in accordance with tool and part storage requirements

Notes:
Suitable floor or wall mounting is required if the cabinet housing is fitted with extending shelves

Technical data:
- With doors: Yes
- Door design: Full-sheet panel
- With single pull-out safety brake: Yes
- With cover panel: Yes
- Material of cover panel: Wood, plastic-coated
- Central locking: Yes
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 189

				Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
				Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Height (mm)	Effective height (mm)	Width (mm)	Depth (mm)		50300... Ident. No.		50300... Ident. No.		50300... Ident. No.	
1036	960	722	700		188	○+	215	○+	189	○+

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Drawer cabinets, system 700 B - standard versions

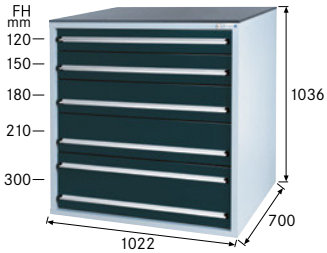
Depth 700 mm, width 1,022 mm

Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Drawers with perforated steel sheet base (25 mm hole spacing) for attaching and fixing individual items
- Aluminium grip handles with paper and cellophane strips and lateral cover caps
- **Ident. No. 035–038:** For drawer front height 60 mm, the load capacity is 70 kg with evenly distributed load

Advantage:
- Optimum operating characteristics of drawers
- High quality - made in Germany

Notes:
To order customised hard foam inserts, please use the following clear internal dimensions: Width 887 mm, depth 587 mm.
Front height = FH, cabinet height = KH, see illustrations.

Technical data:
- Drawer width (inner dimension): 900 mm
- Drawer depth (inner dimension): 600 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 100 kg
- With SOFT-CLOSE closing function: No
- Drawer surface: 0.54 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated



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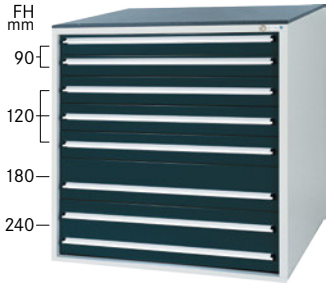

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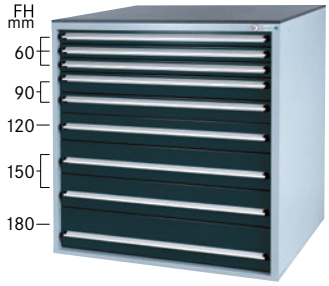

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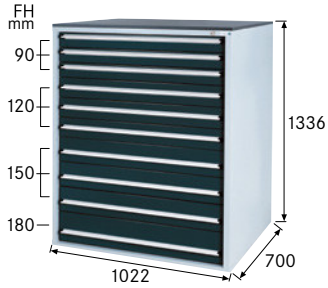


Ident. No. 041

			Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
			Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	50302... Ident. No.		50302... Ident. No.		50302... Ident. No.	
5	1036	1022	700	010	○+	012	○+	011	○+
7	1036	1022	700	020	○+	022	○+	021	○+
9	1036	1022	700	035	○+	038	○+	036	○+
10	1336	1022	700	040	○+	042	○+	041	○+

Prod. Gr. 5BB
For colours available without a surcharge, see page 1759

Drawer cabinets, system 700 B - standard versions with SOFT-CLOSE

Depth 700 mm, width 1,022 mm

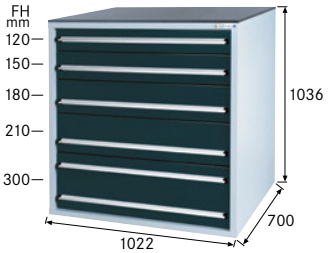
Application:
Particularly suitable for careful storage of delicate, sensitive tools and parts in drawers.

Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Drawers with perforated steel sheet base (25 mm hole spacing) for attaching and fixing individual items
- Aluminium grip handles with paper and cellophane strips and lateral cover caps
- **Ident. No. 735–738:** For drawer front height 60 mm, the load capacity is 70 kg with evenly distributed load

Advantage:
- The damping system brakes the drawer while closing; it closes the drawer smoothly and soundlessly by means of the self-closing mechanism
- Impact load on tools and parts stored in the drawer is reduced to a minimum due to the smooth-closing drawers
- High quality - made in Germany

Notes:
To order customised hard foam inserts, please use the following clear internal dimensions: Width 887 mm, depth 587 mm. Front height = FH, cabinet height = KH, see illustrations.

Technical data:
- Drawer width (inner dimension): 900 mm
- Drawer depth (inner dimension): 600 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 100 kg
- With SOFT-CLOSE closing function: Yes
- Drawer surface: 0.54 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated



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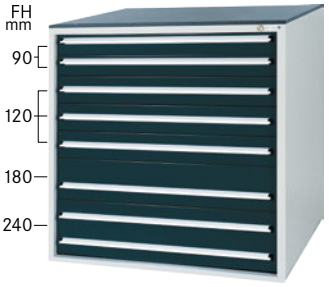


Ident. No. 721

Ident. No. 741

Drawers with SOFT-CLOSE

				Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
				Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)		50302... Ident. No.		50302... Ident. No.		50302... Ident. No.	
5	1036	1022	700		710	○+	712	○+	711	○+
7	1036	1022	700		720	○+	722	○+	721	○+
9	1036	1022	700		735	○+	738	○+	736	○+
10	1336	1022	700		740	○+	742	○+	741	○+

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Drawer cabinets, system 700 B - cabinet housing

Depth 700 mm, width 1,022 mm

Application:
For individual configuration, can be fitted with drawers and shelves.

Execution:
- Robustly welded sheet steel construction
- Tilt-proof due to built-in single drawer extension locking
- Central locking with central combination safely lock, optional installation of electronic combination lock, see no. 50392 010
- **Ident. No. 194, 196–205:** With plastic-coated cover panel 8 mm

Advantage:
- The plug-in system means that the cylinder lock can easily be replaced without removing the drawer
- The empty cabinet housing can be individually fitted with drawers in accordance with tool and part storage requirements

Notes:
Suitable floor or wall mounting is required if the cabinet housing is fitted with extending shelves

Technical data:
- With doors: No
- Door design
- With single pull-out safety brake: Yes
- Central locking: Yes
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 192, 195
1=Useful height 720 mm

Ident. No. 196, 205
1=Useful height 1260 mm

						Cabinet colour	Light grey RAL 7035		Optional	
Height (mm)	Effective height (mm)	Width (mm)	Depth (mm)	With cover panel	Material of cover panel		50302... Ident. No.		50302... Ident. No.	
800	720	1022	700	No	-		192	○+	195	○+
1036	960	1022	700	Yes	Wood, plastic-coated		194	○+	200	○+
1336	1260	1022	700	Yes	Wood, plastic-coated		196	○+	205	○+

Prod. Gr. 5BB

Accessories for		50302 192	50302 195	50302 196	50302 200	50302 205
50392... TM-NFC user tag for locking system, RFID Teach-in of 5 pieces	Ident. No.	021 ○	021 ○	021 ○	021 ○	021 ○
50392... RFID TM1AB1, TM-NFC locking system RFID locking system for self-retrofitting.	Ident. No.	022 ○	022 ○	022 ○	022 ○	022 ○
50392... RFID TM1AB1, TM-NFC locking system Additional price, cannot be ordered separately.	Ident. No.	023 ○	023 ○	023 ○	023 ○	023 ○

For colours available without a surcharge, see page 1759

Cabinet housing with doors, system 700 B, height 1,036 mm

Depth 700 mm, width 1,022 mm

Application:
For individual configuration, can be fitted with drawers and shelves.

Execution:
- Robustly welded sheet steel construction
- With plastic-coated cover panel 8 mm
- Hinged doors with rotary bolt lock and linkage

Advantage:
- The empty cabinet housing can be individually fitted with shelves in accordance with tool and part storage requirements

Notes:
Suitable floor or wall mounting is required if the cabinet housing is fitted with extending shelves

Technical data:
- With doors: Yes
- Door design: Full-sheet panel
- With single pull-out safety brake: Yes
- With cover panel: Yes
- Material of cover panel: Wood, plastic-coated
- Central locking: Yes
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 199

			Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
			Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Height (mm)	Effective height (mm)	Width (mm)	Depth (mm)	50302... Ident. No.		50302... Ident. No.		50302... Ident. No.	
1036	960	1022	700	198	○+	210	○+	199	○+

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Light case and light panel

for scanning contours and creating individual hard foam inserts

Application:
For simple and rapid arrangement of your individual hard foam insert, for your existing tool stock.

Execution:
- LED panel 600 x 600 mm incl. transformer and socket
- Step 1: Decide how you want your tools to be arranged and partitioned and place them within the reference frame on the white area of the light box/light panel.
- Step 2: Take a photograph with your digital camera, transfer it to your computer and then upload it to the HK Designer Software for hard foam inserts.
- Step 3: The shapes of the photographed tools, parts or items are digitised, processed individually by you using the HK Designer Software and provided with recessed handles.
- Step 4: After the order has been placed and confirmed, the customised hard foam insert will be manufactured and delivered.
- Please request log-in and access details for the HK Designer Software.
- **Ident. No. 980:**
  - Case lid equipped with hard foam insert for all accessories
  - Digital camera with memory card and accessories
  - Flight case with combination lock for the secure transport of reusable items without additional packaging
- **Ident. No. 985:** LED panel inserted in a hard foam insert, colour black/blue

Advantage:
- Existing tools can be captured directly on site and ordered and partitioned as you wish
- simple and straightforward recording using a digital camera (for version with light panel no. 50537 985, not included in scope of delivery)
- Little effort required
- Can be ordered as a hard foam insert from lot size 1

Delivery:
Ident. No. 980: Incl. flight case with combination lock, digital camera with memory card and accessories
Ident. No. 985: LED panel incl. transformer inserted in hard foam insert

Notes:
Our device is, of course, also available on a lease basis.

Ident. No. 980

Ident. No. 985

Use the digital camera to take pictures of your tools on the light panel, then load the pictures into the HK designer software to process and design the hard foam insert

Height (mm)	Depth (mm)	Width (mm)	Weight (kg)	50537... Ident. No.	
130	620	620	15	980	○
80	730	650	10	985	○

Prod. Gr. 586

Contour scanner

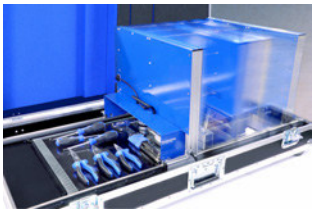
for scanning contours and creating individual hard foam inserts

Application:
For simple, straightforward and rapid scanning of all kinds of tools and components, and designing custom hard foam inserts.

Execution:
- scanning area: 750 x 400 mm, max. load capacity of scanning area: 10 kg (with uniform distribution)
- scanning height: max. 115 mm (component height)
- depending on range of parts, up to 10x more precise recording of contours than with conventional scanning systems with cameras

Advantage:
- immediately ready to use with plug & play function
- works with HK Designer planning software for custom hard foam solutions, no further software needs installing
- no need to transfer images, contours can be called up directly from the HK Designer planning software after scanning
- highly accurate and precise recording of small and narrow components, no shadowing, even with tall components
- no distortion of perspective and independent of ambient conditions (light, brightness etc.)

Delivery:
incl. USB connection cable, power connection cable and case with trolley function



Saves a great deal of time compared to conventional scanning systems with photographs

Can be used to store tools and parts up to an overall height of 115 mm

Includes case with trolley function

50537...	Ident. No.	988 ○	

Prod. Gr. 586

Assortment of inserts for drawer cabinet, system 700 S

for 4 drawers, depth 600 mm, width 600 mm

Application:
For fitting out 4 drawers

Technical data:
- For drawer cabinet height: 70/100 mm

From box height 100 mm

From box height 70 mm

From box height 100 mm

From box height 100 mm

50481...	for 4 drawers	Ident. No.	045 ○

Prod. Gr. 586

ELECTRONIC CODE combination lock - surcharge

Locking system for drawer cabinets from HK

Application:
Ideal for shift work, schools and training workshops where a variety of people require access to the cabinet.

Execution:
- Cabinet opened using a 4- to 8-digit numerical code
- Battery-operated, no main power required
- Battery empty warning via LED display
- For hinged door version see no. 50392 020

Advantage:
- Up to 100 individual user PIN numbers can be programmed for one cabinet
- No key is required for opening and closing – no keys to lose
- Programmed directly on the cabinet or a PC/ laptop programming kit, see programming kit no. 50392 015

Delivery:
Incl. 3 x Lithium batteries 1.5 V type Micro/AAA

Notes:
The price shown is the extra price charged. Retrofitting of existing cabinets, trolleys or workbenches is not possible.

Technical data:
- Type: For HK drawer cabinets (extra charge)

50392...	Ident. No.	010 ○	

Prod. Gr. 586

ELECTRONIC CODE combination lock

keyless locking system for hinged door cabinets from HK

Application:
Ideal for shift work, schools and training workshops where a variety of people require access to the cabinet.

Execution:
- Cabinet opened using a 4-digit to 8-digit numeric code
- Battery-operated, no mains power required
- Battery discharge warning via LED display
- **Ident. No. 020:** Additional charge only applies when ordered together with a cabinet with doors.
- **Ident. No. 025:** Retrofit kit for existing HK cabinets with turning handle lock with three-point locking and Euro holes

Advantage:
- No key is required to open and close - no keys to lose

- **Ident. No. 020:**
  - Up to 100 individual user PINs can be programmed on a single cabinet
  - Programming possible directly on the cabinet or via a PC/laptop programming kit, see programming kit no. 50392 015
- **Ident. No. 025:**
  - Simple conversion of existing doors with twist lock to electronic locking system with numeric code
  - Up to 100 individual user PINs can be programmed on a cabinet
  - Programmed directly on the cabinet or via a PC/laptop programming kit, see programming kit no. 50392 015

Delivery:
incl. batteries

Type		For HK hinged door cabinets (extra charge)	For HK hinged door cabinets (retrofit kit)
50392...	Ident. No.	020 ○	025 ○

Prod. Gr. 586

Emergency unlocking device

for ELECTRONIC CODE combination lock

Application:
For rapid emergency unlocking of the ELECTRONIC CODE combination lock. The required power is supplied by batteries. Simple plug connection.

Execution:
- Battery-powered emergency unlocking device with plug
- Battery compartment for 3 x 1.5 V AA batteries

Advantage:
- Quick and easy emergency unlocking

Notes:
Supplied without batteries.

50392...	Ident. No.	013 ●

Prod. Gr. 586

Programming kit

for ELECTRONIC CODE combination lock

Application:
For connection to an ELECTRONIC CODE combination lock and for connection with a PC or laptop. Can also be used for emergency unlocking.

Execution:
- Interface converter for connection with a PC so that data can be transferred to the system
- USB cable 2.0 for connecting a converter to a PC or laptop
- Software on USB stick for convenient management of access rights (PIN codes) at the PC or laptop

Advantage:
- Easy and convenient programming and management of PIN numbers via a PC or laptop
- If the batteries have been completely discharged, emergency opening can be carried out together with a laptop or USB power supply

50392...	Ident. No.	015 ○

Prod. Gr. 586

Drawer with full-extension slide for drawer cabinet system 700 S

Depth 600 mm, width 600 mm, load capacity 70 kg and 100 kg

Application:
For individual fitting of the HK cabinet housing 700 B. The drawers can be installed in the housing in arbitrary sequence. The sum of the front heights must be the effective height of the housing.

Execution:
- Made of sheet steel metal with a reinforced, perforated bottom (25 mm hole grid)
- Run on Delrin rollers in rails which are suspended in the housing with plug caps
- Inner sides slotted all around, for attaching and fixing insert material such as compartment rails and dividers
- Equipped with aluminium handle strip, paper and cellon strips and lateral cover caps
- SOFT-CLOSE-AUTOMATIC for smooth and silent drawer closing, see no. 50392 005

Notes:
Clear internal dimensions for hard foam inserts: 15 mm less than specified internal dimensions

Technical data:
- Pullout type: Full extension
- Drawer with slots: Yes
- Perforated drawer base: Yes
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 363, 365, 367, 369, 371, 373, 375, 377, 379, 381, 383, 385, 387, 389, 391, 393, 395, 397, 399

					Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
					Box colour	Light grey RAL 7035		Light grey RAL 7035		Light grey RAL 7035	
					Drawer width (inner dimension) (mm)	600		600		600	
Drawer front height	Drawer cabinet height (mm)	Mount height (mm)	Drawer depth (inner dimension) (mm)	Load-carrying capacity (kg)		50300... Ident. No.		50300... Ident. No.		50300... Ident. No.	
60 mm	40	40	600	70		362	○+	400	○+	363	○+
90 mm	70	70	600	100		364	○+	405	○+	365	○+
120 mm	100	100	600	100		366	○+	410	○+	367	○+
150 mm	100	130	600	100		368	○+	415	○+	369	○+
150 mm	130	130	600	100		370	○+	417	○+	371	○+
180 mm	100	160	600	100		372	○+	420	○+	373	○+
180 mm	130	160	600	100		374	○+	422	○+	375	○+
210 mm	100	190	600	100		376	○+	425	○+	377	○+
210 mm	130	190	600	100		378	○+	427	○+	379	○+
240 mm	100	220	600	100		380	○+	430	○+	381	○+
240 mm	130	220	600	100		382	○+	432	○+	383	○+
270 mm	100	250	600	100		384	○+	435	○+	385	○+
270 mm	130	250	600	100		386	○+	437	○+	387	○+
300 mm	100	280	600	100		388	○+	440	○+	389	○+
300 mm	130	280	600	100		390	○+	442	○+	391	○+
330 mm	100	310	600	100		392	○+	445	○+	393	○+
330 mm	130	310	600	100		394	○+	447	○+	395	○+
360 mm	100	340	600	100		396	○+	450	○+	397	○+
360 mm	130	340	600	100		398	○+	452	○+	399	○+

Prod. Gr. 5BB

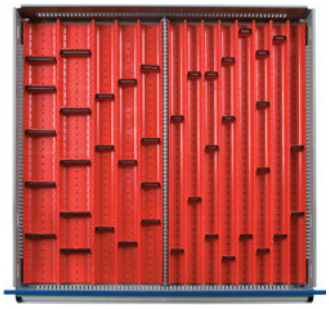
For colours available without a surcharge, see page 1759

Drawer cabinets, system 700 S - drawer insert sets

Depth 600 mm, width 600 mm

Application:
For customised fitting and partitioning of individual drawers in drawer cabinet, system 700 S.

Execution:
- Suitable for drawer internal dimensions: Width x depth 600 x 600 mm
- **Ident. No. 210:** Oil-resistant
- **Ident. No. 250–256:** with textured mat and boxes



Ident. No. 100
① Trough trays

Ident. No. 110–120
② Spare part boxes

Ident. No. 130–140
③ Compartment divisions

Ident. No. 150–160
④ Compartment dividers

Ident. No. 170–180
⑤ Compartment dividers

Ident. No. 190–200
⑥ Compartment dividers

Ident. No. 210
Ribbed rubber mat

Ident. No. 220
⑧ Anti-slip mat

Ident. No. 250
⑨ AQURADO set with textured mat and 13 boxes, 24 and 48 mm high (without tools)

Ident. No. 252
⑩ AQURADO set with textured mat and 15 boxes, 48 mm high

Ident. No. 254
⑪ AQURADO set with textured mat and 20 boxes, 24 mm high

Ident. No. 256
⑫ AQURADO set with textured mat and 22 boxes, 24 mm high

For drawer cabinet height (mm)				40	70	100
HK	50481...	① Trough plates	Ident. No.	100 ○	-	-
HK	50481...	② Spare part boxes	Ident. No.	110 ○	120 ○	-
HK	50481...	③ Compartment divisions	Ident. No.	-	130 ○	140 ○
HK	50481...	④ Compartment divisions	Ident. No.	-	150 ○	160 ○
HK	50481...	⑤ Compartment divisions	Ident. No.	-	170 ○	180 ○
HK	50481...	⑥ Compartment divisions	Ident. No.	-	190 ○	200 ○
HK	50481...	Ribbed rubber mat	Ident. No.	210 ●	-	-
HK	50481...	⑧ Anti-slip mat	Ident. No.	220 ●	-	-
AQURADO	50481...	⑨ Set with textured mat and 13 boxes	Ident. No.	-	250 ●	-
AQURADO	50481...	⑩ Set with textured mat and 15 boxes	Ident. No.	-	252 ●	-
AQURADO	50481...	⑪ Set with textured mat and 20 boxes	Ident. No.	254 ●	-	-
AQURADO	50481...	⑫ Set with textured mat and 22 boxes	Ident. No.	256 ●	-	-

HK = Prod. Gr. 503
AQURADO = Prod. Gr. 581

Hard foam inserts, equipped with high-quality ATORN tools

Width 293 mm, depth 587 mm, for HK drawer cabinets, system 700 S

Application:
For flexible and modular equipping of drawers from the HK drawer cabinet system 700 S and 700 B.

Execution:
- The PE foam is lightweight, resistant, durable, odour-neutral and even food safe
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600 mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600 mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600 mm
- For flexible and modular drawer configuration in HK drawer cabinet system 700 S and 700 B.

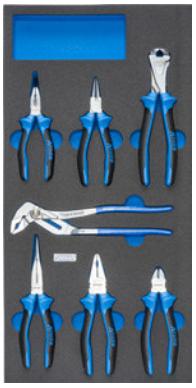
- **Ident. No. 701–705:**
  - Two-tone polyethylene (PE) foam inserts equipped with tool assortments
  - Closed-cell foam is resistant to most oils and chemicals
- **Ident. No. 900:**
  - two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
  - resistant against most oils and chemicals due to closed cells

Advantage:
- Clearly arranged, organised and protected storage of tools in the drawers
- Accurately fitting cut-outs in contrasting blue make it easy to spot when tools are missing and help to prevent loss of tools
- Expensive tools can be stored securely and safely in the insert

Technical data:
- Depth: 587 mm
- Height: 30 mm
- Length: 587 mm
- Width: 293 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Blue

Ident. No. 701

Ident. No. 702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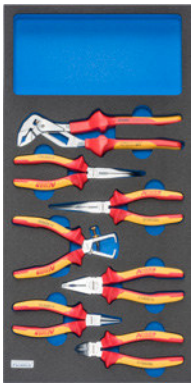
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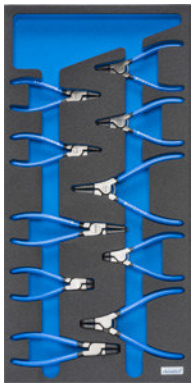

Ident. No. 705

Ident. No. 900

Two inserts fit into one drawer for System 700 S and three inserts for System 700 B

Suitable for drawer	Composition of set	50537... Ident. No.	
60 mm	1 each of ATORN slotted screwdriver 5.5 x 100/6.5 x 125/8.0 x 150 mm, 1 each of ATORN Phillips screwdriver PH 1/PH 2/PZ 1/PZ 2, 1 each of ATORN screwdriver T 6/T 7/T 8/T 9/T 10/T 15/T 20/T 25/T 27/T 30	701	●
60 mm	1 each of ATORN slotted screwdriver VDE 2.5 x 75/3.5 x 100/4 x 100/5.5 x 125, 1 each of ATORN Phillips screwdriver VDE PH 0/PH 1/PH 2/PZ 0/PZ 1/PZ 2, ATORN wire-stripping tool, voltage tester 3x0.8 mm	702	○
60 mm	1 each of ATORN round-nose pliers 160 mm, ATORN tripe pliers 160 mm, ATORN side cutters 165 mm, ATORN combination pliers 180 mm, ATORN snipe nose pliers 200 mm, ATORN end cutting nippers 200 mm, ATORN water pump pliers VDE 250 mm	703	●
60 mm	1 each of ATORN round-nose pliers VDE 160 mm, ATORN snipe nose pliers VDE 200 mm straight and curved, ATORN combination pliers VDE 180 mm, ATORN side cutters VDE 160 mm, ATORN water pump pliers VDE 250 mm, ATORN wire stripping pliers VDE 160 mm	704	●
60 mm	1 each of ATORN circlip pliers J0/J1/J2/J11/J21/A0/A1/A2/A11/A21	705	●
90 mm	1 each of ATORN combination spanner sizes 6/7/8/9/10/11/12/13/14/15/16/17/18/19/20/21/22/24/27/30 mm	900	●

Prod. Gr. 547

Hard foam inserts, equipped with high-quality ATORN tools

Width 293 mm, depth 587 mm, for HK drawer cabinets, system 700 S

Application:
For flexible and modular equipping of drawers from the HK drawer cabinet system 700 S and 700 B.

Execution:
- Two-tone polyethylene (PE) foam inserts equipped with tool assortments
- Closed-cell foam is resistant to most oils and chemicals
- The PE foam is lightweight, resistant, durable, odour-neutral and even food safe
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600 mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600 mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600 mm
- For flexible and modular drawer configuration in HK drawer cabinet system 700 S and 700 B.

Advantage:
- Clearly arranged, organised and protected storage of tools in the drawers
- Accurately fitting cut-outs in contrasting blue make it easy to spot when tools are missing and help to prevent loss of tools
- Expensive tools can be stored securely and safely in the insert

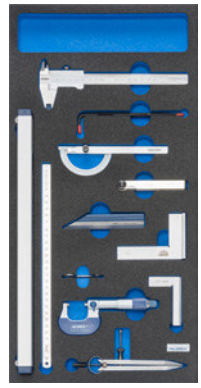
Technical data:
- Depth: 587 mm
- Height: 30 mm
- Length: 587 mm
- Width: 293 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Blue

Ident. No. 706

Ident. No. 707

Ident. No. 708

Ident. No. 709



Ident. No. 710

Ident. No. 711

Two inserts fit into one drawer for System 700 S and three inserts for System 700 B

Suitable for drawer	Composition of set	50537... Ident. No.	
60 mm	ORION key files 100 mm cut 2, 6 pieces, DICK files 200 mm cut 2, 5 pieces, ORION file brush 115 x 40 mm	706	●
90 mm	1 each of: ATORN machinist's hammer 500 g, ATORN recoil-free soft-face hammer 30 mm, ORION 6-piece chisel in holder, ORION 6-piece pin punch set, ATORN cemented carbide scriber 150 mm, ATORN bow saw spare blades 300 mm 24 teeth, ATORN aluminium saw bow 300 mm, ORION knife with snap-off blade 9 mm	707	●+
60 mm	1 each of ATORN vernier callipers 150 mm, ATORN pocket tape measure 3 m, ATORN light metal ruler 300 mm, ATORN try square 100 x 70 mm, 9 ATORN hexagonal screwdrivers, ATORN straight edge 125 mm, ORION knife 145 mm, ORION all-purpose shears 180 mm, TICOM white metal marker, Turbo LED hand-held lamp (not including batteries)	708	●+
60 mm	1 each of ATORN pocket tape measure 3 m, ATORN triangular hol-low-ground scraper 150 mm, ORION knife 165 mm, ORION all-purpose shears 180 mm, ORION saw bow 255 mm,12 saw blades, TICOM white metal marker, telescopic mirror Ø 50 mm, telescopic pick-up magnet with 3 kg retention force, Turbo LED hand-held lamp (not including batteries)	709	●+
90 mm	1 each of ATORN vernier callipers 150 mm, ATORN micrometer 0-25 mm, ATORN straight edge 125 mm, ATORN try square 100 x 70 mm, ATORN knife-edge square 75 x 50 mm, ATORN spirit level length 400 mm, ORION spring divider 125 mm, ORION feeler gauges 20 blades 0.05-1.00 mm, ORION spring steel ruler 300 mm, ORION protractor 120 x 150 mm, ORION scriber 160 x 5 mm	710	●+
60 mm	ATORN 1/2" and 1/4" socket wrench set, 35 pieces, ATORN bit box, 32 pieces	711	●

Prod. Gr. 547

Hard foam insert

A perfectly organised workplace increases productivity and safety in every process. For optimal performance, this perfect organisation must be maintained down to the last detail. Hard foam inserts can help: Already equipped with high-quality tools or individually planned, the inserts maintain order down to the tiniest screw. High-quality materials and the latest technology allow detailed outlines and a wide range of different cavities to be cut – always near to the surface for easy removal. Each part has its dedicated space. Hard foam inserts also secure the contents during storage and transport. The two-tone material lets you see at a glance if an item is missing.

A strong material:

PE-foam is lightweight yet resilient.

Furthermore it is oil-resistant and water-resistant.

It also has shock-absorbing properties.

The hard foam is durable, odour-free and even suitable for use with foodstuffs.

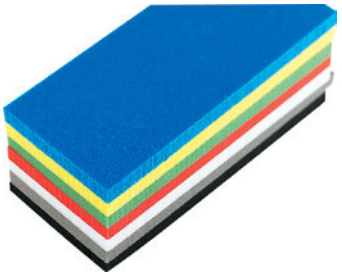
ESD foam is available for electronic parts.

Use the laser engraver to add your personal signature and give the
hard foam insert an individual finish.

Versatile applications – many possibilities:

The largest available hard foam insert is 1500 mm long and 1000 mm wide. Almost all dimensions and shapes smaller than this are possible.

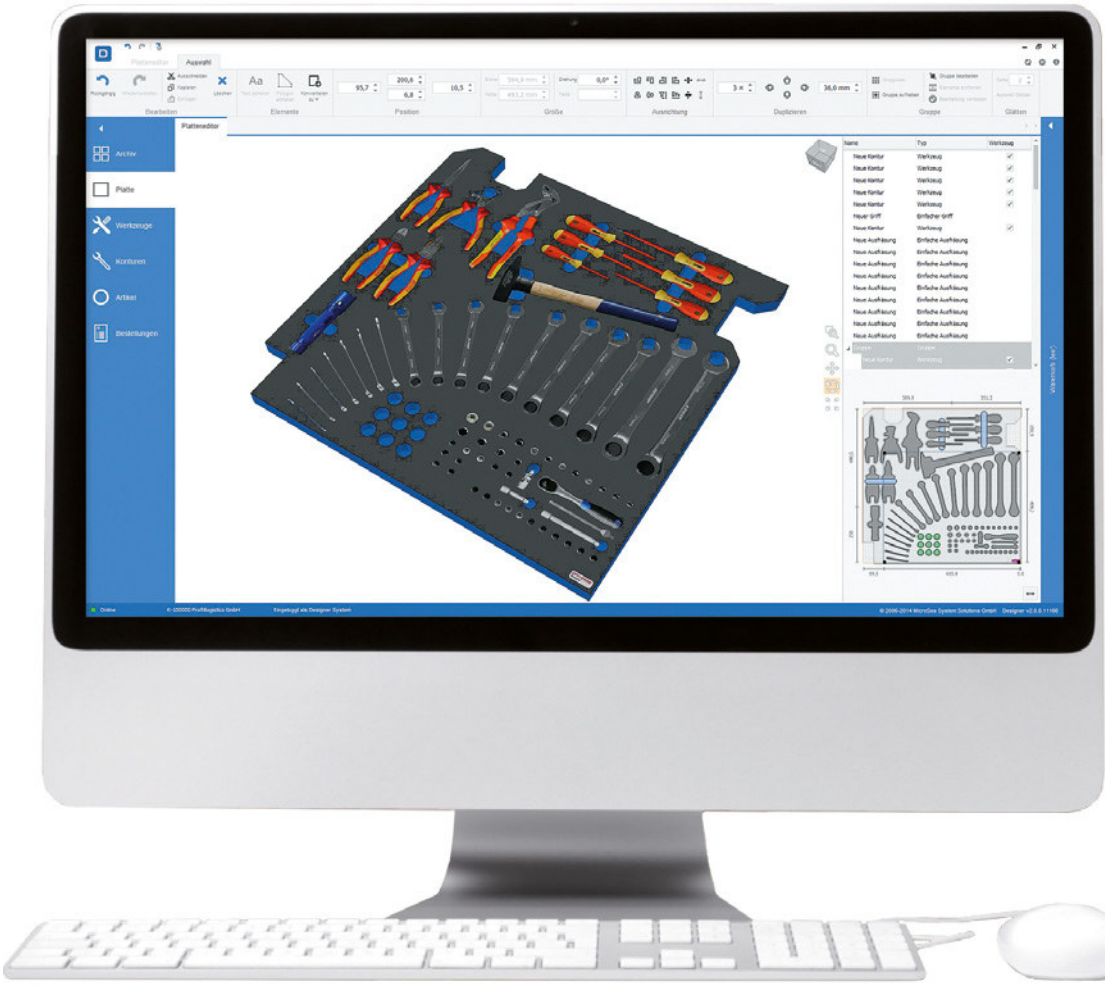
Standard versions of the material are 30 mm, 60 mm or 90 mm thick. Individual versions are possible with smaller and larger thicknesses up to a maximum of 210 mm.

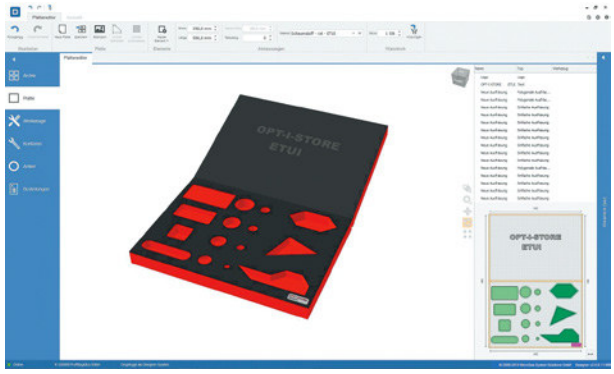


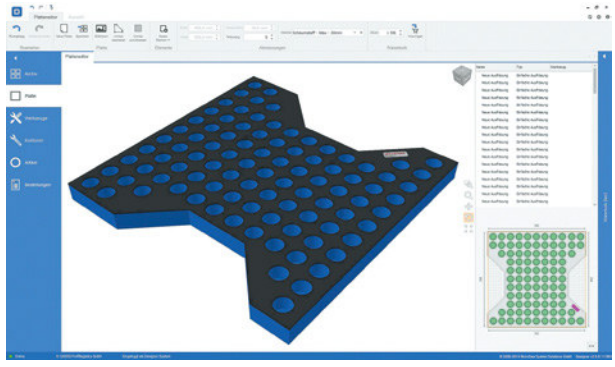
There are many colour options available. The black surface layer can be combined with the following contrasting colours: Standard blue, as well as the optional colours red, green, yellow, white or grey.

Designer software for hard foam inserts
The quick and easy configurator for your individual hard foam inserts

Hard foam inserts can be custom-made for tools from the current HAHN+KOLB-product range and tailored to your existing drawer dimensions. Plan and design fully customised tool-equipped hard foam inserts adapted to your requirements in just a few clicks – either using your existing tool collection by photographing with light box no. 50537 980 or light panel no. 50537 988 and loading the images into our designer software via an SD card, or using the contour scanner no. 50537 988 to transfer the scanned contours directly into our designer software via the USB cable supplied – quick and simple. You also of course have the option of designing the hard foam inserts using new tools from our database, using photo-realistic 3D graphics. Once this is done, order the complete package online. The free Designer Software is easy to use and clearly laid out. In this way, you can make your own personal and completely unique hard foam insert quickly and easily. Planning errors are eliminated by real-time calculation, integrated contour collision testing and technical feasibility checks. Simply position each tool roughly and move it to the required location. Use the laser labeller to add your personal signature and give the hard foam insert a certain individual finish.







The software can be used to create any geometric shape.

Our systems for recording contours
For simple and rapid designing of custom hard foam inserts

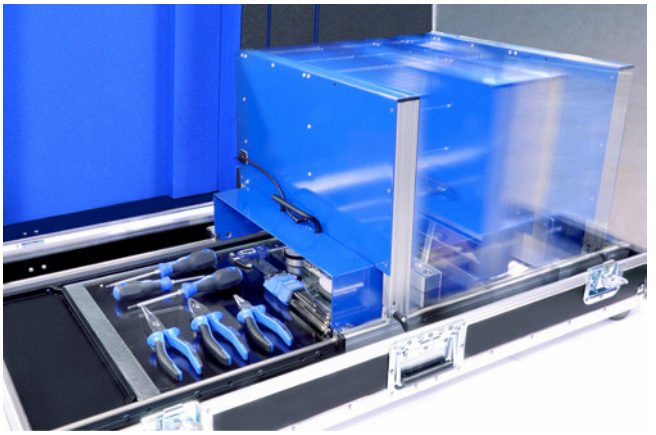
We offer various options for recording the contours of tools, components and other objects directly at your location in order to produce custom hard foam inserts.

HK light panel system no. 50537 985 and HK light case no. 50537 980:
Place the tools and components on the white surface within the reference frame (556 x 556 mm) and photograph these with a digital camera. Transfer the photos produced to your computer and then load these into our designer software for hard foam inserts. The contours of the photographed tools, components or objects can be individually edited in the software and given designated recessed handles.

Use the digital camera to take pictures of your tools on the light panel, then load the pictures into the HK designer software to process and design the hard foam insert

HK contour scanner system no. 50537 988:
Tools and components placed on the scanning surface (750 x 400 mm) are scanned in a quick and simple process. The scanner can be simply connected to a PC/ laptop via a USB cable. No further software needs installing. Thanks to the plug & play function, the images and contours are transferred directly to our designer software, where they are available for you to process. The scanner also records small and slender components with great precision; and with tall components, no shadows are captured and no perspective distortions result. With its compact flight case with trolley function, the scanner is mobile and can be moved around easily.

Can be used to store tools and parts up to an overall height of 115 mm



Saves a great deal of time compared to conventional scanning systems with photographs

Drawer cabinets, system 800 S - standard versions

Depth 800 mm, width 722 mm

Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Drawers with perforated steel sheet base (25 mm hole spacing) for attaching and fixing individual items
- Aluminium grip handles with paper and cellophane strips and lateral cover caps
- **Ident. No. 020–032, 060–062:** Load capacity of 100 kg with a drawer front height of 90 mm
- **Ident. No. 040–052:** Load capacity of 70 kg with a drawer front height of 60 mm and 100 kg with a drawer front height of 90 mm

Advantage:
- Optimum operating characteristics of drawers
- High quality - made in Germany

Notes:

To order customised hard foam inserts, please use the following clear internal dimensions: Width 587 mm, depth 687 mm.

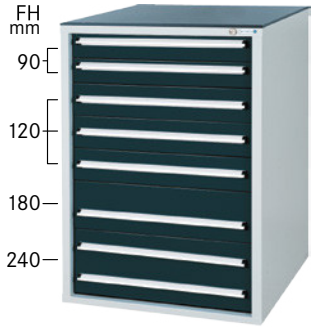
Front height = FH, cabinet height = KH, see illustrations.

Suitable floor or wall anchoring is necessary if the individual drawers are loaded with 200 kg with the weight evenly distributed. Otherwise, drawers may be loaded to max. 150 kg with evenly distributed weight to ensure the structural integrity of the cabinet.

Technical data:
- Drawer width (inner dimension): 600 mm
- Drawer depth (inner dimension): 700 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 200 kg
- With SOFT-CLOSE closing function: No
- Drawer surface: 0.42 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated

Ident. No. 011

Ident. No. 021



Ident. No. 031

Ident. No. 041

Ident. No. 051

Ident. No. 061

				Drawer cabinets, system 800 S - standard versions						Cabinet housing	
			Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035			
			Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016			
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	50310... Ident. No.		50310... Ident. No.		50310... Ident. No.		50392... Ident. No.	
5	1036	722	800	010	o+	012	o+	011	o+	023	o
6	1036	722	800	020	o+	022	o+	021	o+	023	o
7	1036	722	800	030	o+	032	o+	031	o+	023	o
8	1036	722	800	040	o+	042	o+	041	o+	023	o
9	1036	722	800	050	o+	052	o+	051	o+	023	o
10	1036	722	800	060	o+	062	o+	061	o+	023	o

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Drawer cabinets, system 800 S - standard versions

Depth 800 mm, width 722 mm

Execution:
- Load capacity of 70 kg with a drawer front height of 60 mm and 100 kg with a drawer front height of 90 mm
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Drawers with perforated steel sheet base (25 mm hole spacing) for attaching and fixing individual items
- Aluminium grip handles with paper and cellophane strips and lateral cover caps
- **Ident. No. 100–102, 120–122:** Load capacity of 100 kg with a drawer front height of 90 mm

Advantage:
- Optimum operating characteristics of drawers
- High quality - made in Germany

Notes:

To order customised hard foam inserts, please use the following clear internal dimensions: Width 587 mm, depth 687 mm.

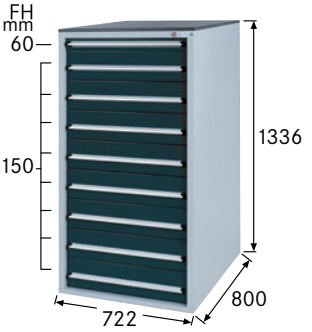
Front height = FH, cabinet height = KH, see illustrations.

Suitable floor or wall anchoring is necessary if the individual drawers are loaded with 200 kg with the weight evenly distributed. Otherwise, drawers may be loaded to max. 150 kg with evenly distributed weight to ensure the structural integrity of the cabinet.

Technical data:
- Drawer width (inner dimension): 600 mm
- Drawer depth (inner dimension): 700 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 200 kg
- With SOFT-CLOSE closing function: No
- Drawer surface: 0.42 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated

Ident. No. 071

Ident. No. 081



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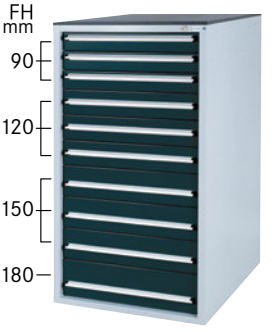

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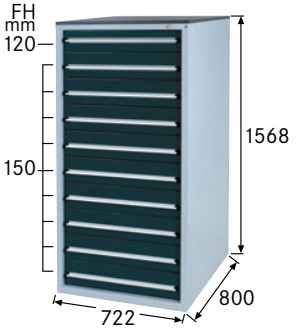

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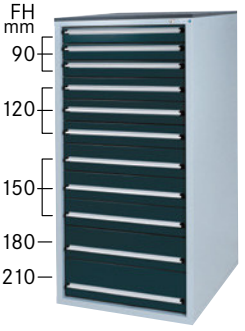


Ident. No. 121

				Drawer cabinets, system 800 S - standard versions						Cabinet housing	
			Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035			
			Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016			
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	50310... Ident. No.		50310... Ident. No.		50310... Ident. No.		50392... Ident. No.	
11	1036	722	800	070	○⁺	072	○⁺	071	○⁺	023	○
13	1036	722	800	080	○⁺	082	○⁺	081	○⁺	023	○
9	1336	722	800	090	○⁺	092	○⁺	091	○⁺	023	○
10	1336	722	800	100	○⁺	102	○⁺	101	○⁺	023	○
10	1568	722	800	110	○⁺	112	○⁺	111	○⁺	023	○
11	1568	722	800	120	○⁺	122	○⁺	121	○⁺	023	○

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Drawer cabinets, system 800 S - standard versions with SOFT-CLOSE

Depth 800 mm, width 722 mm

Application:
Particularly suitable for careful storage of delicate, sensitive tools and parts in drawers.

Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Drawers with perforated steel sheet base (25 mm hole spacing) for attaching and fixing individual items
- Aluminium grip handles with paper and cellophane strips and lateral cover caps
- **Ident. No. 720–732, 760–762:** Load capacity of 100 kg with a drawer front height of 90 mm
- **Ident. No. 740–752:** Load capacity of 70 kg with a drawer front height of 60 mm and 100 kg with a drawer front height of 90 mm

Advantage:
- The damping system brakes the drawer while closing; it closes the drawer smoothly and soundlessly by means of the self-closing mechanism
- Impact load on tools and parts stored in the drawer is reduced to a minimum due to the smooth-closing drawers
- High quality - made in Germany

Notes:
To order customised hard foam inserts, please use the following clear internal dimensions: Width 587 mm, depth 687 mm. Front height = FH, cabinet height = KH, see illustrations. Suitable floor or wall anchoring is necessary if the individual drawers are loaded with 200 kg with the weight evenly distributed. Otherwise, drawers may be loaded to max. 150 kg with evenly distributed weight to ensure the structural integrity of the cabinet.

Technical data:
- Drawer width (inner dimension): 600 mm
- Drawer depth (inner dimension): 700 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 200 kg
- With SOFT-CLOSE closing function: Yes
- Drawer surface: 0.42 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated

Ident. No. 711

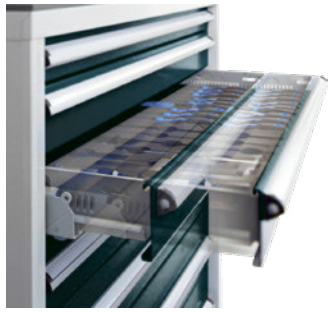
Ident. No. 721

Ident. No. 731

Ident. No. 741

Ident. No. 751

Ident. No. 761


Drawers with SOFT-CLOSE

				Drawer cabinets, system 800 S - standard versions with SOFT-CLOSE						Cabinet housing	
			Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035			
			Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016			
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	50310... Ident. No.		50310... Ident. No.		50310... Ident. No.		50392... Ident. No.	
5	1036	722	800	710	○⁺	712	○⁺	711	○⁺	023	○
6	1036	722	800	720	○⁺	722	○⁺	721	○⁺	023	○
7	1036	722	800	730	○⁺	732	○⁺	731	○⁺	023	○
8	1036	722	800	740	○⁺	742	○⁺	741	○⁺	023	○
9	1036	722	800	750	○⁺	752	○⁺	751	○⁺	023	○
10	1036	722	800	760	○⁺	762	○⁺	761	○⁺	023	○

Prod. Gr. 5BB
For colours available without a surcharge, see page 1759

Drawer cabinets, system 800 S - standard versions with SOFT-CLOSE

Depth 800 mm, width 722 mm

Application:
Particularly suitable for careful storage of delicate, sensitive tools and parts in drawers.

Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Drawers with perforated steel sheet base (25 mm hole spacing) for attaching and fixing individual items
- Aluminium grip handles with paper and cellophane strips and lateral cover caps

- **Ident. No. 770–786:** Load capacity of 70 kg with a drawer front height of 60 mm and 100 kg with a drawer front height of 90 mm
- **Ident. No. 788–790, 796–798:** Load capacity of 100 kg with a drawer front height of 90 mm

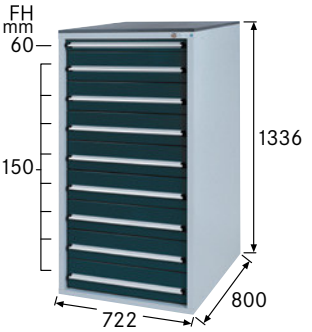
Advantage:
- The damping system brakes the drawer while closing; it closes the drawer smoothly and soundlessly by means of the self-closing mechanism
- Impact load on tools and parts stored in the drawer is reduced to a minimum due to the smooth-closing drawers
- High quality - made in Germany

Notes:
To order customised hard foam inserts, please use the following clear internal dimensions: Width 587 mm, depth 687 mm. Front height = FH, cabinet height = KH, see illustrations. Suitable floor or wall anchoring is necessary if the individual drawers are loaded with 200 kg with the weight evenly distributed. Otherwise, drawers may be loaded to max. 150 kg with evenly distributed weight to ensure the structural integrity of the cabinet.

Technical data:
- Drawer width (inner dimension): 600 mm
- Drawer depth (inner dimension): 700 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 200 kg
- With SOFT-CLOSE closing function: Yes
- Drawer surface: 0.42 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated

Ident. No. 771

Ident. No. 781



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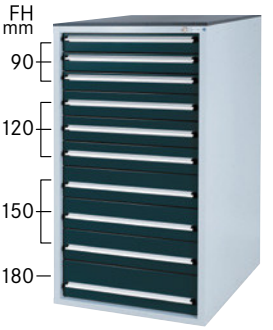

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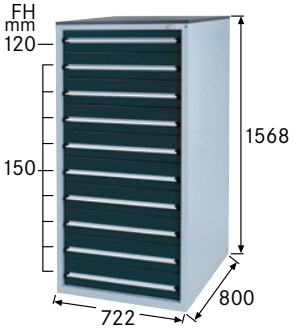

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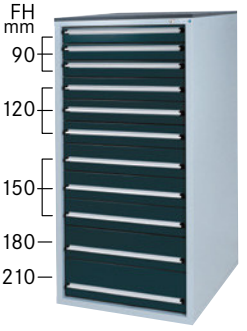


Ident. No. 797

Drawers with SOFT-CLOSE

				Drawer cabinets, system 800 S - standard versions with SOFT-CLOSE						Cabinet housing	
			Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035			
			Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016			
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	50310... Ident. No.		50310... Ident. No.		50310... Ident. No.		50392... Ident. No.	
11	1036	722	800	770	○⁺	772	○⁺	771	○⁺	023	○
13	1036	722	800	780	○⁺	782	○⁺	781	○⁺	023	○
9	1336	722	800	784	○⁺	786	○⁺	785	○⁺	023	○
10	1336	722	800	788	○⁺	790	○⁺	789	○⁺	023	○
10	1568	722	800	792	○⁺	794	○⁺	793	○⁺	023	○
11	1568	722	800	796	○⁺	798	○⁺	797	○⁺	023	○

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Drawer cabinets, system 800 S - cabinet housing

Depth 800 mm, width 722 mm

Application:
For individual configuration, can be fitted with drawers and shelves.

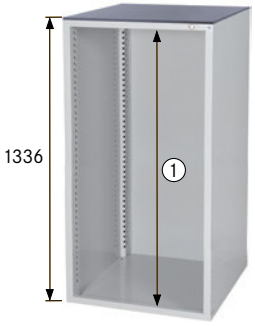
Execution:
- Robustly welded sheet steel construction
- Tilt-proof due to built-in single drawer extension locking
- Central locking with central combination safely lock, optional installation of electronic combination lock, see no. 50392 010
- **Ident. No. 192–194, 196–210:** With plastic-coated cover panel 8 mm

Advantage:
- The plug-in system means that the cylinder lock can easily be replaced without removing the drawer
- The empty cabinet housing can be individually fitted with drawers in accordance with tool and part storage requirements

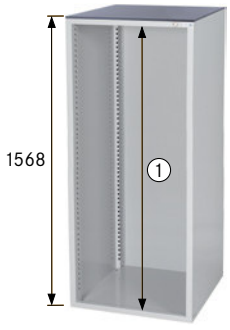
Notes:
Suitable floor or wall mounting is required if the individual drawers have a uniformly distributed load of 200 kg, otherwise the drawers may be loaded with a uniformly distributed load of max. 150 kg.

Technical data:
- With doors: No
- Door design
- With single pull-out safety brake: Yes
- Central locking: Yes
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 192, 200
1=Useful height 960 mm



Ident. No. 194, 205
1=Useful height 1260 mm



Ident. No. 196, 210
1=Useful height 1470 mm

					Cabinet colour	Light grey RAL 7035		Optional	
Height (mm)	Effective height (mm)	Width (mm)	Depth (mm)	With cover panel	Material of cover panel	50310... Ident. No.		50310... Ident. No.	
800	720	722	800	No	-	190	○+	195	○+
1036	960	722	800	Yes	Wood, plastic-coated	192	○+	200	○+
1336	1260	722	800	Yes	Wood, plastic-coated	194	○+	205	○+
1568	1470	722	800	Yes	Wood, plastic-coated	196	○+	210	○+

Prod. Gr. 5BB

Accessories for		50310 190	50310 192	50310 194	50310 195	50310 196	50310 200	50310 205
50392... TM-NFC user tag for locking system, RFID Teach-in of 5 pieces	Ident. No.	021 ○	021 ○	021 ○	021 ○	021 ○	021 ○	021 ○
50392... RFID TM1AB1, TM-NFC locking system RFID locking system for self-retrofitting.	Ident. No.	022 ○	022 ○	022 ○	022 ○	022 ○	022 ○	022 ○
50392... RFID TM1AB1, TM-NFC locking system Additional price, cannot be ordered separately.	Ident. No.	023 ○	023 ○	023 ○	023 ○	023 ○	023 ○	023 ○

Accessories for		50310 210
50392... TM-NFC user tag for locking system, RFID Teach-in of 5 pieces	Ident. No.	021 ○
50392... RFID TM1AB1, TM-NFC locking system RFID locking system for self-retrofitting.	Ident. No.	022 ○
50392... RFID TM1AB1, TM-NFC locking system Additional price, cannot be ordered separately.	Ident. No.	023 ○

For colours available without a surcharge, see page 1759

Cabinet housing with doors system 800 S, height 1,036 mm

Depth 800 mm, width 722 mm

Application:
For individual configuration, can be fitted with drawers and shelves.

Execution:
- Robustly welded sheet steel construction
- With plastic-coated cover panel 8 mm
- Hinged doors with rotary bolt lock and linkage

Advantage:
- The empty cabinet housing can be individually fitted with shelves in accordance with tool and part storage requirements

Notes:
Suitable floor or wall mounting is required if the individual drawers have a uniformly distributed load of 200 kg, otherwise the drawers may be loaded with a uniformly distributed load of max. 150 kg.

Technical data:
- With doors: Yes
- Door design: Full-sheet panel
- With single pull-out safety brake: Yes
- With cover panel: Yes
- Material of cover panel: Wood, plastic-coated
- Central locking: Yes
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 199

				Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
				Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Height (mm)	Effective height (mm)	Width (mm)	Depth (mm)		50310... Ident. No.		50310... Ident. No.		50310... Ident. No.	
1036	960	722	800		198	○+	215	○+	199	○+

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Drawer cabinets, system 800 B - standard versions

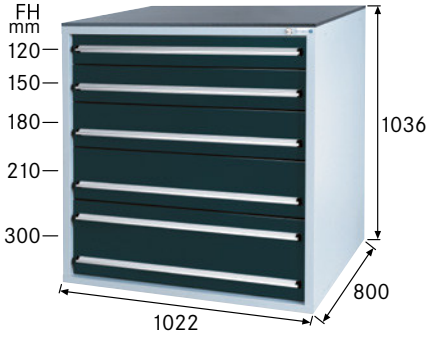
Depth 800 mm, width 1,022 mm

Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Drawers with perforated steel sheet base (25 mm hole spacing) for attaching and fixing individual items
- Aluminium grip handles with paper and cellophane strips and lateral cover caps
- **Ident. No. 020–032, 060–062:** Load capacity of 100 kg with a drawer front height of 90 mm
- **Ident. No. 040–052:** Load capacity of 70 kg with a drawer front height of 60 mm and 100 kg with a drawer front height of 90 mm

Advantage:
- Optimum operating characteristics of drawers
- High quality - made in Germany

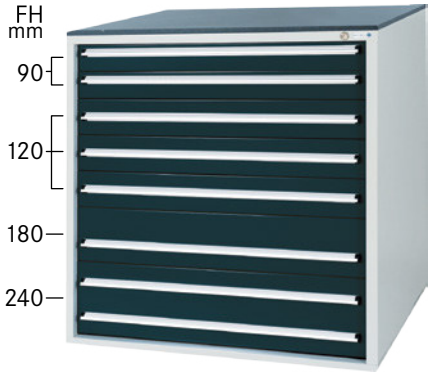
Notes:
To order customised hard foam inserts, please use the following clear internal dimensions: Width 887 mm, depth 687 mm.
Front height = FH, cabinet height = KH, see illustrations.

Technical data:
- Drawer width (inner dimension): 900 mm
- Drawer depth (inner dimension): 700 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 200 kg
- With SOFT-CLOSE closing function: No
- Drawer surface: 0.63 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated



Ident. No. 011

Ident. No. 021



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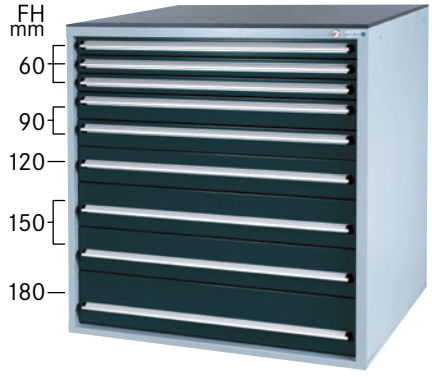

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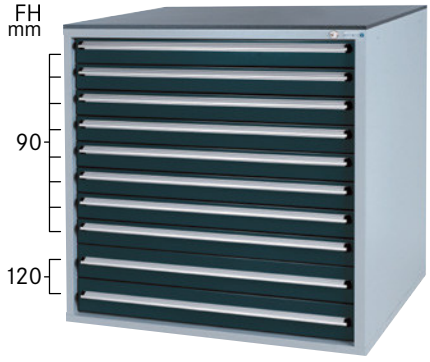


Ident. No. 061

			Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
			Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	50315... Ident. No.		50315... Ident. No.		50315... Ident. No.	
5	1036	1022	800	010	○⁺	012	○⁺	011	○⁺
6	1036	1022	800	020	○⁺	022	○⁺	021	○⁺
7	1036	1022	800	030	○⁺	032	○⁺	031	○⁺
8	1036	1022	800	040	○⁺	042	○⁺	041	○⁺
9	1036	1022	800	050	○⁺	052	○⁺	051	○⁺
10	1036	1022	800	060	○⁺	062	○⁺	061	○⁺

Prod. Gr. 5BB
For colours available without a surcharge, see page 1759

Drawer cabinets, system 800 B - standard versions

Depth 800 mm, width 1,022 mm

Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Drawers with perforated steel sheet base (25 mm hole spacing) for attaching and fixing individual items
- Aluminium grip handles with paper and cellophane strips and lateral cover caps

- **Ident. No. 070–082:** Load capacity of 70 kg with a drawer front height of 60 mm and 100 kg with a drawer front height of 90 mm
- **Ident. No. 100–102, 120–122:** Load capacity of 100 kg with a drawer front height of 90 mm

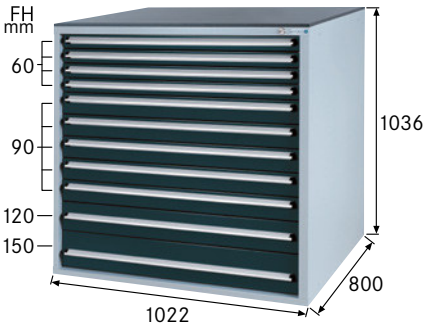
Advantage:
- Optimum operating characteristics of drawers
- High quality - made in Germany

Notes:

To order customised hard foam inserts, please use the following clear internal dimensions: Width 887 mm, depth 687 mm.

Front height = FH, cabinet height = KH, see illustrations.

Technical data:
- Drawer width (inner dimension): 900 mm
- Drawer depth (inner dimension): 700 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 200 kg
- With SOFT-CLOSE closing function: No
- Drawer surface: 0.63 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated



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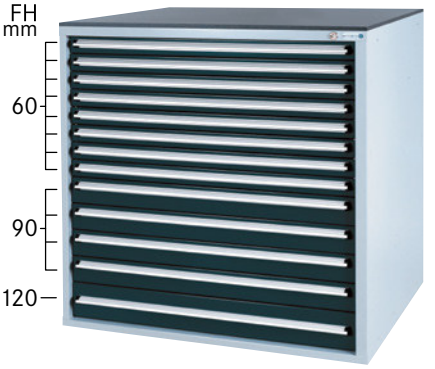

Ident. No. 081

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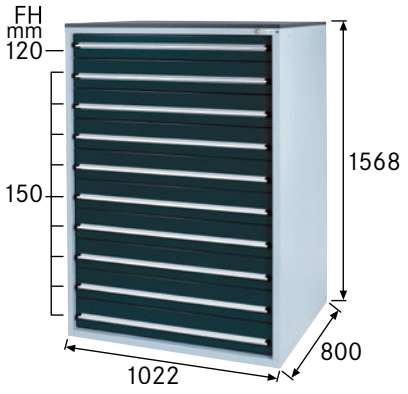

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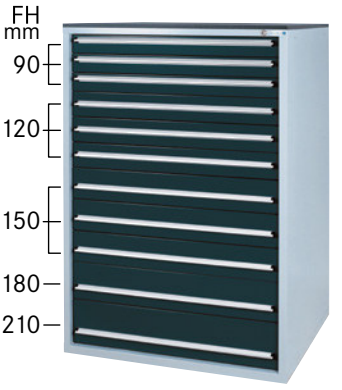


Ident. No. 121

Cabinet colour				Light grey RAL 7035		Optional		Light grey RAL 7035	
Colour of front				Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	50315... Ident. No.		50315... Ident. No.		50315... Ident. No.	
11	1036	1022	800	070	○+	072	○+	071	○+
13	1036	1022	800	080	○+	082	○+	081	○+
10	1336	1022	800	100	○+	102	○+	101	○+
10	1568	1022	800	110	○+	112	○+	111	○+
11	1568	1022	800	120	○+	122	○+	121	○+

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Drawer cabinets, system 800 B - standard versions with SOFT-CLOSE

Depth 800 mm, width 1,022 mm

Application:
Particularly suitable for careful storage of delicate, sensitive tools and parts in drawers.

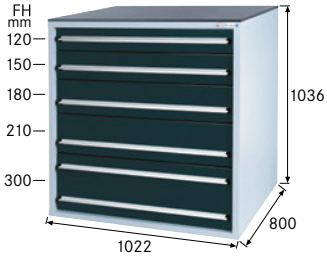
Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Drawers with perforated steel sheet base (25 mm hole spacing) for attaching and fixing individual items
- Aluminium grip handles with paper and cellophane strips and lateral cover caps

- **Ident. No. 720–732, 760–762:** Load capacity of 100 kg with a drawer front height of 90 mm
- **Ident. No. 740–752:** Load capacity of 70 kg with a drawer front height of 60 mm and 100 kg with a drawer front height of 90 mm

Advantage:
- The damping system brakes the drawer while closing; it closes the drawer smoothly and soundlessly by means of the self-closing mechanism
- Impact load on tools and parts stored in the drawer is reduced to a minimum due to the smooth-closing drawers
- High quality - made in Germany

Notes:
To order customised hard foam inserts, please use the following clear internal dimensions: Width 887 mm, depth 687 mm. Front height = FH, cabinet height = KH, see illustrations.

Technical data:
- Drawer width (inner dimension): 900 mm
- Drawer depth (inner dimension): 700 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 200 kg
- With SOFT-CLOSE closing function: Yes
- Drawer surface: 0.63 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated



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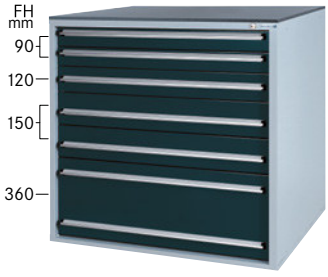

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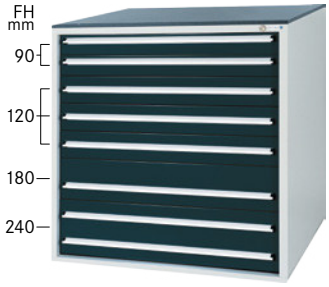

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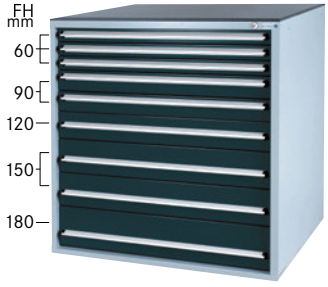

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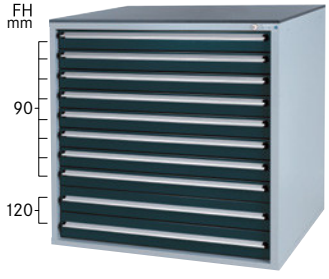


Ident. No. 761

Drawers with SOFT-CLOSE

				Cabinet colour		Light grey RAL 7035		Optional		Light grey RAL 7035	
				Colour of front		Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	50315... Ident. No.		50315... Ident. No.		50315... Ident. No.			
5	1036	1022	800	710	○⁺	712	○⁺	711	○⁺		
6	1036	1022	800	720	○⁺	722	○⁺	721	○⁺		
7	1036	1022	800	730	○⁺	732	○⁺	731	○⁺		
8	1036	1022	800	740	○⁺	742	○⁺	741	○⁺		
9	1036	1022	800	750	○⁺	752	○⁺	751	○⁺		
10	1036	1022	800	760	○⁺	762	○⁺	761	○⁺		

Prod. Gr. 5BB
For colours available without a surcharge, see page 1759

Drawer cabinets, system 800 B - standard versions with SOFT-CLOSE

Depth 800 mm, width 1,022 mm

Application:
Particularly suitable for careful storage of delicate, sensitive tools and parts in drawers.

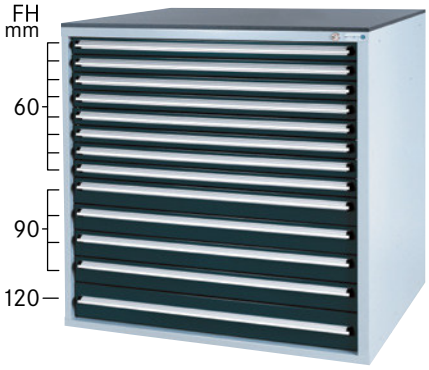
Execution:
- Solidly welded steel sheet construction
- Tilt-proof due to built-in individual drawer pull-out locking
- The drawers have high-quality Delrin rollers which means that they run quietly
- Drawers with slots all around for inserting compartment rails and dividers
- Drawers with perforated steel sheet base (25 mm hole spacing) for attaching and fixing individual items
- Aluminium grip handles with paper and cellophane strips and lateral cover caps
- **Ident. No. 770–782:** Load capacity of 70 kg with a drawer front height of 60 mm and 100 kg with a drawer front height of 90 mm
- **Ident. No. 784–786, 792–794:** Load capacity of 100 kg with a drawer front height of 90 mm

Advantage:
- The damping system brakes the drawer while closing; it closes the drawer smoothly and soundlessly by means of the self-closing mechanism
- Impact load on tools and parts stored in the drawer is reduced to a minimum due to the smooth-closing drawers
- High quality - made in Germany

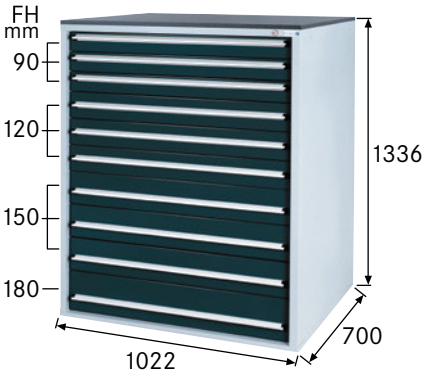
Notes:
To order customised hard foam inserts, please use the following clear internal dimensions: Width 887 mm, depth 687 mm. Front height = FH, cabinet height = KH, see illustrations.

Technical data:
- Drawer width (inner dimension): 900 mm
- Drawer depth (inner dimension): 700 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 200 kg
- With SOFT-CLOSE closing function: Yes
- Drawer surface: 0.63 m²
- Lock type: DOM® locking system
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated

Ident. No. 771



Ident. No. 781



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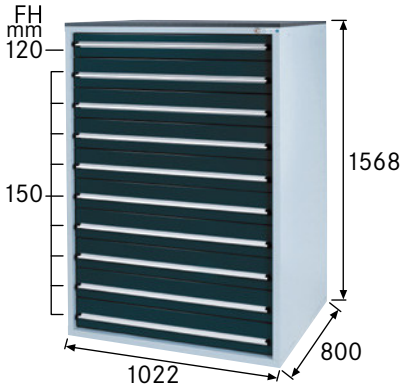

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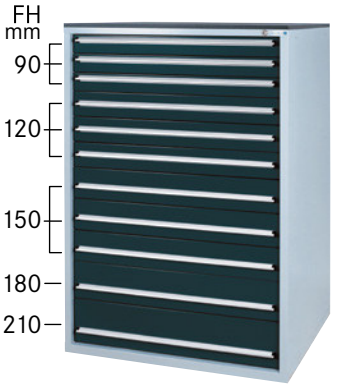


Ident. No. 793

Drawers with SOFT-CLOSE

			Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
			Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	50315... Ident. No.		50315... Ident. No.		50315... Ident. No.	
11	1036	1022	800	770	○⁺	772	○⁺	771	○⁺
13	1036	1022	800	780	○⁺	782	○⁺	781	○⁺
10	1336	1022	800	784	○⁺	786	○⁺	785	○⁺
10	1568	1022	800	788	○⁺	790	○⁺	789	○⁺
11	1568	1022	800	792	○⁺	794	○⁺	793	○⁺

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Drawer cabinets, system 800 B - cabinet housing

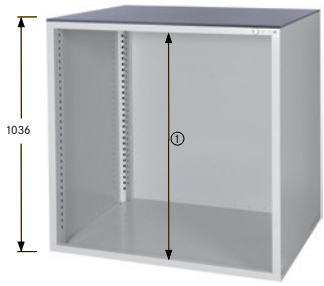
Depth 800 mm, width 1,022 mm

Application:
For individual configuration, can be fitted with drawers and shelves.

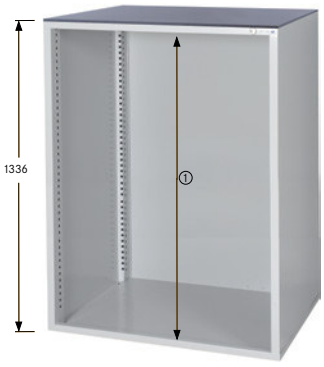
Execution:
- Robustly welded sheet steel construction
- Tilt-proof due to built-in single drawer extension locking
- Central locking with central combination safely lock, optional installation of electronic combination lock, see no. 50392 010
- **Ident. No. 192–194, 196–210:** With plastic-coated cover panel 8 mm

Advantage:
- The plug-in system means that the cylinder lock can easily be replaced without removing the drawer
- The empty cabinet housing can be individually fitted with drawers in accordance with tool and part storage requirements

Technical data:
- With doors: No
- Door design
- With single pull-out safety brake: Yes
- Central locking: Yes
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated



Ident. No. 192, 200
1=Useful height 960 mm



Ident. No. 194, 205
1=Useful height 1260 mm

					Cabinet colour	Light grey RAL 7035		Optional	
Height (mm)	Effective height (mm)	Width (mm)	Depth (mm)	With cover panel	Material of cover panel	50315... Ident. No.		50315... Ident. No.	
800	720	1022	800	No	-	190	○+	195	○+
1036	960	1022	800	Yes	Wood, plastic-coated	192	○+	200	○+
1336	1260	1022	800	Yes	Wood, plastic-coated	194	○+	205	○+
1568	1470	1022	800	Yes	Wood, plastic-coated	196	○+	210	○+

Prod. Gr. 5BB

Accessories for		50315 190	50315 192	50315 194	50315 196	50315 200	50315 205	50315 210
50392... TM-NFC user tag for locking system, RFID Teach-in of 5 pieces	Ident. No.	021 ○	021 ○	021 ○	021 ○	021 ○	021 ○	021 ○
50392... RFID TM1AB1, TM-NFC locking system RFID locking system for self-retrofitting.	Ident. No.	022 ○	022 ○	022 ○	022 ○	022 ○	022 ○	022 ○
50392... RFID TM1AB1, TM-NFC locking system Additional price, cannot be ordered separately.	Ident. No.	023 ○	023 ○	023 ○	023 ○	023 ○	023 ○	023 ○

For colours available without a surcharge, see page 1759

Cabinet housing, system 800 B with doors, height 1,036 mm

Depth 800 mm, width 1,022 mm

Application:
For individual configuration, can be fitted with drawers and shelves.

Execution:
- Robustly welded sheet steel construction
- With plastic-coated cover panel 8 mm
- Hinged doors with rotary bolt lock and linkage

Advantage:
- The empty cabinet housing can be individually fitted with shelves in accordance with tool and part storage requirements

Notes:
Suitable floor or wall mounting is required if the cabinet housing is fitted with extending shelves

Technical data:
- With doors: Yes
- Door design: Full-sheet panel
- With single pull-out safety brake: Yes
- With cover panel: Yes
- Material of cover panel: Wood, plastic-coated
- Central locking: Yes
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 199

				Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
				Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Height (mm)	Effective height (mm)	Width (mm)	Depth (mm)		50315... Ident. No.		50315... Ident. No.		50315... Ident. No.	
1036	960	1022	800		198	○+	215	○+	199	○+

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Hinged door cabinet system 800 B, with doors and shelves

Depth 800 mm, width 1,022 mm, height 1,036 mm

Application:
For professional storage and supply of particularly large tools, devices and accessories. Space-saving and time-saving solution which provides clearly-arranged and careful storage for tools within easy reach.

Execution:
- Robustly welded sheet steel structure

Technical data:
- Number of shelves: 2 PCS
- Load-carrying capacity per shelf: 200 kg
- Load-carrying capacity: 400 kg
- With partition wall: No
- Central locking: Yes
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 091

			Door design	Full-sheet panel		Full-sheet panel		Full-sheet panel	
			Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
			Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
Width (mm)	Depth (mm)	Height (mm)		50315... Ident. No.		50315... Ident. No.		50315... Ident. No.	
1022	800	1036		090	○+	092	○+	091	○+

Prod. Gr. 5BB

For colours available without a surcharge, see page 1759

Light case and light panel

for scanning contours and creating individual hard foam inserts

Application:
For simple and rapid arrangement of your individual hard foam insert, for your existing tool stock.

Execution:
- LED panel 600 x 600 mm incl. transformer and socket
- Step 1: Decide how you want your tools to be arranged and partitioned and place them within the reference frame on the white area of the light box/light panel.
- Step 2: Take a photograph with your digital camera, transfer it to your computer and then upload it to the HK Designer Software for hard foam inserts.
- Step 3: The shapes of the photographed tools, parts or items are digitised, processed individually by you using the HK Designer Software and provided with recessed handles.
- Step 4: After the order has been placed and confirmed, the customised hard foam insert will be manufactured and delivered.
- Please request log-in and access details for the HK Designer Software.
- **Ident. No. 980:**
  - Case lid equipped with hard foam insert for all accessories
  - Digital camera with memory card and accessories
  - Flight case with combination lock for the secure transport of reusable items without additional packaging
- **Ident. No. 985:** LED panel inserted in a hard foam insert, colour black/blue

Advantage:
- Existing tools can be captured directly on site and ordered and partitioned as you wish
- simple and straightforward recording using a digital camera (for version with light panel no. 50537 985, not included in scope of delivery)
- Little effort required
- Can be ordered as a hard foam insert from lot size 1

Delivery:
Ident. No. 980: Incl. flight case with combination lock, digital camera with memory card and accessories
Ident. No. 985: LED panel incl. transformer inserted in hard foam insert

Notes:
Our device is, of course, also available on a lease basis.

Ident. No. 980

Ident. No. 985

Use the digital camera to take pictures of your tools on the light panel, then load the pictures into the HK designer software to process and design the hard foam insert

Height (mm)	Depth (mm)	Width (mm)	Weight (kg)	50537... Ident. No.	
130	620	620	15	980	○
80	730	650	10	985	○

Prod. Gr. 586

Contour scanner

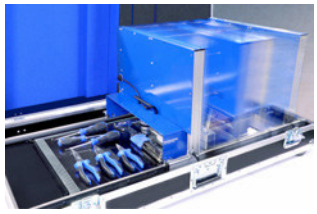
for scanning contours and creating individual hard foam inserts

Application:
For simple, straightforward and rapid scanning of all kinds of tools and components, and designing custom hard foam inserts.

Execution:
- scanning area: 750 x 400 mm, max. load capacity of scanning area: 10 kg (with uniform distribution)
- scanning height: max. 115 mm (component height)
- depending on range of parts, up to 10x more precise recording of contours than with conventional scanning systems with cameras

Advantage:
- immediately ready to use with plug & play function
- works with HK Designer planning software for custom hard foam solutions, no further software needs installing
- no need to transfer images, contours can be called up directly from the HK Designer planning software after scanning
- highly accurate and precise recording of small and narrow components, no shadowing, even with tall components
- no distortion of perspective and independent of ambient conditions (light, brightness etc.)

Delivery:
incl. USB connection cable, power connection cable and case with trolley function



Saves a great deal of time compared to conventional scanning systems with photographs

Can be used to store tools and parts up to an overall height of 115 mm

Includes case with trolley function

50537...	Ident. No.	988 ○

Prod. Gr. 586

ELECTRONIC CODE combination lock - surcharge

Locking system for drawer cabinets from HK

Application:
Ideal for shift work, schools and training workshops where a variety of people require access to the cabinet.

Execution:
- Cabinet opened using a 4- to 8-digit numerical code
- Battery-operated, no main power required
- Battery empty warning via LED display
- For hinged door version see no. 50392 020

Advantage:
- Up to 100 individual user PIN numbers can be programmed for one cabinet
- No key is required for opening and closing – no keys to lose
- Programmed directly on the cabinet or a PC/laptop programming kit, see programming kit no. 50392 015

Delivery:
Incl. 3 x Lithium batteries 1.5 V type Micro/AAA

Notes:
The price shown is the extra price charged. Retrofitting of existing cabinets, trolleys or workbenches is not possible.

Technical data:
- Type: For HK drawer cabinets (extra charge)

50392...	Ident. No.	010 ○

Prod. Gr. 586

ELECTRONIC CODE combination lock

keyless locking system for hinged door cabinets from HK

Application:
Ideal for shift work, schools and training workshops where a variety of people require access to the cabinet.

Execution:
- Cabinet opened using a 4-digit to 8-digit numeric code
- Battery-operated, no mains power required
- Battery discharge warning via LED display
- **Ident. No. 020:** Additional charge only applies when ordered together with a cabinet with doors.
- **Ident. No. 025:** Retrofit kit for existing HK cabinets with turning handle lock with three-point locking and Euro holes

Advantage:
- No key is required to open and close - no keys to lose
- **Ident. No. 020:**
  - Up to 100 individual user PINs can be programmed on a single cabinet
  - Programming possible directly on the cabinet or via a PC/laptop programming kit, see programming kit no. 50392 015
- **Ident. No. 025:**
  - Simple conversion of existing doors with twist lock to electronic locking system with numeric code
  - Up to 100 individual user PINs can be programmed on a cabinet
  - Programmed directly on the cabinet or via a PC/laptop programming kit, see programming kit no. 50392 015

Delivery:
incl. batteries

Type		For HK hinged door cabinets (extra charge)	For HK hinged door cabinets (retrofit kit)
50392...	Ident. No.	020 ○	025 ○

Prod. Gr. 586

Emergency unlocking device
for ELECTRONIC CODE combination lock

Application:
For rapid emergency unlocking of the ELECTRONIC CODE combination lock. The required power is supplied by batteries. Simple plug connection.

Execution:
- Battery-powered emergency unlocking device with plug
- Battery compartment for 3 x 1.5 V AA batteries

Advantage:
- Quick and easy emergency unlocking

Notes:
Supplied without batteries.

50392...	Ident. No.	013 ●

Prod. Gr. 586

Programming kit
for ELECTRONIC CODE combination lock

Application:
For connection to an ELECTRONIC CODE combination lock and for connection with a PC or laptop. Can also be used for emergency unlocking.

Execution:
- Interface converter for connection with a PC so that data can be transferred to the system
- USB cable 2.0 for connecting a converter to a PC or laptop
- Software on USB stick for convenient management of access rights (PIN codes) at the PC or laptop

Advantage:
- Easy and convenient programming and management of PIN numbers via a PC or laptop
- If the batteries have been completely discharged, emergency opening can be carried out together with a laptop or USB power supply

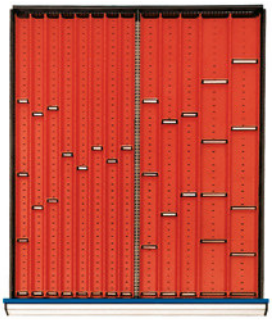
50392...	Ident. No.	015 ○

Prod. Gr. 586

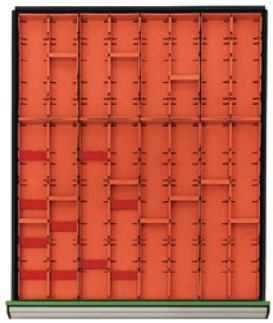
Drawer cabinets, system 800 S - drawer insert sets
Depth 700 mm, width 600 mm

Application:
For customised fitting and partitioning of individual drawers in drawer cabinet, system 800 S.

Execution:
- Suitable for drawer internal dimensions: Width x depth 600 x 700 mm
- **Ident. No. 280:** Oil-resistant
- **Ident. No. 310–315:** with textured mat and boxes

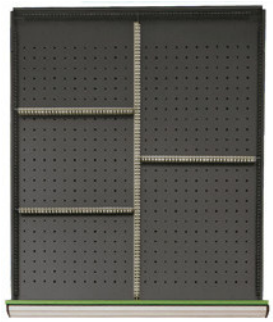


Ident. No. 070
① Trough trays

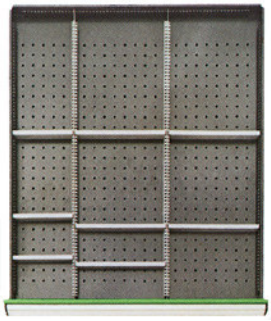


Ident. No. 130
② Containers

Ident. No. 145–150
④ Spare part boxes

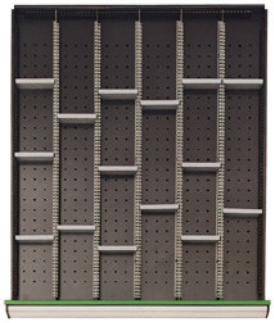


Ident. No. 160–180
⑤ Compartment dividers



Ident. No. 200
⑧ Compartment divisions

Ident. No. 230–240
⑥ Compartment dividers



Ident. No. 250–270
⑦ Compartment dividers

Ident. No. 280
⑨ Ribbed rubber mat

Ident. No. 300
⑩ Anti-slip mat

Ident. No. 310
⑪ AQURADO set with textured mat and 26 boxes, 24/48 mm high (without tools)

Ident. No. 312
⑫ AQURADO set with textured mat and 24 boxes, 48 mm high

Ident. No. 315
⑬ AQURADO set with textured mat and 27 boxes, 24 mm high

For drawer cabinet height (mm)				40	70	100
HK	50480...	① Trough plates	Ident. No.	070 ○	-	-
HK	50480...	② Containers	Ident. No.	130 ○	-	-
HK	50480...	③ Containers	Ident. No.	-	140 ○	-
HK	50480...	④ Spare part boxes	Ident. No.	145 ○	150 ○	-
HK	50480...	⑤ Compartment divisions	Ident. No.	160 ○	170 ○	180 ○
HK	50480...	⑥ Compartment divisions	Ident. No.	-	230 ○	240 ○
HK	50480...	⑦ Compartment divisions	Ident. No.	250 ○	260 ○	270 ○
HK	50480...	⑧ Compartment divisions	Ident. No.	-	200 ○	-
HK	50480...	⑨ Ribbed rubber mat	Ident. No.	280 ●	-	-
HK	50480...	⑩ Anti-slip mat	Ident. No.	300 ●	-	-
AQURADO	50480...	⑪ Set with textured mat and 26 boxes	Ident. No.	-	310 ●	-
AQURADO	50480...	⑫ Set with textured mat and 24 boxes	Ident. No.	-	312 ●	-
AQURADO	50480...	⑬ Set with textured mat and 27 boxes	Ident. No.	315 ○	-	-

HK = Prod. Gr. 503
AQURADO = Prod. Gr. 581

Hard foam insert

A perfectly organised workplace increases productivity and safety in every process. For optimal performance, this perfect organisation must be maintained down to the last detail. Hard foam inserts can help: Already equipped with high-quality tools or individually planned, the inserts maintain order down to the tiniest screw. High-quality materials and the latest technology allow detailed outlines and a wide range of different cavities to be cut – always near to the surface for easy removal. Each part has its dedicated space. Hard foam inserts also secure the contents during storage and transport. The two-tone material lets you see at a glance if an item is missing.

A strong material:

PE-foam is lightweight yet resilient.

Furthermore it is oil-resistant and water-resistant.

It also has shock-absorbing properties.

The hard foam is durable, odour-free and even suitable for use with foodstuffs.

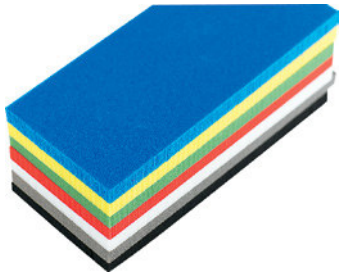
ESD foam is available for electronic parts.

Use the laser engraver to add your personal signature and give the
hard foam insert an individual finish.

Versatile applications – many possibilities:

The largest available hard foam insert is 1500 mm long and 1000 mm wide. Almost all dimensions and shapes smaller than this are possible.

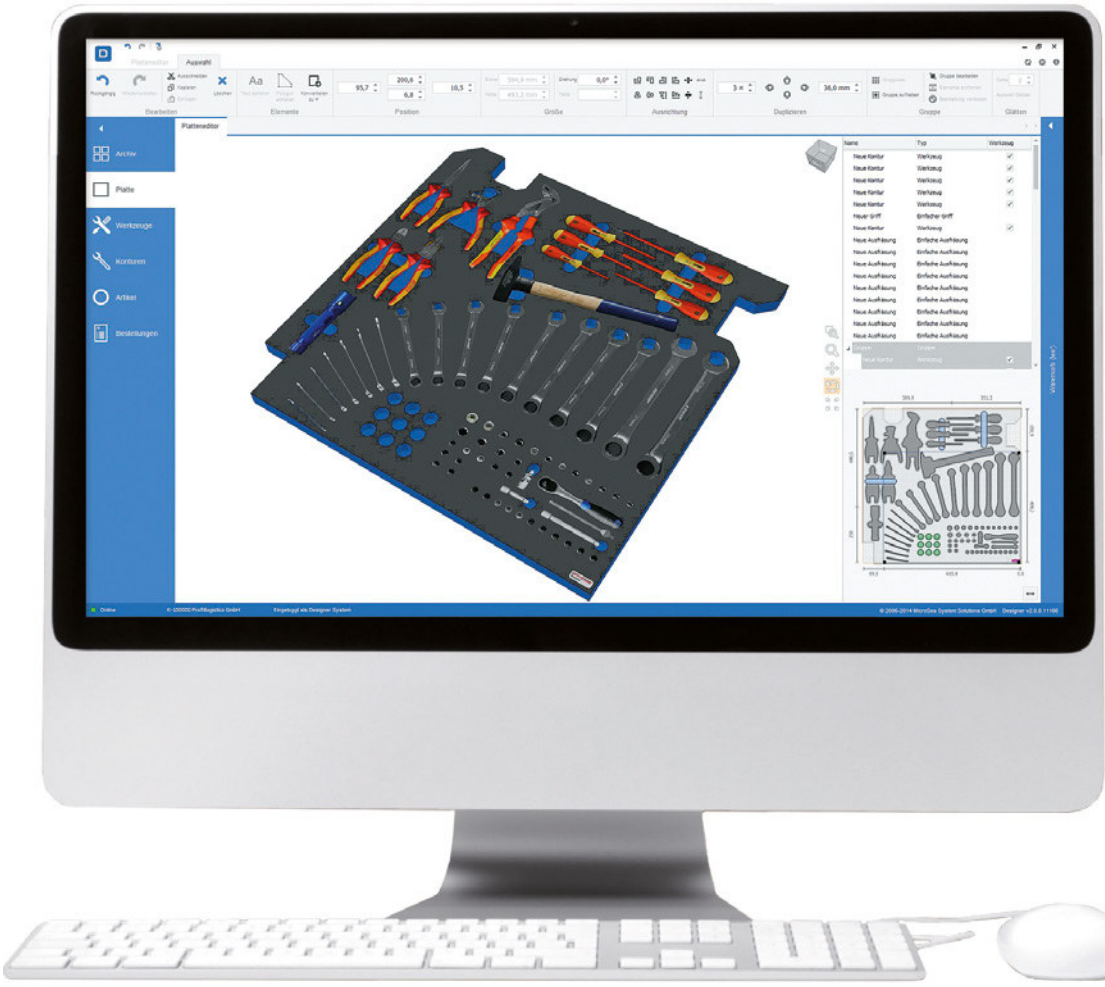
Standard versions of the material are 30 mm, 60 mm or 90 mm thick. Individual versions are possible with smaller and larger thicknesses up to a maximum of 210 mm.

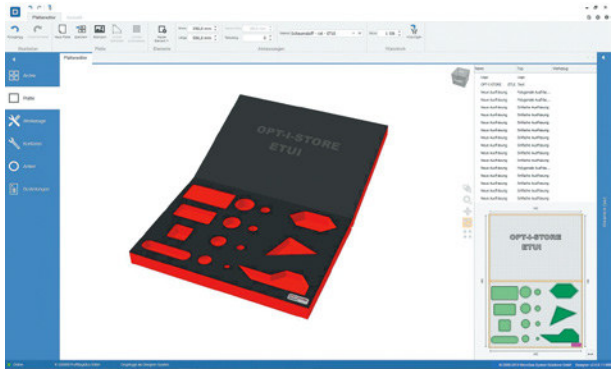


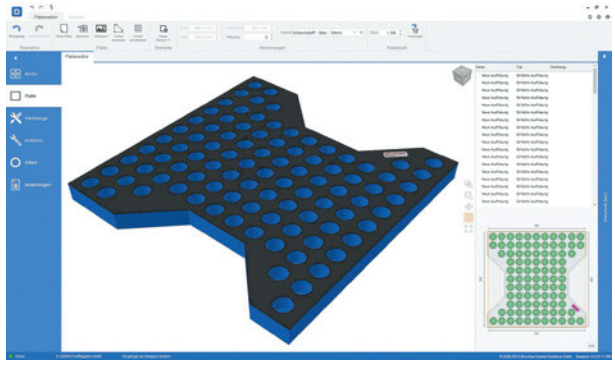
There are many colour options available. The black surface layer can be combined with the following contrasting colours: Standard blue, as well as the optional colours red, green, yellow, white or grey.

Designer software for hard foam inserts
The quick and easy configurator for your individual hard foam inserts

Hard foam inserts can be custom-made for tools from the current HAHN+KOLB-product range and tailored to your existing drawer dimensions. Plan and design fully customised tool-equipped hard foam inserts adapted to your requirements in just a few clicks – either using your existing tool collection by photographing with light box no. 50537 980 or light panel no. 50537 988 and loading the images into our designer software via an SD card, or using the contour scanner no. 50537 988 to transfer the scanned contours directly into our designer software via the USB cable supplied – quick and simple. You also of course have the option of designing the hard foam inserts using new tools from our database, using photo-realistic 3D graphics. Once this is done, order the complete package online. The free Designer Software is easy to use and clearly laid out. In this way, you can make your own personal and completely unique hard foam insert quickly and easily. Planning errors are eliminated by real-time calculation, integrated contour collision testing and technical feasibility checks. Simply position each tool roughly and move it to the required location. Use the laser labeller to add your personal signature and give the hard foam insert a certain individual finish.







The software can be used to create any geometric shape.

Our systems for recording contours
For simple and rapid designing of custom hard foam inserts

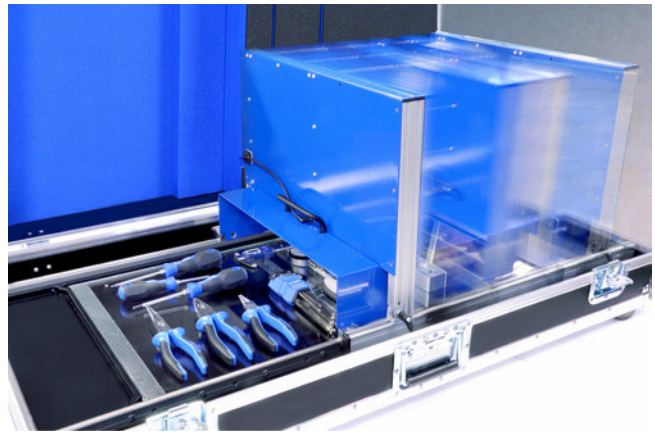
We offer various options for recording the contours of tools, components and other objects directly at your location in order to produce custom hard foam inserts.

HK light panel system no. 50537 985 and HK light case no. 50537 980:
Place the tools and components on the white surface within the reference frame (556 x 556 mm) and photograph these with a digital camera. Transfer the photos produced to your computer and then load these into our designer software for hard foam inserts. The contours of the photographed tools, components or objects can be individually edited in the software and given designated recessed handles.

Use the digital camera to take pictures of your tools on the light panel, then load the pictures into the HK designer software to process and design the hard foam insert

HK contour scanner system no. 50537 988:
Tools and components placed on the scanning surface (750 x 400 mm) are scanned in a quick and simple process. The scanner can be simply connected to a PC/ laptop via a USB cable. No further software needs installing. Thanks to the plug & play function, the images and contours are transferred directly to our designer software, where they are available for you to process. The scanner also records small and slender components with great precision; and with tall components, no shadows are captured and no perspective distortions result. With its compact flight case with trolley function, the scanner is mobile and can be moved around easily.

Can be used to store tools and parts up to an overall height of 115 mm



Saves a great deal of time compared to conventional scanning systems with photographs

ORION® Drawer cabinets, system 700

Depth 700 mm, width 722 mm and 1022 mm

Application:

Ident. No. 070, 072–080, 082: ideally suited to the storage of various tools and parts.

Ident. No. 071, 081: Ideally suited to the storage of various tools and parts.

Execution:

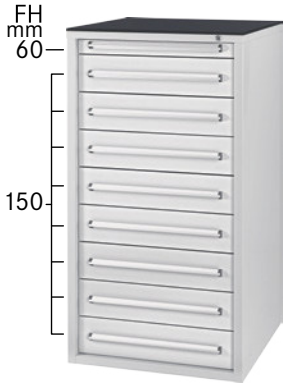
- **Ident. No. 070, 072–080, 082:**
  - welded sheet-steel construction guarantees high loadability and stability
  - central locking mechanism with safety lock and individual extension lock for drawers
  - drawers capable of holding an evenly distributed load of up to 100 kg
  - drawers with rows of slots for inserting dividers
  - grid division (30:30 mm) facilitates custom compartmentalisation of drawers in housing
  - plastic-coated worktop (black) with a thickness of 8 mm
  - handle strips made from aluminium with labelling strips with transparent covers and cover caps
- **Ident. No. 071, 081:**
  - Welded sheet-steel construction guarantees high loadability and stability
  - Central locking mechanism with safety lock and individual extension lock for drawers
  - Drawers capable of holding an evenly distributed load of up to 100 kg
  - Drawers with rows of slots for inserting dividers
  - Grid division (30:30 mm) facilitates custom compartmentalisation of drawers in housing
  - Plastic-coated worktop (black) with a thickness of 8 mm
  - Handle strips made from aluminium with labelling strips with transparent covers and cover caps

Technical data:

- Drawer depth (inner dimension): 598 mm
- Pullout type: Full extension
- Load-carrying capacity per drawer: 100 kg
- With SOFT-CLOSE closing function: No
- With cover panel: Yes
- Lock type: Cylinder lock
- Material of cover panel: Wood, plastic-coated
- Material: Sheet steel
- Functions: RFID possible
- Surface: Powder-coated

Ident. No. 070

Ident. No. 071



Ident. No. 072

Ident. No. 080

Ident. No. 081

Ident. No. 082

					Cabinet colour	Light grey RAL 7035	
					Colour of front	Light grey RAL 7035	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	Drawer width (inner dimension) (mm)	Drawer surface (m^2)	50100... Ident. No.	
5	800	722	700	599	0.385	070	○+
7	1036	722	700	599	0.385	071	○+
9	1336	722	700	599	0.385	072	○+
5	800	1022	700	899	0.537	080	○+
7	1036	1022	700	899	0.537	081	○+
9	1336	1022	700	899	0.537	082	○+

Prod. Gr. 586

HK-MAT tool distribution system

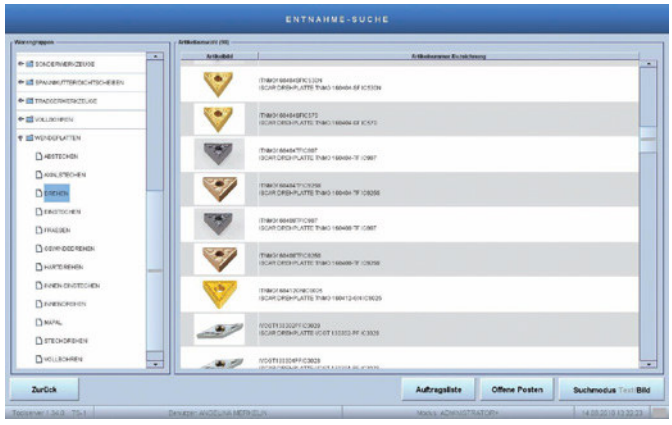
application:
thanks to the electronically locked tool dispensing cabinet, the right tool is always provided at the right time at the right place. personalised access with PIN entry allows only authorised personnel to have controlled access to your tools around the clock. automatic re-ordering after removal guarantees restocking. this eliminates tool-related production downtime. procurement and storage costs are minimised.

advantages:
- full cost and consumption control
- comprehensive evaluation options
- full availability ensures high productivity
- in a consignment warehouse, the supplier retains the ownership of the goods until the customer withdraws the products
- only pay for products that have been genuinely removed
- reduction of excess stocks
- true inventory, 'concealed' inventories are minimised
- quick access without warehouse management
- prevention of wastage
- individual removal possibility, e.g. of reversible tips from entire packing units
- 24h availability
- no more tedious searching for the right tool
- immediate information where a tool is currently in use (e.g. measuring equipment/rented items)
- non manufacturer-specific device, can be filled with items from different suppliers
- minimisation of storage costs
- no more manual orders: email sent automatically to suppliers when a tool is removed
- interfaces with PPS and ERP systems
- expandable with all modules of the HK-MAT series

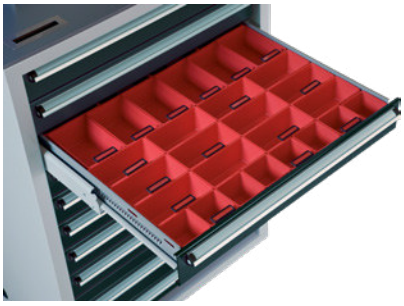
easy selection of the required tool on the PC, controlled and documented tool distribution

our service:
we will prepare an individual cost model for you encompassing rental and a contractually agreed increase in sales tailored to your requirements.
please contact us. ☎ **hotline +49 (0)800 9813-187**

no more tedious searching for tools



find the desired tool quickly using a simple search function. the software provides an overview of the tool stock and automatically triggers orders.



individual drawer partitioning material as per customer request

Rechargeable battery charging cabinets - securely store and recharge batteries and machines

height options 1,030 mm and 1,950 mm, with solid sheet metal doors or doors with viewing window

Application:
For clean, tidy and clearly-arranged storage of chargers and battery machines, optimum protection against damage or theft.

Execution:
- Sturdy welded sheet steel structure
- Doors with ventilation slots for optimum air circulation, lockable using a triple-point security lock incl. 2 keys
- 3 or 4 height-adjustable storage levels with 6-way power socket strips for 230 V with on/off switches
- Cabinet, hinged doors and 3 top shelves are earthed separately
- **Ident. No. 002–003, 012:** One 16 A accessory equipment plug for plugging in 400 V connectors incl. distribution box and three circuit breakers accommodated on the right side of the cabinet
- **Ident. No. 004–005, 008–009, 014, 018:** One 16 A accessory equipment plug for attaching 400 V plugs incl. distribution box and 3 circuit breakers fitted in cabinet on right-hand side (connection and fan can be mounted on the left on request)
- **Ident. No. 006–007, 016:**
  - 16 A accessory equipment plug on the right-hand side for attaching 400 V connectors
  - Distribution box and 3 circuit breakers fitted in cabinet

Advantage:
- Central storage of the batteries
- Overview and check for your expensive tool

Delivery:
Fully wired and tested in line with CE specifications and ready for immediate operation. Incl. operating instructions.

Notes:
Only suitable for installation in dry rooms. Max. 6 chargers to be connected per charging level.

Technical data:
- Shelf width: 925 mm
- Shelf depth: 370 mm
- Load-carrying capacity per shelf: 60 kg
- Number of drawers: 1 PCS
- Drawer front height: 1 x 90 mm
- Drawer width (inner dimension): 884 mm
- Drawer depth (inner dimension): 388 mm
- Load-carrying capacity per drawer: 50 kg
- Pullout type: Full extension
- Number of multiple socket outlets: 3 PCS
- Lock type: DOM® locking system
- Material: Sheet steel
- Surface: Powder-coated

Door design				Full-sheet panel	Inspection glass	Full-sheet panel	Inspection glass	Full-sheet panel
Height (mm)				1030	1030	1950	1950	1950
Width (mm)				1000	1000	1000	1000	1000
Depth (mm)				500	500	500	500	500
Number of shelves (PCS)				3	3	4	4	4
Load-carrying capacity (kg)				200	200	350	350	350
Mandatory testing according to DGUV (UVV)				No	No	No	No	Yes
	Cabinet colour	Colour of front						
50052...	Light grey RAL 7035	Gentian blue RAL 5010	Ident. No.	002 ○+	004 ○+	006 ○+	008 ○+	-
50052...	Optional	Optional	Ident. No.	003 ○+	005 ○+	-	009 ○+	007 ○+
50052...	Light grey RAL 7035	Anthracite grey RAL 7016	Ident. No.	012 ○+	014 ○+	016 ○+	018 ○+	-

Prod. Gr. 501
For colours available without a surcharge, see page 1759

Ident. No. 016

Ident. No. 012

Ident. No. 018

Roller-shutter top-mounted cabinets

Back panel with square perforations, optional widths 722 mm or 1,022 mm

Application:

Ident. No. 002–005: Cabinet suitable for mounting on top of HK S system drawer cabinets (722 mm wide) or on tables and workbenches.

Ident. No. 012–015: Cabinet suitable for mounting on top of HK B system drawer cabinets (1022 mm wide) or on tables and workbenches.

Execution:

- Robust, welded sheet steel construction with plastic roller shutters (light grey)
- Rear panel with square 10 x 10 mm perforations, axis distance 38 mm
- Integrated aluminium handle strip in roller shutter and DOM pressure cylinder lock incl. 2 keys

Advantage:

- Square 10 x 10 mm perforations in rear panel for individual attachment options, e.g. with tool hooks and support elements.
- 360 mm depth means folders, documents, boxes etc. can be stored on the cabinet floor

Delivery:

Without decorative materials, empty housing for customised fitting

Notes:

RasterPlan support elements and tool holders for inserting into perforated metal plate walls, see from no. 50638 300 in the Workplace chapter

Technical data:

- Door design: Plastic shutters
- Back panel design: Perforated
- Central locking: Yes
- Lock type: DOM® cylinder lock
- Material: Sheet steel
- Colour of front: Light grey
- Surface: Powder-coated

Ref. no. 014 Example with customised configuration

Ref. no. 002 Example with customised configuration

Depth (mm)	Height (mm)	Cabinet colour	Width (mm) 722 50040... Ident. No.		1022 50040... Ident. No.	
230	955	Light grey RAL 7035	002	○	012	○+
230	955	Optional	003	○	013	○+
360	955	Light grey RAL 7035	004	○+	014	○+
360	955	Optional	005	○+	015	○+

Prod. Gr. 504

For colours available without a surcharge, see page 1759

Hinged door cabinets with solid sheet metal doors, height 1,000 mm

with drawers and shelves, load capacity 40/50 kg

Application:

For secure and clearly-arranged storage of tools, accessories and other parts.

Execution:

- Cabinet housing made of sheet steel with 3-sided anti-roll-off edging, 25 mm high
- Shelves galvanised, height-adjustable
- Doors with grip handles, lockable with cylinder security lock, incl. 2 keys

Technical data:

- Load-carrying capacity per shelf: 50 kg
- Shelf depth: 430 mm
- Drawer width (inner dimension): 380 mm
- Drawer depth (inner dimension): 445 mm
- Load-carrying capacity per drawer: 40 kg
- Pullout type: Full extension
- Load-carrying capacity: 200 kg
- Central locking: Yes
- Lock type: Twist-grip lock with three-point fastening
- Material: Sheet steel
- Surface: Powder-coated

No. 50132 003

No. 50132 005

No. 50132 007

							Door design	Full-sheet panel		Full-sheet panel		Full-sheet panel	
							Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
							Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
Height (mm)	Width (mm)	Depth (mm)	Number of shelves (PCS)	Number of drawers (PCS)	With partition wall	Shelf width (mm)	Drawer front height	50032... Ident. No.		50032... Ident. No.		50132... Ident. No.	
1000	500	500	2	1	No	425	1 x 90 mm	003	○+	013	○+	003	○+
1000	1000	500	2	2	No	925	2 x 90 mm	005	○+	015	○+	005	○+
1000	1000	500	4	2	Yes	425	2 x 90 mm	007	○+	017	○+	007	○+

Prod. Gr. 504

Accessories for		50032 003	50032 005	50032 007	50032 013	50032 015	50032 017	50132 003
50032... Shelf, width 425 mm For hinged-door cabinet no. 50032	Ident. No.	020 ○	-	020 ○	020 ○	-	020 ○	020 ○
50032... Shelf, removable, width 385 mm For hinged-door cabinet no. 50032	Ident. No.	030 ○	-	030 ○	030 ○	-	030 ○	030 ○
50032... Drawer, height 90 mm For hinged-door cabinet no. 50032	Ident. No.	040 ●	040 ●	040 ●	040 ●	040 ●	040 ●	040 ●
50032... Shelf, width 925 mm For hinged-door cabinet no. 50032	Ident. No.	-	025 ○	-	-	025 ○	-	-
50032... Shelf, removable, width 885 mm For hinged-door cabinet no. 50032	Ident. No.	-	035 ○	-	-	035 ○	-	-

Accessories for		50132 005	50132 007
50032... Shelf, width 425 mm For hinged-door cabinet no. 50032	Ident. No.	-	020 ○
50032... Shelf, removable, width 385 mm For hinged-door cabinet no. 50032	Ident. No.	-	030 ○
50032... Drawer, height 90 mm For hinged-door cabinet no. 50032	Ident. No.	040 ●	040 ●
50032... Shelf, width 925 mm For hinged-door cabinet no. 50032	Ident. No.	025 ○	-
50032... Shelf, removable, width 885 mm For hinged-door cabinet no. 50032	Ident. No.	035 ○	-

For colours available without a surcharge, see page 1759

Lectern-type desk tops

for cabinets nos. 50032 003-017

Application:
As an attachment for cabinets no. 50032.

Execution:
- Sheet steel housing with embossed tray for pens and work materials
- Folding lid with wood inlay
- Lockable with cylinder lock

Technical data:
- Width: 500
- Height: 270
- Surface: Powder-coated
- Depth: 500

Colour		Light grey RAL 7035	Optional
50044...	Ident. No.	010 ○+	015 ○

Prod. Gr. 504

For colours available without a surcharge, see page 1759

ORION® Hinged door cabinet with solid sheet metal doors, height 1,950 mm

with shelves

Application:
For secure and clearly arranged storage of tools, accessories, files or many other parts.

Execution:
- Robust, spot-welded steel sheet structure
- Safety bevels to prevent injuries
- 2 reinforced hinged doors, mounted on 4 stable, internal pivot pins
- 4 galvanised shelves, load capacity 60 kg, height adjustable in 180 mm grid
- Lockable, with three-point security levers and black turning handle with cylinder security lock, incl. 2 keys

Technical data:
- Number of shelves: 4 PCS
- Load-carrying capacity per shelf: 60 kg
- Load-carrying capacity: 400 kg
- With partition wall: No
- Central locking: Yes
- Lock type: Twist-grip lock with three-point fastening
- Material: Sheet steel
- Surface: Powder-coated

No. 50045 510

No. 50045 515

		Door design	Full-sheet panel		Full-sheet panel		Full-sheet panel	
		Colour of front	Light grey RAL 7035		Gentian blue RAL 5010		Anthracite grey RAL 7016	
		Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Light grey RAL 7035	
Width (mm)	Depth (mm)	Height (mm)	50100... Ident. No.		50045... Ident. No.		50045... Ident. No.	
950	450	1950	090	○+	510	●+	515	○+

Prod. Gr. 586

Hinged door cabinet with solid sheet metal doors, height 1,950 mm

with shelves

Application:
For secure and clearly-visible storage of tools, accessories, files or many other parts.

Execution:
- Stable spot-welded steel sheet structure with base
- Safety bevels to prevent injuries
- 2 reinforced hinged doors, mounted on 4 sturdy internal steel pins
- 4 galvanised shelves, can be adjusted in the grid by 50 mm
- Can be locked using three-point security levers and black turning knob with cylinder security lock, incl. 2 keys

Notes:
The cabinet can be fitted with an ELECTRONIC CODE combination lock at extra charge as an option, see no. 50045 015

Technical data:
- Number of shelves: 4 PCS
- Load-carrying capacity per shelf: 80 kg
- Load-carrying capacity: 300 kg
- With partition wall: No
- Central locking: Yes
- Lock type: Twist-grip lock with three-point fastening
- Material: Sheet steel
- Surface: Lacquered

Ident. No. 010

Ident. No. 012

Ident. No. 016

									Sub-family: Shelves for hinged door cabinets
			Hinged door cabinet with solid sheet metal doors, height 1,950 mm						
		Door design	Full-sheet panel		Full-sheet panel		Full-sheet panel		
		Colour of front	Gentian blue RAL 5010		Light grey RAL 7035		Anthracite grey RAL 7016		
		Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Light grey RAL 7035		
Width (mm)	Depth (mm)	Height (mm)	50045... Ident. No.		50045... Ident. No.		50045... Ident. No.		50045... Ident. No.
950	450	1950	010	○+	012	○+	016	○+	110	○

Prod. Gr. 586

Wardrobe and filing cabinet with solid sheet metal doors

with divider

Application:
For secure and clearly-visible storage of tools, accessories, files or many other parts.

Execution:
- Stable spot-welded steel sheet metal structure with base 100 mm high
- Hinged doors with vertical box-type reinforcement, doors mounted on steel pins
- Interior: Divider, left area with four shelves, right area with one shelf and clothes rail

Notes:
The cabinet can be fitted with an ELECTRONIC CODE combination lock at extra charge as an option, see no. 50045 015

Technical data:
- Number of shelves: 4 PCS
- Load-carrying capacity per shelf: 50 kg
- Load-carrying capacity: 300 kg
- With partition wall: Yes
- Central locking: Yes
- Lock type: Twist-grip lock with three-point fastening
- Material: Sheet steel
- Surface: Lacquered

No. 50047

No. 50046 040

		Door design	Full-sheet panel		Full-sheet panel		Full-sheet panel	
		Colour of front	Gentian blue RAL 5010		Light grey RAL 7035		Anthracite grey RAL 7016	
		Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Light grey RAL 7035	
Width (mm)	Depth (mm)	Height (mm)	50046... Ident. No.		50046... Ident. No.		50047... Ident. No.	
950	450	1950	035	○+	040	○+	040	○+

Prod. Gr. 504

ELECTRONIC CODE combination lock

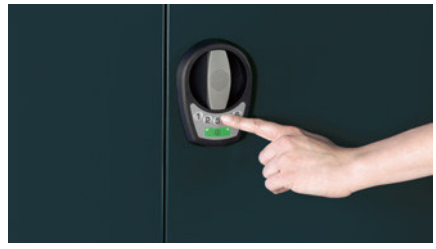
keyless locking system for hinged door cabinets, no. 50045 010-14 and 50046 035-040

Application:
Ideal for shift work, schools and training workshops where a variety of people require access to the cabinet.

Execution:
- cabinet opened using a 4-digit to 8-digit numeric code
- battery-operated, no mains power required
- battery empty warning via LED display
- **Ident. No. 015:** Additional charge only applies when ordered together with a cabinet with doors.
- **Ident. No. 017:** retrofit kit for existing cabinets no. 50045 010, 012, 014 and 50046 035, 040 with turning handle lock with three-point locking and Euro holes

Advantage:
- **Ident. No. 015:**
  - up to 100 individual user PINs can be programmed on a single cabinet
  - No key is required to open and close – no keys to lose
  - programmed directly on the cabinet or via a PC/ laptop programming kit, see programming kit no. 50392 015
- **Ident. No. 017:**
  - Simple conversion of existing doors with twist lock to electronic locking system with numeric code
  - Up to 100 individual user PINs can be programmed on a cabinet
  - No key is required to open and close - no keys to lose
  - Programmed directly on the cabinet or via a PC/ laptop programming kit, see programming kit no. 50392 015

Delivery:
incl. batteries



50045...	Additional charge (in addition to cabinet)	Ident. No.	015 ○
50045...	Retrofit kit for cabinet	Ident. No.	017 ○

Prod. Gr. 586

Emergency unlocking device

for ELECTRONIC CODE combination lock

Application:
For rapid emergency unlocking of the ELECTRONIC CODE combination lock. The required power is supplied by batteries. Simple plug connection.

Execution:
- Battery-powered emergency unlocking device with plug
- Battery compartment for 3 x 1.5 V AA batteries

Advantage:
- Quick and easy emergency unlocking

Notes:
Supplied without batteries.

50392...		Ident. No.	013 ●

Prod. Gr. 586

CNC tool shelf - for open storage of CNC tools

For personalised configuration with support profiles nos. 50658 110-158

Application:
For clearly-laid-out storage and retrieval of CNC tools. Customised fitting with support profiles, no. 50658 110-158 and tool holders, no. 50655 020-126.

Execution:
- Sturdy steel sheet metal structure, made of steel sections, welded
- Can be installed back to back or side by side in a row
- Depending on the protruding length of the tools, the shelf can be fitted with up to 7 levels (support profiles)
- Do not exceed max. load capacity of 50 kg per level (support profile)
- For heavy tools and attachments, we recommend our HK cabinets no. 50658 020-045/50658 005-016 with load-bearing capacities of up to 1000 kg

Advantage:
- Flexible storage of various tool holders
- Tool holder no. 50655 020-126 can also be used in the shelf if hook-in profile ident. no. 165 is installed

Delivery:
Does not include support brackets, hook-on profiles or support profiles, these must be ordered in addition to the shelf

Notes:
Do not exceed max. load capacity of 50 kg per level (support profile). Must be screwed to the floor or wall (mounting materials not included). One pair of support brackets no. 50658 160 per storage level must be ordered together with shelf no. 50658 050-052.

Technical data:
- Depth: 513 mm
- Width: 1019 mm
- Height: 1740 mm
- Load-carrying capacity: 350 kg
- Material: Sheet steel

Ident. No. 050
Configuration example: Shelf ref. no. 050 fitted with 6 support profiles for holding SK 40 no. 50658 115 combined with support angles ref. no. 160

Configuration example: Rack ref. no. 050 fitted with WTS support profiles no. 50658 110-158 combined with support angles ref. no. 160 and tool carrier no. 50655 020-126 combined with hook-on profile ref. no. 165

50658...	Ident. No.	052 ○+

Prod. Gr. 507

Accessories for		50658 050	50658 052
50658... Support brackets (pair) for support profile no. 50658 110-158 For insertion in shelf no. 50658 050-052	Ident. No.	160 ○	160 ○
50658... Support profiles for CNC tool holders For shelf no. 50658 050-052 and cabinet housing 50658 005-016	Ident. No.	165 ○	165 ○

For colours available without a surcharge, see page 1759

Support profiles for CNC tool holders

For shelf nos. 50658 050-052

Application:
For clearly-laid-out storage and retrieval of CNC tools.

Execution:
- Made of sheet steel
- Equipped with plastic inserts to accommodate CNC tools

Notes:
One pair of support brackets no. 50658 160 per storage level must be ordered for fitting in shelf no. 50658 050-052. One pair of support rails no. 50658 100 per storage level must be ordered for fitting in cabinet housing no. 50658 005-074. Please consider when ordering. Other holders such as Capto C3 or Capto C4 available upon request.

Technical data:
- Type: For racks/cabinet housings
- Depth: 160 mm
- Width: 942 mm
- Colour: Light grey RAL 7035
- Load-carrying capacity per carrier section: 50 kg

Ident. No. 115

CNC tool shelf fitted with support profiles combined with support angle ref. no. 160

Cabinet fitted with 3 support profiles on one storage level with different mounts

Number of attachments		26 pieces	20 pieces	10 pieces	26 pieces	10 pieces	26 pieces	20 pieces	32 pieces
Tool holding device		SK 30	SK 40	SK 50	VDI 20	VDI 25	VDI 30/TR 28/MK 4	VDI 40/MK 5	HSK 40
50658...	Ident. No.	110 ○	115 ○	120 ○	125 ○	128 ○+	130 ○	135 ○	140 ○

Number of attachments		24 pieces	17 pieces	10 pieces	9 pieces	10 pieces	10 pieces	8 pieces
Tool holding device		HSK 50	HSK 63	HSK 80	HSK 100	Capto C5	Capto C6	Capto C8
50658...	Ident. No.	145 ○	150 ○	151 ○	152 ○	155 ○+	156 ○+	158 ○+

Prod. Gr. 507

vertical cabinets
maximum storage capacity in minimum space

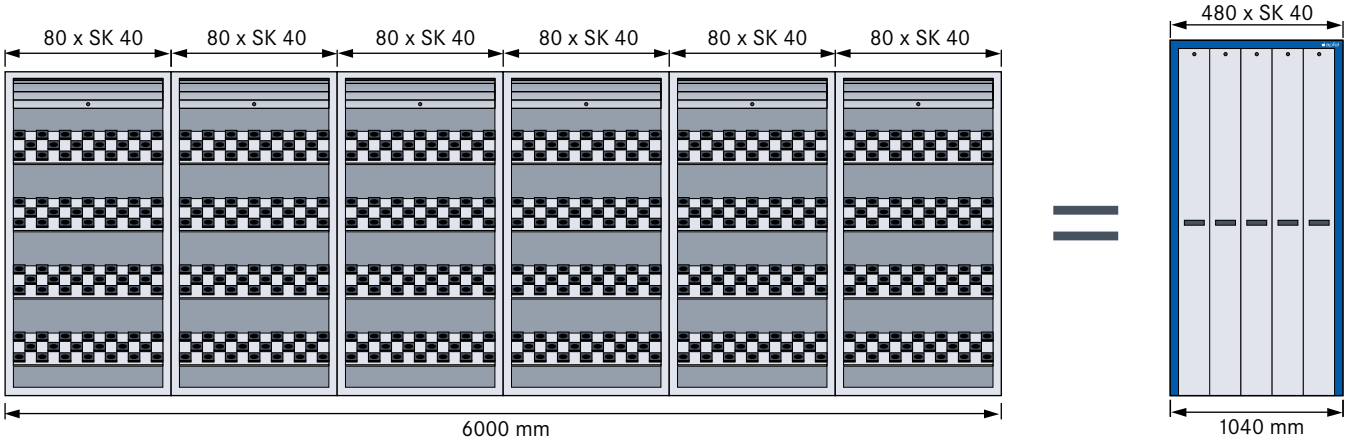
Apfel vertical cabinets make optimum use of space. they minimise large storage areas to the smallest possible space and provide safe and convenient storage of tools, small items and bulk goods. the robust construction allows loads of up to 5400 kg per cabinet. The drawers run smoothly and securely.

direct, double-sided access to the tools

storage space in each drawer for small material

highest load capacity thanks to running castors

carrying bags for easy change of location



Conventional roller-shutter cabinets (shown to scale)

Tool cabinet with 3 vertical extensions

For very space-saving storage of CNC tools

Execution:
- Robust design made of 3 mm steel sheet
- Sturdy plastic rollers with needle bearings that withstand heavy loads
- Includes tool holders with receptacles for optimum use of space and precise fit
- Access on both sides reduces the injury risk
- Drawers separately lockable and with label field for easy identification
- Lateral fork pockets for quick and easy relocation using a pallet truck or forklift truck
- Store up to 144/288 metal cutting tools over a width of 660 mm
- Variable attachment of tool holders in holes with 25-mm hole spacing
- Other paint colours deliverable on request.

Advantage:
- Clean, secure and careful storage of all common drilling and milling tools
- Optimum visibility and quick access thanks to a unique system with plastic holders
- Maximum load-bearing capacity and steady drawer guidance with revolving wheels

Notes:
Number of respective tool adapters is indicated in the separate information shown. When ordering, please specify the tool fixtures with which you would like to equip the cabinet. Different tool fixtures can be combined in one cabinet. Further configurations can be found in subsection Vertical Cabinets from no. 50640080-093.

Technical data:
- Lock type: Cylinder lock
- Material: Sheet steel
- Colour of front: Grey white RAL 9002

Ident. No. 002

Ident. No. 012

Tool holder

Model				WKS 013 set Z	WKS 023 set Z
Number of vertical pull-out mechanisms (PCS)				3	3
Vertical pull-out mechanism design				With tool holder WHK 403 for max. 144 tools	With tool holder WHK 403 for max. 288 tools
Number of holders (PCS)				9	18
Load-carrying capacity per pull-out mechanism (kg)				900	900
Load-carrying capacity (kg)				2700	2700
Height (mm)				1240	2140
Width (mm)				660	660
Depth (mm)				1050	1050
	Door design	Cabinet colour			
50659...	Full-sheet panel	Anthracite grey RAL 7016	Ident. No.	002 O+	012 O+

Prod. Gr. 586

APFEL tool cabinet no. 50659 001/002/011/012
number of tool chucks

You have the option of customising APFEL tool cabinets with tool chucks. Please specify the tool chucks you would like to have fitted in the cabinet when you place your order. Different tool fixtures can be combined in one cabinet.

Maximum number of tools:

Tool chuck		C3	C4	C5	C6	C8	HSK 40	HSK 50	HSK 63	HSK 80
quantity for ref. no. 001/002	units	144	144	144	144	63	144	144	144	63
quantity for ref. no. 011/012	units	288	288	288	288	126	288	288	288	126
Tool chuck		HSK 100	SK 30	SK 40	SK 50	VDI 20	VDI 30	VDI 40	VDI 50	VDI 60
quantity for ref. no. 001/002	units	63	144	144	63	144	144	144	144	63
quantity for ref. no. 011/012	units	126	288	288	126	288	288	288	288	126

Tool cabinets with 3 vertical drawers of 300 mm, load capacity per drawer 1,800 kg

For the particularly space-saving storage of CNC tools

Execution:
- Robust design made of 3 mm steel sheet
- Sturdy plastic rollers with needle bearings that withstand heavy loads
- Includes tool holders with receptacles for optimum use of space and precise fit
- Access on both sides reduces the injury risk
- Drawers separately lockable and with label field for easy identification
- Lateral fork pockets for quick and easy relocation using a pallet truck or fork lift truck
- Variable attachment of tool holders in holes with 25-mm hole spacing
- Other paint colours deliverable on request.
- **Ident. No. 008:** Store up to 180 metal cutting tools over a width of 1040 mm
- **Ident. No. 010:** Store up to 90 metal cutting tools over a width of 1040 mm

Advantage:
- Clean, secure and careful storage of all common drilling and milling tools
- Optimum visibility and quick access thanks to a unique system with plastic holders
- Maximum load-bearing capacity and steady drawer guidance with revolving wheels

Notes:
Number of respective tool adapters is indicated in the separate information shown. When ordering, please specify the tool fixtures with which you would like to equip the cabinet. Different tool fixtures can be combined in one cabinet. Further configurations can be found in subsection Vertical Cabinets from no. 50640080-093.

Technical data:
- Lock type: Cylinder lock
- Material: Sheet steel
- Colour of front: Grey white RAL 9002

Ident. No. 008

Ident. No. 010

Tool holder

Model				WKS 008 set Z	WKS 004 set Z
Number of vertical pull-out mechanisms (PCS)				3	3
Vertical pull-out mechanism design				With tool holder WHK 918 for max. 90 tools	With tool holder WHK 918 for max. 180 tools
Number of holders (PCS)				9	18
Load-carrying capacity per pull-out mechanism (kg)				1800	1800
Load-carrying capacity (kg)				5400	5400
Height (mm)				1240	2140
Width (mm)				1040	1040
Depth (mm)				1050	1050
	Door design	Cabinet colour			
50659...	Full-sheet panel	Anthracite grey RAL 7016	Ident. No.	010 O+	008 O+

Prod. Gr. 586

APFEL tool cabinet no. 50659 007/008/009/010
number of tool chucks

You have the option of customising APFEL tool cabinets with tool chucks. Please specify the tool chucks you would like to have fitted in the cabinet when you place your order. Different tool fixtures can be combined in one cabinet.

Maximum number of tools:

Tool chuck		C3	C4	C5	C6	C8	HSK 40	HSK 50	HSK 63	HSK 80
quantity for ref. no. 007/008	units	180	180	180	180	180	180	180	180	180
quantity for ref. no. 009/010	units	90	90	90	90	90	90	90	90	90
Tool chuck		HSK 100	SK 30	SK 40	SK 50	VDI 20	VDI 30	VDI 40	VDI 50	VDI 60
quantity for ref. no. 007/008	units	180	180	180	180	180	180	180	180	180
quantity for ref. no. 009/010	units	90	90	90	90	90	90	90	90	90

Workbenches
Standard

Version:
- Various worktop materials: Solid beech or beech multiplex
- Base frame made of sturdy U-profile steel 80 x 50 x 2 mm, incl. crossbrace between bases
- Height x depth: 800 x 630 mm

Advantage:
- Extremely sturdy and robust
- Crossbrace for additional stability
- Quick and easy to assemble

Note:
Transparent soft PVC mats for protecting work surfaces, see no. 50233 905-930

Technical data:
- Working height: 840 mm
- Worktop height: 40 mm
- Worktop depth: 750 mm
- Load-carrying capacity: 800 kg
- Material of frame: Steel plate
- Levelling: No

		Colour	Light grey RAL 7035		Optional	
Worktop width (mm)	Material of worktop		50185... Ident. No.		50185... Ident. No.	
1500	Multiplex beech		020	○+	022	○+
1500	Solid beech		021	○+	023	○+
2000	Multiplex beech		024	○+	026	○+
2000	Solid beech		025	○+	027	○+

Prod. Gr. 586

Workbenches
Height-adjustable via hand crank or base

Ident. No. 052

Version:
- **Ref. no. 002-010:**
  - Base made of square steel tubing, outer 60 x 60 x 2 mm, inner 55 x 55 x 2 mm, central cross-brace, with level compensation on all four feet
  - Continuously adjustable height from approx. 740-1,040 mm via hand crank (removable)
  - Bevel gear with hardened steel gear wheels
  - Gear housing made of fibreglass-reinforced plastic
  - Fully assembled including hand crank
- **Ref. no. 050-057:**
  - Base frames made of sturdy U-profile steel 80 x 50 x 2 mm, height x depth 800 x 630 mm, incl. crossbrace between bases
  - Working height adjustable via notches in the base in increments of 25 mm, from approx. 640-990 mm
  - Delivered as individual parts, unassembled

Advantage:
- Perfect ergonomics at the workplace
- High-quality workmanship
- The workbench can quickly and easily be adjusted to the desired working height

Note:
Transparent soft PVC mats for protecting work surfaces, see no. 50233 905-930.

Technical data:
- Load-carrying capacity: 800 kg
- Mandatory testing according to DGUV (UVV): No

						Colour	Light grey RAL 7035		Optional	
Worktop width (mm)	Levelling	Worktop height (mm)	Worktop depth (mm)	Material of worktop	Type		50185... Ident. No.		50185... Ident. No.	
1500	Yes	50	700	Solid beech	Height adjustable via hand crank		002	○+	004	○+
1500	No	40	750	Multiplex beech	Height-adjustable via base frame		050	●+	051	○+
1500	No	40	750	Solid beech	Height-adjustable via base frame		054	○+	055	○+
2000	Yes	50	700	Solid beech	Height adjustable via hand crank		008	○+	010	○+
2000	No	40	750	Multiplex beech	Height-adjustable via base frame		052	○+	053	○+
2000	No	40	700	Solid beech	Height-adjustable via base frame		056	○+	-	-
2000	No	40	750	Solid beech	Height-adjustable via base frame		-	-	057	○+

50185 002 = Prod. Gr. 5BC, 50185 004 = Prod. Gr. 5BC, 50185 008 = Prod. Gr. 5BC, 50185 010 = Prod. Gr. 5BC, 50185 050 = Prod. Gr. 586, 50185 051 = Prod. Gr. 586, 50185 052 = Prod. Gr. 586, 50185 053 = Prod. Gr. 586, 50185 054 = Prod. Gr. 586, 50185 055 = Prod. Gr. 586, 50185 056 = Prod. Gr. 586, 50185 057 = Prod. Gr. 586

Workbenches
Electrical height adjustment

Application:
For standing activities.

Version:
- Base frame made of square steel tubing, outer 60 x 60 x 2 mm, inner 55 x 55 x 2 mm, with levelling system on all four feet, central crossbrace
- Continuously adjustable height from approx. 740-1,040 mm via an electrical control panel
- Bevel gear with hardened steel gear wheels, gear housing made of die-cast zinc
- Delivered fully assembled

Advantage:
- The workbench can quickly and easily be adjusted to the desired working height
- Up to 4 different working heights can be programmed using the memory function - and recalled at the touch of a button
- Workstation ergonomics

Note:
Transparent soft PVC mats for protecting work surfaces, see no. 50233 905-930

Technical data:
- Levelling: Yes
- Worktop height: 50 mm
- Worktop depth: 700 mm
- Design: Electrically adjustable
- Load-carrying capacity: 800 kg
- Material of worktop: Solid beech

Electrical height adjustment

Control panel for electrical height adjustment

Colour		Light grey RAL 7035		Optional	
Worktop width (mm)	Mandatory testing according to DGUV (UVV)	50185... Ident. No.		50185... Ident. No.	
1500	No	012	○+	014	○+
2000	Yes	016	○+	018	○+

Prod. Gr. 5BC

Workbenches
Mobile and height-adjustable

Application:
The mobile workstation with versatile options for use.

Version:
- Tray shelf with four-sided anti-roll-off edging, W x D 1,275 x 638 mm

Advantage:
- Can be lifted, lowered and moved in all directions by simply moving the lever on the workbench
- Rests absolutely stable on four feet when lowered
- High-quality workmanship

Note:
Transparent soft PVC mats for protecting work surfaces, see no. 50233 915.

Technical data:
- Load-carrying capacity: 800 kg
- Material of worktop: Multiplex beech
- Worktop depth: 750 mm
- Worktop height: 40 mm
- Working height: 840 mm
- Moving device, can be lowered: Yes

Transport wheels can be lowered

Colour	Light grey RAL 7035		Optional	
Worktop width (mm)	50199... Ident. No.		50199... Ident. No.	
1500	003	○+	004	○+

Prod. Gr. 586

Heavy-duty workbenches

Electrical height adjustment

Version:

- Fully welded tubular steel frame with bolted stabilisation panels
- Height-adjustable via 4 electric motors, coupled via electronic control unit, 370 mm stroke, controlled via keypad
- Front sides with cover, incl. 10 x 10 mm square perforation, fixed intervals of 38 mm
- Table top protrudes over base frame by 80 mm along each long side and by 62 mm along each short side
- Square base plates, 140 x 140 mm, with perforation for ground anchoring
- Tray shelf 640 mm deep, load capacity 100 kg
- Multiplex beech worktop, 50 mm thick, oiled surface
- Electrical connected load: 230 V/720 watts
- Equipped with emergency stop switch and 3 CEE 7/4 socket outlets (front right)

Advantage:

- Capable of withstanding dynamic loads up to 2,000 kg
- Table can be quickly and easily adjusted to the desired work height
- Perfect ergonomics at the workplace

Note:

For optional accessories such as workbench attachments with pegboards, workstation lighting, swivel arm elements and open trays for the ergonomic provision of tools and materials, see from no. 50202206-256, drawer block for table available on request. Looking for a customised heavy-duty table to suit your requirements? Contact us.

More products can be found online at **www.hahn-kolb.de**

Technical data:

- Worktop height: 50 mm
- Worktop depth: 800 mm
- Material of worktop: Multiplex beech
- Max. height adjustment: 1080 mm
- Min. height adjustment: 710 mm

Ref. no. 104 – Example application with workbench construction and various accessories

Frame colour	Light grey RAL 7035		Selectable	
Colour	Gentian blue RAL 5010		Optional	
Worktop width (mm)	50202... Ident. No.		50202... Ident. No.	
2030	104	○+	105	○+

Prod. Gr. 5BC

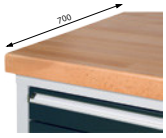
Combination workbenches WGS series
With solid beech top panel, 50 mm thick

Design:
- Workbench top panel solid beech (BMP)
- Panel length 1500 and 2000 mm, depth x thickness 700 x 50 mm, working height 850 mm
- Robust, welded sheet steel frame, undercounter cabinet with drawer block, base made of square steel tube 45 x 45 x 2 mm, with level compensation
- Total load capacity of 800 kg with evenly distributed load
- Other designs available on request.

Note:
Workbenches can also be individually designed according to your requirements. The individual components such as bases, undercounter cabinets, drawer blocks and workbench top panels can be found in the chapter on workbench components from no. 50232 317

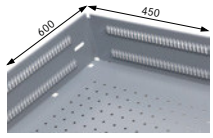
Drawers with full extension

Standard features:



Workbench top panel in solid beech, 50 mm thick

Drawers with individual drawer lock, fitted with aluminium grip strips, paper and cellon strips



Drawers with perforated floors and slotted walls, load-bearing capacity 70/100 kg per drawer

Door opening angle 180°

DOM lock system, central lock, incl. 2 keys

Base made of square steel tube 45 x 45 x 2 mm, with level compensation

Choose your preferred colour (no extra charge) for products with this logo:

RAL 1007 daffodil yellow	RAL 1015 light ivory	RAL 1028 melon yellow	RAL 3002 carmine red	RAL 3020 traffic red	RAL 5005 signal blue	RAL 5010 gentian blue	RAL 5012 light blue
RAL 5014 pigeon blue	RAL 5015 sky blue	RAL 6011 reseda green	RAL 6018 yellow green	RAL 7016 anthracite grey	RAL 7021 black grey	RAL 7023 concrete grey	RAL 7032 pebble grey
RAL 7035 light grey	RAL 7038 agate grey	RAL 7042 traffic grey	RAL 8019 grey brown	RAL 9005 jet black	RAL 9006 white aluminium	RAL 9010 pure white	

Colours may be subject to printing-related differences; the original colours according to RAL are definitive.

Combination workbenches
WGS series - 4 drawers

Application:

A sophisticated combination workbench as a perfect addition to your professional workshop equipment!

Version:
- Robust welded sheet steel construction
- Undercounter cabinet with drawers
- Base frame made of square steel tubing 45 x 45 x 2 mm, with levelling system

Advantage:
- Top-of-the-line workmanship
- Delivered fully assembled, quick and easy to set up
- Available in different RAL colours!

Technical data:
- Material of worktop: Solid beech
- Load-carrying capacity: 800 kg
- Number of drawers: 4 PCS
- Worktop height: 50 mm
- Worktop depth: 700 mm
- Adjustable in height: No
- With single pull-out safety brake: Yes
- Drawer front height: 1 x 60 mm | 2 x 90 mm | 1 x 120 mm
- Levelling: Yes
- Central locking: Yes
- Lock type: DOM® locking system

Ident. No. 056, 058, 156, 158

		Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
		Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	Pullout type	Load-carrying capacity per drawer (kg)	50212... Ident. No.		50212... Ident. No.		50212... Ident. No.	
1500	Single extension slide	100	055	○+	056	○+	060	○+
1500	Full extension	70	057	○+	058	○+	062	○+
2000	Single extension slide	100	155	○+	156	○+	160	○+
2000	Full extension	70	157	○+	158	○+	162	○+

Prod. Gr. 5BC

Combination workbenches
WGS series - 5 drawers

Application:

A sophisticated combination workbench as a perfect addition to your professional workshop equipment!

Version:
- Robust welded sheet steel construction
- Undercounter cabinet with drawers
- Base frame made of square steel tubing 45 x 45 x 2 mm, with levelling system

Advantage:
- Top-of-the-line workmanship
- Delivered fully assembled, quick and easy to set up
- Available in different RAL colours!

Technical data:
- Material of worktop: Solid beech
- Load-carrying capacity: 800 kg
- Number of drawers: 5 PCS
- Worktop height: 50 mm
- Worktop depth: 700 mm
- Adjustable in height: No
- With single pull-out safety brake: Yes
- Drawer front height: 1 x 90 mm | 1 x 120 mm | 1 x 150 mm | 2 x 180 mm
- Levelling: Yes
- Central locking: Yes
- Lock type: DOM® locking system

Ident. No. 008, 106, 108

		Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
		Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	Pullout type	Load-carrying capacity per drawer (kg)	50212... Ident. No.		50212... Ident. No.		50212... Ident. No.	
1500	Single extension slide	100	005	○+	006	○+	010	○+
1500	Full extension	70	007	○+	008	○+	012	○+
2000	Single extension slide	100	105	○+	106	○+	110	○+
2000	Full extension	70	107	○+	108	○+	112	○+

Prod. Gr. 5BC

Combination workbenches
WGS series - 6 drawers

Application:

A sophisticated combination workbench as a perfect addition to your professional workshop equipment!

Version:
- Robust welded sheet steel construction
- Undercounter cabinet with drawers
- Base frame made of square steel tubing 45 x 45 x 2 mm, with levelling system

Advantage:
- Top-of-the-line workmanship
- Delivered fully assembled, quick and easy to set up
- Available in different RAL colours!

Technical data:
- Material of worktop: Solid beech
- Load-carrying capacity: 800 kg
- Number of drawers: 6 PCS
- Worktop height: 50 mm
- Worktop depth: 700 mm
- Adjustable in height: No
- With single pull-out safety brake: Yes
- Drawer front height: 2 x 90 mm | 2 x 120 mm | 2 x 150 mm
- Levelling: Yes
- Central locking: Yes
- Lock type: DOM® locking system

Ident. No. 016, 018, 116, 118

		Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
		Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	Pullout type	Load-carrying capacity per drawer (kg)	50212... Ident. No.		50212... Ident. No.		50212... Ident. No.	
1500	Single extension slide	100	015	○+	016	○+	020	○+
1500	Full extension	70	017	○+	018	○+	022	○+
2000	Single extension slide	100	115	○+	116	○+	120	○+
2000	Full extension	70	117	○+	118	○+	122	○+

Prod. Gr. 5BC

Combination workbenches

WGS series - 6 drawers and vice

Application:

A sophisticated combination workbench as a perfect addition to your professional workshop equipment!

Version:
- Robust welded sheet steel construction
- Undercounter cabinet with drawers
- Base frame made of square steel tubing 45 x 45 x 2 mm, with levelling system
- With built-in ATORN vice, jaw width 100 mm and fold-out HEUER height adjustment device

Advantage:
- Top-of-the-line workmanship
- Delivered fully assembled, quick and easy to set up
- Available in different RAL colours!

Technical data:
- Material of worktop: Solid beech
- Load-carrying capacity: 800 kg
- Number of drawers: 6 PCS
- Worktop height: 50 mm
- Worktop depth: 700 mm
- Adjustable in height: No
- With single pull-out safety brake: Yes
- Drawer front height: 2 x 90 mm | 2 x 120 mm | 2 x 150 mm
- Levelling: Yes
- Central locking: Yes
- Lock type: DOM® locking system

Ident. No. 036, 038, 136, 138

		Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
		Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	Pullout type	Load-carrying capacity per drawer (kg)	50212... Ident. No.		50212... Ident. No.		50212... Ident. No.	
1500	Single extension slide	100	035	○+	036	○+	040	○+
1500	Full extension	70	037	○+	038	○+	042	○+
2000	Single extension slide	100	135	○+	136	○+	140	○+
2000	Full extension	70	137	○+	138	○+	142	○+

Prod. Gr. 5BC

Combination workbenches

WGS series - 8 drawers

Application:

A sophisticated combination workbench as a perfect addition to your professional workshop equipment!

Version:
- Robust welded sheet steel construction
- Undercounter cabinet with drawers
- Base frame made of square steel tubing 45 x 45 x 2 mm, with levelling system

Advantage:
- Top-of-the-line workmanship
- Delivered fully assembled, quick and easy to set up
- Available in different RAL colours!

Technical data:
- Material of worktop: Solid beech
- Load-carrying capacity: 800 kg
- Number of drawers: 8 PCS
- Worktop height: 50 mm
- Worktop depth: 700 mm
- Adjustable in height: No
- With single pull-out safety brake: Yes
- Drawer front height: 2 x 60 mm | 4 x 90 mm | 2 x 120 mm
- Levelling: Yes
- Central locking: Yes
- Lock type: DOM® locking system

Ident. No. 026, 028, 126, 128

		Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
		Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	Pullout type	Load-carrying capacity per drawer (kg)	50212... Ident. No.		50212... Ident. No.		50212... Ident. No.	
1500	Single extension slide	100	025	○+	026	○+	030	○+
1500	Full extension	70	027	○+	028	○+	032	○+
2000	Single extension slide	100	125	○+	126	○+	130	○+
2000	Full extension	70	127	○+	128	○+	132	○+

Prod. Gr. 5BC

Combination workbenches

WG series - electrically height-adjustable with 1 drawer

Application:

A sophisticated combination workbench as a perfect addition to your professional workshop equipment!

Version:

- Base frame made of square steel tubing, outer 60 x 60 x 2 mm, inner 55 x 55 x 2 mm, with levelling system on all four feet
- Continuously adjustable height from approx. 740-1,040 mm via an electrical control panel
- Fully assembled

Advantage:

- Always working at the right height ensures ideal ergonomic conditions
- Up to 4 different work heights are programmable and accessible at the touch of a button thanks to the memory function
- High-quality workmanship

Note:

Transparent soft PVC mats for protecting work surfaces, see no. 50233 905-930

Technical data:

- Material of worktop: Solid beech
- Load-carrying capacity: 800 kg
- Number of drawers: 1 PCS
- Worktop depth: 700 mm
- Pullout type: Full extension
- Adjustable in height: Yes
- With single pull-out safety brake: Yes
- Drawer front height: 1 x 180 mm
- Levelling: Yes
- Load-carrying capacity per drawer: 70 kg
- Central locking: Yes
- Lock type: DOM® locking system

Ident. No. 031

Control panel for electrical height adjustment

Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	50185... Ident. No.		50185... Ident. No.		50185... Ident. No.	
1500	030	○+	031	○+	032	○+
2000	038	○+	039	○+	040	○+

Prod. Gr. 5BC

Combination workbenches

WG series - electrically height-adjustable with 2 drawers

Application:

A sophisticated combination workbench as a perfect addition to your professional workshop equipment!

Version:

- Base frame made of square steel tubing, outer 60 x 60 x 2 mm, inner 55 x 55 x 2 mm, with levelling system on all four feet
- Continuously adjustable height from approx. 740-1,040 mm via an electrical control panel
- Fully assembled

Advantage:

- Always working at the right height ensures ideal ergonomic conditions
- Up to 4 different work heights are programmable and accessible at the touch of a button thanks to the memory function
- High-quality workmanship

Note:

Transparent soft PVC mats for protecting work surfaces, see no. 50233 905-930

Technical data:

- Material of worktop: Solid beech
- Load-carrying capacity: 800 kg
- Number of drawers: 2 PCS
- Worktop height: 50 mm
- Worktop depth: 700 mm
- Pullout type: Full extension
- Adjustable in height: Yes
- With single pull-out safety brake: Yes
- Drawer front height: 2 x 90 mm
- Levelling: Yes
- Load-carrying capacity per drawer: 70 kg
- Central locking: Yes
- Lock type: DOM® locking system

Ident. No. 035

Control panel for electrical height adjustment

Colour of front		Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
Cabinet colour		Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	Mandatory testing according to DGUV (UVV)	50185... Ident. No.		50185... Ident. No.		50185... Ident. No.	
1500	No	034	○+	035	○+	036	○+
2000	Yes	042	○+	-	-	-	-
2000	No	-	-	043	○+	044	○+

Prod. Gr. 5BC

Combination workbenches

WG series - manually height adjustable with 2 drawers

Application:

A sophisticated combination workbench as a perfect addition to your professional workshop equipment!

Version:
- Continuously adjustable height from approx. 740-1,040 mm via hand crank (removable)
- Base frame made of square steel tubing, outer 60 x 60 x 2 mm, inner 55 x 55 x 2 mm, with levelling system on all four feet

Advantage:
- Workbench can be quickly and easily adjusted to the desired work height
- Always working at the right height ensures ideal ergonomic conditions
- High-quality workmanship

Scope of delivery:
Fully assembled including hand crank

Note:
Transparent soft PVC mats for protecting work surfaces, see no. 50233 905-930

Technical data:
- Material of worktop: Solid beech
- Load-carrying capacity: 800 kg
- Number of drawers: 2 PCS
- Worktop height: 50 mm
- Worktop depth: 700 mm
- Pullout type: Full extension
- Adjustable in height: Yes
- With single pull-out safety brake: Yes
- Drawer front height: 1 x 150 mm | 1 x 180 mm
- Levelling: Yes
- Load-carrying capacity per drawer: 70 kg
- Central locking: Yes
- Lock type: DOM® locking system
- Mandatory testing according to DGUV (UVV): No

Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	**50212...** Ident. No.		**50212...** Ident. No.		**50212...** Ident. No.	
1500	**330**	o+	**331**	o+	**332**	o+
2000	**342**	o+	**343**	o+	**344**	o+

Prod. Gr. 5BC

Ident. No. 343
Manually height adjustable

Height adjustable via crank

Combination workbenches

WG series - manually height adjustable with 2 drawers

Version:
- Continuously adjustable height from approx. 740-1,040 mm via hand crank (removable)
- Base frame made of square steel tubing, outer 60 x 60 x 2 mm, inner 55 x 55 x 2 mm, with levelling system on all four feet
- Runs on 2 swivel castors and 2 fixed castors, swivel castors with wheel brakes

Advantage:
- Workbench can be quickly and easily adjusted to the desired work height
- Always working at the right height ensures ideal ergonomic conditions
- Suitable for mobile use

Scope of delivery:
Fully assembled including hand crank

Note:
Transparent soft PVC mats for protecting work surfaces, see no. 50233 905-930

Technical data:
- Material of worktop: Solid beech
- Load-carrying capacity: 800 kg
- Number of drawers: 2
- Worktop height: 50 mm
- Worktop depth: 700 mm
- Pullout type: Full extension
- Adjustable in height: Yes
- With single pull-out safety brake: Yes
- Drawer front height: 1 x 150 mm | 1 x 180 mm
- Levelling: Yes
- Load-carrying capacity per drawer: 70 kg
- Central locking: No
- Lock type: DOM® locking system
- Mandatory testing according to DGUV (UVV): No

Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016	
Cabinet colour	Light grey RAL 7035		Light grey RAL 7035	
Worktop width (mm)	**50212...** Ident. No.		**50212...** Ident. No.	
1500	**380**	o+	**381**	o+

Prod. Gr. 5BC

Ident. No. 381

Combination workbenches

WG series - manually height adjustable with 3 drawers

Application:

A sophisticated combination workbench as a perfect addition to your professional workshop equipment!

Version:

- Continuously adjustable height from approx. 740-1,040 mm via hand crank (removable)
- Base frame made of square steel tubing, outer 60 x 60 x 2 mm, inner 55 x 55 x 2 mm, with levelling system on all four feet

Advantage:

- Workbench can be quickly and easily adjusted to the desired work height
- Always working at the right height ensures ideal ergonomic conditions
- High-quality workmanship

Scope of delivery:

Fully assembled including hand crank

Note:

Transparent soft PVC mats for protecting work surfaces, see no. 50233 905-930

Technical data:

- Material of worktop: Solid beech
- Load-carrying capacity: 800 kg
- Number of drawers: 3 PCS
- Worktop height: 50 mm
- Worktop depth: 700 mm
- Pullout type: Full extension
- Adjustable in height: Yes
- With single pull-out safety brake: Yes
- Drawer front height: 1 x 90 mm | 2 x 120 mm
- Levelling: Yes
- Load-carrying capacity per drawer: 70 kg
- Central locking: Yes
- Lock type: DOM® locking system

Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	50212... Ident. No.		50212... Ident. No.		50212... Ident. No.	
1500	334	○+	335	○+	336	○+
2000	346	○+	347	○+	348	○+

Prod. Gr. 5BC

Ident. No. 335
Manually height adjustable

Height adjustable via crank

Combination workbenches

WG series - manually height adjustable with 4 drawers

Application:

A sophisticated combination workbench as a perfect addition to your professional workshop equipment!

Version:

- Continuously adjustable height from approx. 740-1,040 mm via hand crank (removable)
- Base frame made of square steel tubing, outer 60 x 60 x 2 mm, inner 55 x 55 x 2 mm, with levelling system on all four feet

Advantage:

- Workbench can be quickly and easily adjusted to the desired work height
- Always working at the right height ensures ideal ergonomic conditions
- High-quality workmanship

Scope of delivery:

Fully assembled including hand crank

Note:

Transparent soft PVC mats for protecting work surfaces, see no. 50233 905-930

Technical data:

- Material of worktop: Solid beech
- Load-carrying capacity: 800 kg
- Number of drawers: 4 PCS
- Worktop height: 50 mm
- Worktop depth: 700 mm
- Pullout type: Full extension
- Adjustable in height: Yes
- With single pull-out safety brake: Yes
- Drawer front height: 2 x 60 mm | 1 x 90 mm | 1 x 120 mm
- Levelling: Yes
- Load-carrying capacity per drawer: 70 kg
- Central locking: Yes
- Lock type: DOM® locking system

Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	50212... Ident. No.		50212... Ident. No.		50212... Ident. No.	
1500	338	○+	339	○+	340	○+
2000	350	○+	351	○+	352	○+

Prod. Gr. 5BC

Ident. No. 339
Manually height adjustable

Height adjustable via crank

HK drawer workbenches
With beech multiplex panel, 40 mm thick, drawer with 80% partial extension

Design:
- Workbench top panel, beech multiplex
- Panel length 1500 and 2000 mm, depth x thickness 750 x 40 mm, working height 840 mm
- Optional with lowerable moving facility
- Sturdy, welded sheet steel frame, base made of square steel tube 45 x 45 x 2 mm, with level compensation
- Total load capacity 800 kg when stationary, 400 kg when mobile, with evenly distributed load

Workbench 1500

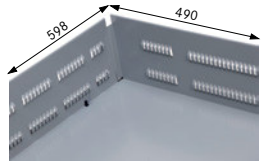
Workbench 1500 mobile

Workbench 2000

Standard features:

Workbench top panel in multiplex beech, 40 mm thick

Drawers with 80% partial extension aluminium grip strips, paper and cellon strips



Drawers with slotted walls, load capacity 70 kg per drawer

Door opening angle 180°

Central lock, incl. 2 keys

Base made of square steel tube, 45 x 45 x 2 mm with level compensation on all four feet

Choose your preferred colour (no extra charge) for products with this logo: RAL

RAL 1015	RAL 2004	RAL 3002	RAL 3020	RAL 5010	RAL 5012	RAL 5014	RAL 5015	RAL 6011	RAL 7035	RAL 9010
light ivory	pure orange	carmine red	traffic red	gentian blue	light blue	pigeon blue	sky blue	reseda green	light grey	pure white

Colours may be subject to printing-related differences; the original colours according to RAL are definitive.

Cabinet workbenches

Standard - 1 drawer

Application:

A solid cabinet workbench made of robust welded sheet steel as a perfect addition to your professional workshop equipment!

Version:
- Multiplex beech worktop
- Robust welded sheet steel construction
- Base frame made of square steel tubing 45 x 45 x 2 mm, with level compensation

Advantage:
- Top-of-the-line workmanship
- Extremely rugged and durable
- Available in a variety of RAL colours!

Technical data:
- Number of drawers: 1 PCS
- Working height: 840 mm
- Number of doors: 1 PCS
- Worktop height: 40 mm
- Pullout type: Single extension slide
- Worktop depth: 750 mm
- Drawer surface: 0.29 m²
- With single pull-out safety brake: No
- Levelling: Yes
- Lock type: Cylinder lock
- Drawer front height: 1 x 180 mm
- Surface: Powder-coated
- Drawer width (inner dimension): 490 mm
- Drawer width (inner dimension) x drawer depth (inner dimension): 490 x 598 mm
- Load-carrying capacity: 800 kg
- Drawer depth (inner dimension): 598 mm
- Load-carrying capacity per drawer: 70 kg
- Material of worktop: Multiplex beech
- Central locking: Yes

Ident. No. 002

Colour of front	Anthracite grey RAL 7016		Gentian blue RAL 5010		Optional	
Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
1500	002	○⁺	005	○⁺	006	○⁺

Prod. Gr. 586

Cabinet workbenches

Standard - 2 drawers

Application:

A solid cabinet workbench made of robust welded sheet steel as a perfect addition to your professional workshop equipment!

Version:
- Multiplex beech worktop
- Robust welded sheet steel construction
- Base frame made of square steel tubing 45 x 45 x 2 mm, with level compensation

Advantage:
- Top-of-the-line workmanship
- Extremely rugged and durable
- Available in a variety of RAL colours!

Technical data:
- Number of drawers: 2 PCS
- Working height: 840 mm
- Number of doors: 2 PCS
- Worktop height: 40 mm
- Pullout type: Single extension slide
- Worktop depth: 750 mm
- Drawer surface: 0.29 m²
- With single pull-out safety brake: No
- Levelling: Yes
- Lock type: Cylinder lock
- Drawer front height: 2 x 180 mm
- Surface: Powder-coated
- Drawer width (inner dimension): 490 mm
- Drawer width (inner dimension) x drawer depth (inner dimension): 490 x 598 mm
- Load-carrying capacity: 800 kg
- Drawer depth (inner dimension): 598 mm
- Load-carrying capacity per drawer: 70 kg
- Material of worktop: Multiplex beech
- Central locking: Yes

Ident. No. 009

Colour of front	Anthracite grey RAL 7016		Gentian blue RAL 5010		Optional	
Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
1500	009	○⁺	010	○⁺	011	○⁺

Prod. Gr. 586

Cabinet workbenches

Standard - with electronic combination lock - 1 drawer

Application:

A solid cabinet workbench made of robust welded sheet steel as a perfect addition to your professional workshop equipment!

Version:
- Multiplex beech worktop
- Robust welded sheet steel construction
- Base frame made of square steel tubing 45 x 45 x 2 mm, with level compensation

Advantage:
- Top-of-the-line workmanship
- Extremely rugged and durable
- Ideal for shift work, schools and training workshops where a variety of people require access to the workbench
- The workbench is unlocked using a 4-digit to 8-digit numeric code
- Lock is battery-operated and thus does not need a power supply, low battery warning via LED display

Technical data:
- Number of drawers: 1 PCS
- Working height: 840 mm
- Number of doors: 1 PCS
- Worktop height: 40 mm
- Pullout type: Single extension slide
- Worktop depth: 750 mm
- Drawer surface: 0.29 m²
- With single pull-out safety brake: No
- Levelling: Yes
- Lock type: Electronic code combination lock
- Drawer front height: 1 x 180 mm
- Surface: Powder-coated
- Drawer width (inner dimension): 490 mm
- Drawer width (inner dimension) x drawer depth (inner dimension): 490 x 598 mm
- Load-carrying capacity: 800 kg
- Drawer depth (inner dimension): 598 mm
- Load-carrying capacity per drawer: 70 kg
- Material of worktop: Multiplex beech
- Central locking: Yes

Ident. No. 092

With ELECTRONIC CODE combination lock

Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
Worktop width (mm)	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
1500	090	o+	091	o+	092	o+

Prod. Gr. 586

Cabinet workbenches

Standard - with electronic combination lock - 2 drawers

Application:

A solid cabinet workbench made of robust welded sheet steel as a perfect addition to your professional workshop equipment!

Version:
- Multiplex beech worktop
- Robust welded sheet steel construction
- Base frame made of square steel tubing 45 x 45 x 2 mm, with level compensation

Advantage:
- Top-of-the-line workmanship
- Extremely rugged and durable
- Ideal for shift work, schools and training workshops where a variety of people require access to the workbench
- The workbench is unlocked using a 4-digit to 8-digit numeric code
- Lock is battery-operated and thus does not need a power supply, low battery warning via LED display

Technical data:
- Number of drawers: 2 PCS
- Working height: 840 mm
- Number of doors: 2 PCS
- Worktop height: 40 mm
- Pullout type: Single extension slide
- Worktop depth: 750 mm
- Drawer surface: 0.29 m²
- With single pull-out safety brake: No
- Levelling: Yes
- Lock type: Electronic code combination lock
- Drawer front height: 2 x 180 mm
- Surface: Powder-coated
- Drawer width (inner dimension): 490 mm
- Drawer width (inner dimension) x drawer depth (inner dimension): 490 x 598 mm
- Load-carrying capacity: 800 kg
- Drawer depth (inner dimension): 598 mm
- Load-carrying capacity per drawer: 70 kg
- Material of worktop: Multiplex beech
- Central locking: Yes

Ident. No. 094

With ELECTRONIC CODE combination lock

Colour of front	Anthracite grey RAL 7016		Gentian blue RAL 5010		Optional	
Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
1500	094	o+	095	o+	096	o+

Prod. Gr. 586

Cabinet workbenches

Standard - 3 drawers

Application:

A solid cabinet workbench made of robust welded sheet steel as a perfect addition to your professional workshop equipment!

Version:
- Multiplex beech worktop
- Robust welded sheet steel construction
- Base frame made of square steel tubing 45 x 45 x 2 mm, with level compensation

Advantage:
- Top-of-the-line workmanship
- Extremely rugged and durable
- Available in a variety of RAL colours!

Technical data:
- Number of drawers: 3 PCS
- Working height: 840 mm
- Worktop height: 40 mm
- Pullout type: Single extension slide
- Worktop depth: 750 mm
- Drawer surface: 0.29 m²
- With single pull-out safety brake: No
- Levelling: Yes
- Lock type: Cylinder lock
- Drawer front height: 3 x 180 mm
- Surface: Powder-coated
- Drawer width (inner dimension): 490 mm
- Drawer width (inner dimension) x drawer depth (inner dimension): 490 x 598 mm
- Load-carrying capacity: 800 kg
- Drawer depth (inner dimension): 598 mm
- Load-carrying capacity per drawer: 70 kg
- Material of worktop: Multiplex beech
- Central locking: Yes

Ident. No. 014

Colour of front		Anthracite grey RAL 7016		Gentian blue RAL 5010		Optional	
Cabinet colour		Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	Number of doors (PCS)	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
1500	1	014	○⁺	015	○⁺	024	○⁺
2000	2	040	○⁺	020	○⁺	021	○⁺

Prod. Gr. 586

Cabinet workbenches

Standard - with electronic combination lock - 3 drawers

Application:

A solid cabinet workbench made of robust welded sheet steel as a perfect addition to your professional workshop equipment!

Version:
- Multiplex beech worktop
- Robust welded sheet steel construction
- Base frame made of square steel tubing 45 x 45 x 2 mm, with level compensation

Advantage:
- Top-of-the-line workmanship
- Extremely rugged and durable
- Ideal for shift work, schools and training workshops where a variety of people require access to the workbench
- The workbench is unlocked using a 4-digit to 8-digit numeric code
- Lock is battery-operated and thus does not need a power supply, low battery warning via LED display

Technical data:
- Number of drawers: 3 PCS
- Working height: 840 mm
- Number of doors: 1 PCS
- Worktop height: 40 mm
- Pullout type: Single extension slide
- Worktop depth: 750 mm
- Drawer surface: 0.29 m²
- With single pull-out safety brake: No
- Levelling: Yes
- Lock type: Electronic code combination lock
- Drawer front height: 3 x 180 mm
- Surface: Powder-coated
- Drawer width (inner dimension): 490 mm
- Drawer width (inner dimension) x drawer depth (inner dimension): 490 x 598 mm
- Load-carrying capacity: 800 kg
- Drawer depth (inner dimension): 598 mm
- Load-carrying capacity per drawer: 70 kg
- Material of worktop: Multiplex beech
- Central locking: Yes

Ident. No. 102

With ELECTRONIC CODE combination lock

Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
Worktop width (mm)	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
1500	100	○⁺	101	○⁺	102	○⁺

Prod. Gr. 586

Cabinet workbenches

Standard - 5 drawers

Application:

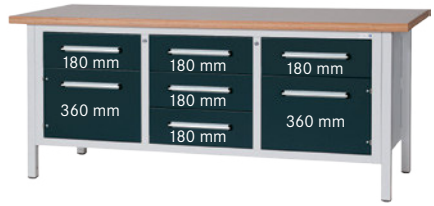
A solid cabinet workbench made of robust welded sheet steel as a perfect addition to your professional workshop equipment!

Version:
- Multiplex beech worktop
- Robust welded sheet steel construction
- Base frame made of square steel tubing 45 x 45 x 2 mm, with level compensation

Advantage:
- Top-of-the-line workmanship
- Extremely rugged and durable
- Available in different versions

Note:
To order customised hard foam inserts, please use the following clear internal dimensions: W x D: 478 mm x 586 mm

Technical data:
- Number of drawers: 5 PCS
- Working height: 840 mm
- Worktop height: 40 mm
- Pullout type: Single extension slide
- Worktop depth: 750 mm
- Drawer surface: 0.29 m²
- With single pull-out safety brake: No
- Levelling: Yes
- Lock type: Cylinder lock
- Surface: Powder-coated
- Drawer width (inner dimension): 490 mm
- Drawer width (inner dimension) x drawer depth (inner dimension): 490 x 598 mm
- Load-carrying capacity: 800 kg
- Drawer depth (inner dimension): 598 mm
- Load-carrying capacity per drawer: 70 kg
- Material of worktop: Multiplex beech
- Central locking: Yes



Ident. No. 041

		Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
		Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
Worktop width (mm)	Number of doors (PCS)	Drawer front height	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
2000	1	1 x 60 mm | 2 x 90 mm | 1 x 120 mm | 1 x 180 mm	032	○⁺	033	○⁺	043	○⁺
2000	2	5 x 180 mm	030	○⁺	031	○⁺	041	○⁺

Prod. Gr. 586

Cabinet workbenches

Standard - 5 drawers - for ATORN presetter

Application:

A solid cabinet workbench made of robust welded sheet steel as a perfect addition to your professional workshop equipment!

Version:
- Multiplex beech worktop
- Robust welded sheet steel construction
- Base frame made of square steel tubing 45 x 45 x 2 mm, with level compensation

Advantage:
- Top-of-the-line workmanship
- Extremely rugged and durable
- Available in different versions

Technical data:
- Number of drawers: 5 PCS
- Working height: 840 mm
- Number of doors: 0 PCS
- Worktop height: 40 mm
- Pullout type: Single extension slide
- Worktop depth: 750 mm
- Drawer surface: 0.29 m²
- With single pull-out safety brake: No
- Levelling: Yes
- Lock type: Cylinder lock
- Drawer front height: 3 x 180 mm | 2 x 270 mm
- Surface: Powder-coated
- Drawer width (inner dimension): 490 mm
- Drawer width (inner dimension) x drawer depth (inner dimension): 490 x 598 mm
- Load-carrying capacity: 800 kg
- Drawer depth (inner dimension): 598 mm
- Load-carrying capacity per drawer: 70 kg
- Material of worktop: Multiplex beech
- Central locking: Yes

Ident. No. 250

Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
1500	250	○⁺	251	○⁺	252	○⁺

Prod. Gr. 586

Cabinet workbenches

Standard - 6 drawers

Application:

A solid cabinet workbench made of robust welded sheet steel as a perfect addition to your professional workshop equipment!

Version:
- Multiplex beech worktop
- Robust welded sheet steel construction
- Base frame made of square steel tubing 45 x 45 x 2 mm, with level compensation

Advantage:
- Top-of-the-line workmanship
- Extremely rugged and durable
- Available in a variety of RAL colours!

Technical data:
- Number of drawers: 6 PCS
- Working height: 840 mm
- Worktop height: 40 mm
- Pullout type: Single extension slide
- Worktop depth: 750 mm
- Drawer surface: 0.29 m²
- With single pull-out safety brake: No
- Levelling: Yes
- Lock type: Cylinder lock
- Drawer front height: 6 x 180 mm
- Surface: Powder-coated
- Drawer width (inner dimension): 490 mm
- Drawer width (inner dimension) x drawer depth (inner dimension): 490 x 598 mm
- Load-carrying capacity: 800 kg
- Drawer depth (inner dimension): 598 mm
- Load-carrying capacity per drawer: 70 kg
- Material of worktop: Multiplex beech
- Central locking: Yes

Ident. No. 027

Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
Worktop width (mm)	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
1500	018	○⁺	022	○⁺	027	○⁺
2000	025	○⁺	026	○⁺	036	○⁺

Prod. Gr. 586

Cabinet workbenches

Standard - with electronic combination lock - 6 drawers

Application:

A solid cabinet workbench made of robust welded sheet steel as a perfect addition to your professional workshop equipment!

Version:
- Multiplex beech worktop
- Robust welded sheet steel construction
- Base frame made of square steel tubing 45 x 45 x 2 mm, with level compensation

Advantage:
- Top-of-the-line workmanship
- Extremely rugged and durable
- Ideal for shift work, schools and training workshops where a variety of people require access to the workbench
- The workbench is unlocked using a 4-digit to 8-digit numeric code
- Lock is battery-operated and thus does not need a power supply, low battery warning via LED display

Technical data:
- Number of drawers: 6 PCS
- Working height: 840 mm
- Worktop height: 40 mm
- Pullout type: Single extension slide
- Worktop depth: 750 mm
- Drawer surface: 0.29 m²
- With single pull-out safety brake: No
- Levelling: Yes
- Lock type: Electronic code combination lock
- Drawer front height: 6 x 180 mm
- Surface: Powder-coated
- Drawer width (inner dimension): 490 mm
- Drawer width (inner dimension) x drawer depth (inner dimension): 490 x 598 mm
- Load-carrying capacity: 800 kg
- Drawer depth (inner dimension): 598 mm
- Load-carrying capacity per drawer: 70 kg
- Material of worktop: Multiplex beech
- Central locking: Yes

Ident. No. 103

With ELECTRONIC CODE combination lock

Colour of front	Anthracite grey RAL 7016		Gentian blue RAL 5010		Optional	
Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
1500	103	○⁺	104	○⁺	105	○⁺

Prod. Gr. 586

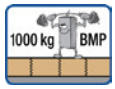
VG series group workbenches
With solid beech panel, 50 mm thick

Design:
- Worktop in solid beech, plate thickness 50 mm, sandable, glued structure, special interlinking, thus extremely robust and with almost unlimited durability.
- Base cabinets made of robust welded sheet steel.
- Total load capacity of 1000 kg with evenly distributed load
- Can be individually equipped with drawers and doors. A 30 mm grid system enables the installation of drawers with a front height of 60-360 mm and doors with a front height of 360, 540 and 720 mm.
- Drawers with 100% full extension. 100 kg load-bearing capacity and individual pull-out locks.

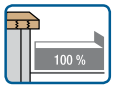
Delivery:
Drawer cabinets and worktops not fitted. Installation service on request.

Example with drawing holder, panels, energy panel and cover panel

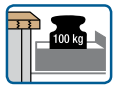
Standard features:



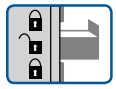
Max. load-bearing capacity



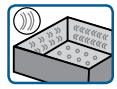
Drawers with 100% full extension



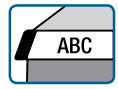
Load capacity 100 kg per drawer



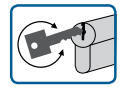
Individual drawer locking: only one drawer can be opened at a time



Drawers with perforated floors and slotted walls for individual partitioning



Aluminium handle strips with inscription tapes and PVC protective profile



Central lock, incl. 2 keys

Powder-coated surface: Body RAL 7035 light grey with fronts available in RAL 5010 gentian blue or RAL 7016 anthracite grey

Choose your preferred colour (no extra charge) for products with this logo:

RAL 1015	RAL 3002	RAL 3020	RAL 5010	RAL 5012	RAL 5014	RAL 5015	RAL 6011	RAL 7035	RAL 9010
light ivory	carmine red	traffic red	gentian blue	light blue	pigeon blue	sky blue	reseda green	light grey	pure white

Colours may be subject to printing-related differences; the original colours according to RAL are definitive.

Group workbenches
with 3 workstations

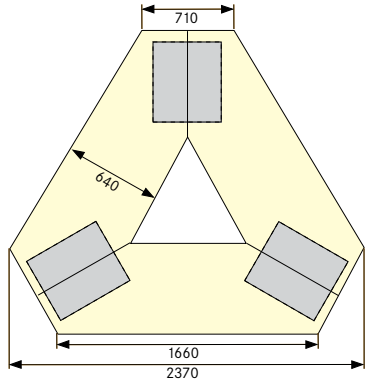
Application:
Manifold combinations and configurations in accordance with operational requirements. The space-saving and clearly arranged nature of group workbenches allows for workplaces to be tailored to the task at hand and optimum working procedures.

Version:
- Base cabinets made of solidly welded sheet steel
- **No. 50226 123, 50236 123-50236 124:** 3 base cabinets, each equipped with 2 drawers, 100 % full-extension slide, 2 x front height 90 mm, 1 x door, height 540 mm
- **No. 50226 134-50226 144, 50236 134-50236 145:** 4 base cabinets, each equipped with 5 drawers, 100 % full-extension slide, 1 x front height 90 mm, 2 x front height 120 mm, 1 x front height 180 mm, 1 x front height 210 mm
- **No. 50226 156, 50236 156-50236 157:** 6 base cabinets, each equipped with 2 drawers, 100 % full-extension slide, 2 x front height 90 mm and 1 x door, height 540 mm
- **No. 50226 158, 50236 158-50236 159:** 8 base cabinets, each equipped with 2 drawers, 100 % full-extension slide, 2 x front height 90 mm and 1 x door, height 540 mm
- **No. 50226 166, 50236 166-50236 167:** 6 base cabinets, each equipped with 6 drawers, 100 % full-extension slide, 4 x front height 90 mm and 2 x front height 180 mm, dual locking with anti-theft bottom panel between drawers 3 and 4
- **No. 50236 101-50236 103:** 6 base cabinets, each equipped with 4 drawers, 100 % full-extension slide, 1 x front height 60 mm, 2 x front height 90 mm, 1 x front height 120 mm and 1 x door, height 360 mm

Scope of delivery:
Unassembled without power supply panel or cover panel. Assembly service on request

Technical data:
- Number of drawers: 6 PCS
- Working height: 850 mm
- Number of doors: 3 PCS
- Worktop width: 2370 mm
- Worktop height: 50 mm
- Pullout type: Full extension
- Worktop depth: 2052 mm
- Design: Triangular
- Drawer surface: 0.27 m^2
- With single pull-out safety brake: Yes
- Lock type: DOM® locking system
- Drawer front height: 6 x 90 mm
- Drawer width (inner dimension): 500 mm
- Surface: Powder-coated
- Drawer width (inner dimension) x drawer depth (inner dimension): 500 x 540 mm
- Drawer depth (inner dimension): 540 mm
- Load-carrying capacity: 1000 kg
- Load-carrying capacity per drawer: 100 kg
- Material of worktop: Solid beech
- Central locking: Yes
- Secondary locking: No

No. 50226



Colour of front	Anthracite grey RAL 7016		Gentian blue RAL 5010		Optional	
Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
	50226... Ident. No.		50236... Ident. No.		50236... Ident. No.	
	123	○+	123	○+	124	○+

Prod. Gr. 502

Accessories for		50226 123	50236 123	50236 124
50236... Power supply panel For group workbench 302 VG - triangular, 1x CEE socket 16 A 400 V with cover, 5-pin, 1x safety socket with cover, 2-pin and E10/16 A 230 V, 1x pneumatic quick-action coupling	Ident. No.	223 ○	223 ○	223 ○
50236... Cover panel For group workbenches, series VG - triangular,	Ident. No.	243 ○+	243 ○+	243 ○+

Group workbenches
with 4 workstations

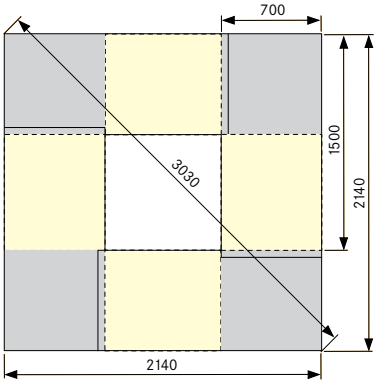
Application:
Manifold combinations and configurations in accordance with operational requirements. The space-saving and clearly arranged nature of group workbenches allows for workplaces to be tailored to the task at hand and optimum working procedures.

Version:
- Base cabinets made of solidly welded sheet steel
- Each equipped with 2 drawers, 100 % full-extension slide, 2 x front height 90 mm, 1 x door, height 540 mm

Scope of delivery:
Unassembled without power supply panel or cover panel. Assembly service on request

Technical data:
- Number of drawers: 20 PCS
- Working height: 850 mm
- Worktop width: 2140 mm
- Worktop height: 50 mm
- Pullout type: Full extension
- Worktop depth: 2140 mm
- Design: Square-cut
- Drawer surface: 0.27 m²
- With single pull-out safety brake: Yes
- Lock type: DOM® locking system
- Drawer front height: 4 x 90 mm | 8 x 120 mm | 4 x 180 mm | 4 x 210 mm
- Drawer width (inner dimension): 500 mm
- Surface: Powder-coated
- Drawer width (inner dimension) x drawer depth (inner dimension): 500 x 540 mm
- Drawer depth (inner dimension): 540 mm
- Load-carrying capacity: 1000 kg
- Load-carrying capacity per drawer: 100 kg
- Material of worktop: Solid beech
- Central locking: Yes
- Secondary locking: No

No. 50226



Colour of front	Anthracite grey RAL 7016		Gentian blue RAL 5010		Optional	
Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
	50226... Ident. No.		50236... Ident. No.		50236... Ident. No.	
	134	○+	134	○+	135	○+

Prod. Gr. 502

Accessories for		50226 134	50236 134	50236 135
50236... Power supply panel For group workbench 454 VG - rectangular, 1x CEE socket 16 A 400 V with cover, 5-pin, 1x safety socket with cover, 2-pin and E10/16 A 230 V, 1x pneumatic quick-action coupling	Ident. No.	234 ○+	234 ○+	234 ○+
50236... Cover panel For group workbenches, series VG - rectangular,	Ident. No.	244 ○+	244 ○+	244 ○+

Group workbenches
with 4 workstations

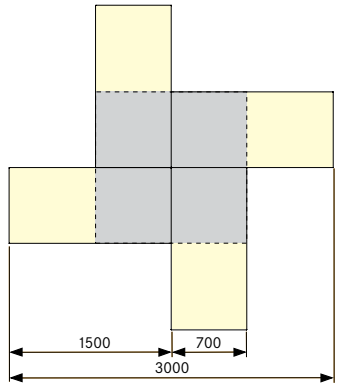
Application:
Manifold combinations and configurations in accordance with operational requirements. The space-saving and clearly arranged nature of group workbenches allows for workplaces to be tailored to the task at hand and optimum working procedures.

Version:
- 4 base cabinets made of solidly welded sheet steel
- Each equipped with 5 drawers, 100 % full-extension slide, 1 x front height 90 mm, 2 x front height 120 mm, 1 x front height 180 mm, 1 x front height 210 mm

Scope of delivery:
Unassembled without power supply panel or cover panel. Assembly service on request

Technical data:
- Number of drawers: 20 PCS
- Working height: 850 mm
- Worktop width: 3000 mm
- Worktop height: 50 mm
- Pullout type: Full extension
- Worktop depth: 3000 mm
- Design: Square-cut
- Drawer surface: 0.27 m²
- With single pull-out safety brake: Yes
- Lock type: DOM® locking system
- Drawer front height: 4 x 90 mm | 8 x 120 mm | 4 x 180 mm | 4 x 210 mm
- Drawer width (inner dimension): 500 mm
- Surface: Powder-coated
- Drawer width (inner dimension) x drawer depth (inner dimension): 500 x 540 mm
- Drawer depth (inner dimension): 540 mm
- Load-carrying capacity: 1000 kg
- Load-carrying capacity per drawer: 100 kg
- Material of worktop: Solid beech
- Central locking: Yes
- Secondary locking: No

No. 50226



Colour of front	Anthracite grey RAL 7016		Gentian blue RAL 5010		Optional	
Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
	50226... Ident. No.		50236... Ident. No.		50236... Ident. No.	
	144	○⁺	144	○⁺	145	○⁺

Prod. Gr. 502

Accessories for		50226 144	50236 144	50236 145
50236... Power supply panel For group workbench 404 VG - rectangular, 1x CEE socket 16 A 400 V with cover, 5-pin, 1x safety socket with cover, 2-pin and E10/16 A 230 V, 1x pneumatic quick-action coupling	Ident. No.	224 ○	224 ○	224 ○

Mobile workbenches
Mobile - 0 drawers

Application:

The mobile workstation with versatile options for use. Solid beech workbench worktop

Version:
- Welded sheet steel construction equipped with one workbench worktop made of solid beech-wood, 40 mm thick

Advantage:
- Top-of-the-line workmanship
- Delivered fully assembled, quick and easy to set up
- Available in different RAL colours!

Technical data:
- Worktop height: 40 mm
- Worktop depth: 700 mm
- Pullout type
- On castors: Yes
- Moving device, can be lowered: No
- With single pull-out safety brake
- With wheel lock: Yes
- Surface: Powder-coated
- Lock type
- Load-carrying capacity: 820 kg
- Material: Sheet steel
- Material of worktop: Solid beech
- Material of wheel: Solid rubber
- Central locking

Ident. No. 200

Cabinet colour	Light grey RAL 7035		Optional	
Worktop width (mm)	50285... Ident. No.		50285... Ident. No.	
1150	200	○⁺	205	○⁺

Prod. Gr. 501

Mobile workbenches

Mobile - 1 drawer

Application:

The mobile workstation with versatile options for use.

Version:
- Robust welded sheet steel construction
- Base frames made of square steel tubing 45 x 45 x 2 mm
- Door opening angle 180°

Advantage:
- Can be lifted, lowered and moved in all directions by simply moving the lever on the workbench
- Rests absolutely stable on four feet when lowered
- Available in different RAL colours!

Technical data:
- Number of drawers: 1 PCS
- Number of doors: 1 PCS
- Worktop height: 40 mm
- Worktop depth: 750 mm
- Pullout type: Single extension slide
- On castors: Yes
- Moving device, can be lowered: Yes
- With single pull-out safety brake: No
- With wheel lock: No
- Surface: Powder-coated
- Lock type: Cylinder lock
- Drawer front height: 1 x 180 mm
- Load-carrying capacity: 800 kg
- Load-carrying capacity per drawer: 70 kg
- Material: Sheet steel
- Material of worktop: Multiplex beech
- Material of wheel: PA - Polyamide
- Central locking: Yes

Ident. No. 057

Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
Worktop width (mm)	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
1500	007	○+	008	○+	057	○+

Prod. Gr. 586

Mobile workbenches

Mobile - 2 drawers

Application:

The mobile workstation with versatile options for use.

Version:
- Robust welded sheet steel construction
- Base frames made of square steel tubing 45 x 45 x 2 mm
- Door opening angle 180°

Advantage:
- Can be lifted, lowered and moved in all directions by simply moving the lever on the workbench
- Rests absolutely stable on four feet when lowered
- Available in different RAL colours!

Technical data:
- Number of drawers: 2 PCS
- Number of doors: 2 PCS
- Worktop height: 40 mm
- Worktop depth: 750 mm
- Pullout type: Single extension slide
- On castors: Yes
- Moving device, can be lowered: Yes
- With single pull-out safety brake: No
- With wheel lock: No
- Surface: Powder-coated
- Lock type: Cylinder lock
- Drawer front height: 2 x 180 mm
- Load-carrying capacity: 800 kg
- Load-carrying capacity per drawer: 70 kg
- Material: Sheet steel
- Material of worktop: Multiplex beech
- Material of wheel: PA - Polyamide
- Central locking: Yes

Ident. No. 058

Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
Worktop width (mm)	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
1500	012	○+	013	○+	058	○+

Prod. Gr. 586

Mobile workbenches

Mobile - 3 drawers

Application:

The mobile workstation with versatile options for use.

Version:
- Robust welded sheet steel construction
- Base frames made of square steel tubing 45 x 45 x 2 mm
- Door opening angle 180°

Advantage:
- Can be lifted, lowered and moved in all directions by simply moving the lever on the workbench
- Rests absolutely stable on four feet when lowered
- Available in different RAL colours!

Technical data:
- Number of drawers: 3 PCS
- Number of doors: 1 PCS
- Worktop height: 40 mm
- Worktop depth: 750 mm
- Pullout type: Single extension slide
- On castors: Yes
- Moving device, can be lowered: Yes
- With single pull-out safety brake: No
- With wheel lock: No
- Surface: Powder-coated
- Lock type: Cylinder lock
- Drawer front height: 3 x 180 mm
- Load-carrying capacity: 800 kg
- Load-carrying capacity per drawer: 70 kg
- Material: Sheet steel
- Material of worktop: Multiplex beech
- Material of wheel: PA - Polyamide
- Central locking: Yes

Ident. No. 037

Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
Worktop width (mm)	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
1500	016	o+	017	o+	037	o+

Prod. Gr. 586

Mobile workbenches

Mobile - 4 drawers

Application:

The mobile workstation with versatile options for use.

Version:
- Robust welded sheet steel construction
- High-quality solid beech worktop (40 mm)
- Door opening angle 180°

Advantage:
- Wide range of versions, mobile and ready for use anywhere
- Rests absolutely stable on four feet when lowered
- Available in different RAL colours!

Technical data:
- Number of drawers: 4 PCS
- Worktop height: 40 mm
- Worktop depth: 700 mm
- On castors: Yes
- Moving device, can be lowered: No
- With single pull-out safety brake: Yes
- With wheel lock: Yes
- Surface: Powder-coated
- Lock type: DOM® locking system
- Drawer front height: 1 x 60 mm | 1 x 90 mm | 1 x 150 mm | 1 x 180 mm
- Load-carrying capacity: 820 kg
- Material: Sheet steel
- Material of worktop: Solid beech
- Material of wheel: Solid rubber
- Central locking: Yes

No. 50285 211

			Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional		Anthracite grey RAL 7016	
			Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional		Light grey RAL 7035	
Worktop width (mm)	Number of doors (PCS)	Pullout type	Load-carrying capacity per drawer (kg)	50285... Ident. No.		50285... Ident. No.		50285... Ident. No.		50286... Ident. No.	
1155	-	Single extension slide	100	210	o+	211	o+	215	o+	-	-
1155	-	Full extension	70	212	o+	213	o+	217	o+	-	-
1155	1	Single extension slide	100	232	o+	-	-	236	o+	233	o+
1155	1	Full extension	70	234	o+	-	-	238	o+	234	o+

Prod. Gr. 501

Mobile workbenches

Mobile - 4 drawers

Application:

The mobile workstation with versatile options for use.

Version:
- Solidly welded sheet steel structure with end-to-end closed back panel
- Push handlebar on one face side
- Workbench worktop made of solid beech, glued together longitudinally in bars, thickness 40 mm

Advantage:
- Wide range of versions, mobile and ready for use anywhere
- High-quality workmanship and extremely robust
- Available in different RAL colours!

Technical data:
- Number of drawers: 4 PCS
- Worktop height: 40 mm
- Worktop depth: 650 mm
- Pullout type: Single extension slide
- On castors: Yes
- Moving device, can be lowered: No
- With single pull-out safety brake: No
- With wheel lock: Yes
- Surface: Powder-coated
- Lock type: Cylinder lock
- Load-carrying capacity: 600 kg
- Load-carrying capacity per drawer: 100 kg
- Material: Sheet steel
- Material of worktop: Solid beech
- Material of wheel: Polyurethane
- Central locking: Yes

Ident. No. 091

		Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
		Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	Number of doors (PCS)	Drawer front height	50272... Ident. No.		50272... Ident. No.		50272... Ident. No.	
1140	-	2 x 90 mm | 1 x 150 mm | 1 x 210 mm	060	○+	061	○+	065	○+
1140	1	2 x 90 mm | 1 x 150 mm | 1 x 210 mm	070	○+	071	○+	075	○+
1140	-	1 x 90 mm | 1 x 150 mm | 2 x 180 mm	080	○+	081	○+	085	○+
1140	1	1 x 90 mm | 1 x 150 mm | 2 x 180 mm	090	○+	091	○+	095	○+

Prod. Gr. 501

Mobile workbenches

Mobile - 4 drawers (XXL)

Application:

The mobile workstation with versatile options for use.

Version:
- Robust welded sheet steel construction
- Push handlebar on one face side
- Workbench worktop made of solid beech, glued together longitudinally in bars (thickness 40 mm)
- XXL drawers

Advantage:
- Wide range of versions, mobile and ready for use anywhere
- Rests absolutely stable on four feet when lowered
- Available in different RAL colours!

Technical data:
- Number of drawers: 4 PCS
- Worktop height: 40 mm
- Worktop depth: 650 mm
- Pullout type: Single extension slide
- On castors: Yes
- Moving device, can be lowered: No
- With single pull-out safety brake: No
- With wheel lock: Yes
- Surface: Powder-coated
- Lock type: Cylinder lock
- Drawer front height: 1 x 150 mm | 1 x 90 mm | 1 x 180 mm | 1 x 270 mm
- Load-carrying capacity: 600 kg
- Load-carrying capacity per drawer: 100 kg
- Material: Sheet steel
- Material of worktop: Solid beech
- Material of wheel: Polyurethane
- Central locking: Yes

Ident. No. 101

		Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
		Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	Number of doors (PCS)		50272... Ident. No.		50272... Ident. No.		50272... Ident. No.	
1140	-		100	○+	101	○+	105	○+
1140	1		110	○+	111	○+	115	○+

Prod. Gr. 501

Mobile workbenches

Mobile - 6 drawers

Application:

The mobile workstation with versatile options for use.

Version:
- Robust welded sheet steel construction
- Base frames made of square steel tubing 45 x 45 x 2 mm, with levelling system

Advantage:
- Wide range of versions, mobile and ready for use anywhere
- High-quality workmanship and extremely robust
- Available in different RAL colours!

Technical data:
- Number of drawers: 6 PCS
- Worktop height: 40 mm
- Worktop depth: 750 mm
- Pullout type: Single extension slide
- On castors: Yes
- Moving device, can be lowered: Yes
- With single pull-out safety brake: No
- With wheel lock: No
- Surface: Powder-coated
- Lock type: Cylinder lock
- Drawer front height: 6 x 180 mm
- Load-carrying capacity: 800 kg
- Load-carrying capacity per drawer: 70 kg
- Material: Sheet steel
- Material of worktop: Multiplex beech
- Material of wheel: PA - Polyamide
- Central locking: Yes

Ident. No. 028

Colour of front	Gentian blue RAL 5010		Optional		Anthracite grey RAL 7016	
Cabinet colour	Light grey RAL 7035		Optional		Light grey RAL 7035	
Worktop width (mm)	50199... Ident. No.		50199... Ident. No.		50199... Ident. No.	
1500	019	○+	023	○+	028	○+

Prod. Gr. 586

Mobile workbenches

Mobile - 8 drawers

Application:

The mobile workstation with versatile options for use.

Version:
- Robust welded sheet steel construction with workbench worktop made of solid beech (thickness 40 mm)

Advantage:
- Wide range of versions, mobile and ready for use anywhere
- High-quality workmanship and extremely robust
- Available in different RAL colours!

Technical data:
- Number of drawers: 8 PCS
- Worktop height: 40 mm
- Worktop depth: 700 mm
- On castors: Yes
- Moving device, can be lowered: No
- With single pull-out safety brake: Yes
- With wheel lock: Yes
- Surface: Powder-coated
- Lock type: DOM® locking system
- Drawer front height: 2 x 60 mm | 2 x 90 mm | 1 x 120 mm | 1 x 150 mm | 1 x 180 mm | 1 x 210 mm
- Load-carrying capacity: 820 kg
- Material: Sheet steel
- Material of worktop: Solid beech
- Material of wheel: Solid rubber
- Central locking: Yes

Ident. No. 223

		Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016		Optional	
		Cabinet colour	Light grey RAL 7035		Light grey RAL 7035		Optional	
Worktop width (mm)	Pullout type	Load-carrying capacity per drawer (kg)	50285... Ident. No.		50285... Ident. No.		50285... Ident. No.	
1155	Single extension slide	100	220	○+	221	○+	225	○+
1155	Full extension	70	222	○+	223	○+	227	○+

Prod. Gr. 501

Workbench construction for table lengths 1500 and 2000 mm

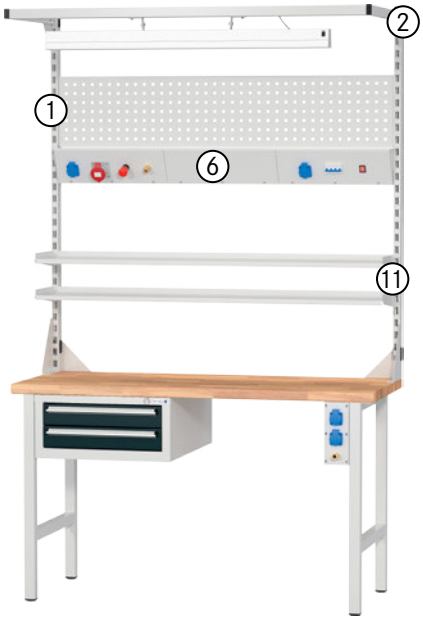
Design:
Modular and flexible plug-in system made of sheet steel, support elements with detent positions for hooking on elements and accessories, perforated sheet metal walls with square perforation 10 x 10 mm, distance from hole centre to hole centre 38 mm

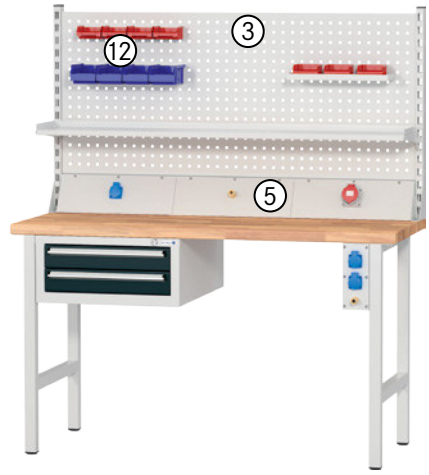
Application:
Thanks to the flexible and modular system, workstations in production, assembly, development, training and further education can be optimally designed and adapted to the individual work sequences.

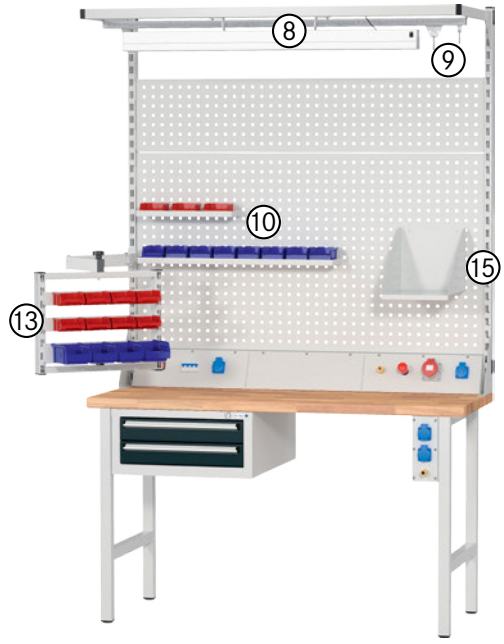
Advantages:
- Flexible system due to simple plug-in assembly of the elements
- Convenient adjustment of workstation to individual requirements and needs
- Various combination options thanks to extensive accessories

Colour:
RAL 7035, light grey, powder-coated. Other colours available on request.

Note:
Workbench construction system for other lengths of table available on request.



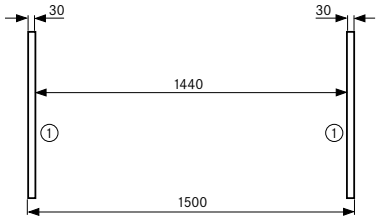




① Support strut for workbench construction, see from no. 50239 104
② Boom supporting arm, see no. 50239 121
③ Perforated metal plate wall, see from no. 50239 270
④ Power block for base, see no. 50239 135
⑤ Power strip, see from no. 50239 136
⑥ Power strip with adjustable height, see from no. 50239 131
⑦ LED work lamp for boom, no. 50239 200
⑧ Equipment rail for boom, from no. 50239 192
⑨ Carriage for equipment rails, from no. 50239 197
⑩ Shelf for perforated metal walls, see from no. 50239 204
⑪ Shelf for support strut, see from no. 50239 222
⑫ Hook-in bar for perforated metal plate walls with 4 boxes size 4 and 5, see from no. 50239 240
⑬ Base frame, 360° rotatable with joint swivel arm, can be equipped from both sides, see from no. 50239 260
⑭ Drawing holder incl. 8 clip magnets, see from no. 50239 340
⑮ Binder module for perforated metal plate walls, see no. 50239 320

Possible field combinations
for workbench construction system — table lengths 1500 and 2000 mm

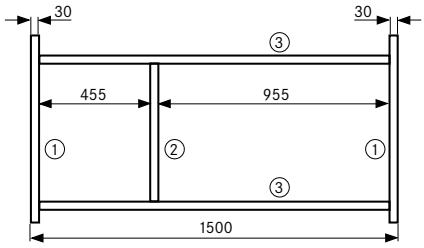
Note:
The flexible system enables 5 bay combinations to be created in the workstation widths 1500 and 2000 mm. Perforated metal plate walls, hook-in bars for easy-view storage bins and shelves are available, depending on the bay combination.



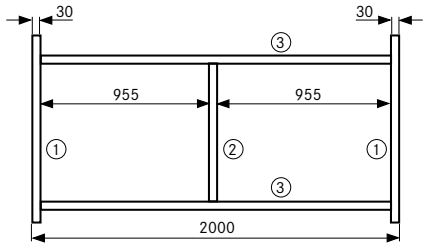
Workstation system 1500 mm
without cross connectors or intermediate supports

Workstation system 2000 mm
without cross connectors or intermediate supports

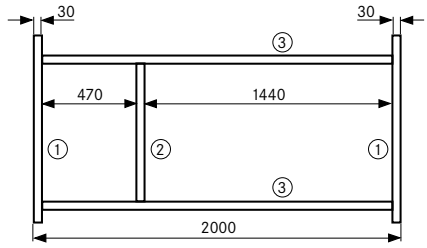
① Support strut, see no. 50239104-115
② Intermediate support, see no. 50239099
③ Cross connector see no. 50239101-102



Workstation system 1500 mm
with cross connectors and intermediate supports



Workstation system 2000 mm
with cross connectors and intermediate supports



Workstation system 2000 mm
with cross connectors and intermediate supports

Workbench attachments
for HK heavy-duty workbenches

Version:
- Consisting of support struts, boom frame and crossbraces

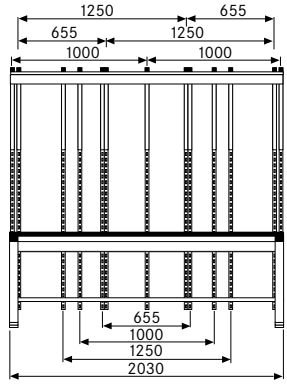
Note:
- Ref. no. 206 and 210: 9 different arrangements possible on workbench
- Ref. no. 208: 2 different arrangements possible on workbench
- Ref. no. 212: 3 different arrangements possible on workbench

Technical data:
- Colour: Light grey RAL 7035
- Material: Sheet steel
- Suitable for length: 2030 mm

Design		With 2 support pillars	With 3 support pillars
50202...	Ident. No.	210 ○+	212 ○+

Prod. Gr. 5BC

Ident. No. 212



Pegboards
Extension for HK workbenches

Application:
No. 50199: For insertion into base frame and accommodation of RasterPlan support elements and tool holders in 10 x 10 mm hole grid.
No. 50202: For mounting in support struts and for mounting accessory parts in square holes 10 x 10 mm.
No. 50212 190-50212 191: For insertion into base frame and accommodation of RasterPlan support elements and tool holders in 10 x 10 mm hole grid.
No. 50212 195-50212 196: For insertion into base frame and accommodation of RasterPlan support elements and tool holders in 10 x 10 mm hole grid.
No. 50239: Accommodates shelves, hook-in bars for easy-view storage bins, binder modules and tool support elements or hooks.

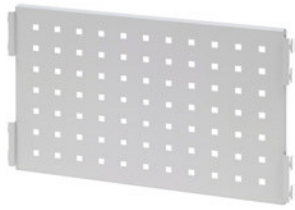
Scope of delivery:
No. 50212: incl. fastening material

More products can be found online at **www.hahn-kolb.de**

Technical data:
- Material: Sheet steel

No. 50202

No. 50212 190


No. 50239

Width (mm)	Height (mm)	Type	50202... Ident. No.		50239... Ident. No.		50199... Ident. No.		50212... Ident. No.	
655	380	Perforated metal plate back panel for workbench assembly no. 50202 206-212	232	○	-	-	-	-	-	-
1000	380	Perforated metal plate back panel for workbench assembly no. 50202 206-212	234	○+	-	-	-	-	-	-
1440	300	Perforated metal plate wall for hooking into support struts	-	-	123	○+	-	-	-	-
1440	650	Perforated metal plate wall for hooking into support struts	-	-	126	○+	-	-	-	-
1440	650	Perforated metal plate walls for hooking into support struts	-	-	426	○+	-	-	-	-
1440	800	Perforated metal plate walls for hooking into support struts	-	-	428	○+	-	-	-	-
645	620	Perforated metal plate panel for base frame, HK workbenches, series L	-	-	-	-	151	○	-	-
680	604	Perforated metal plate panel for base (outside), HK combination workbenches, series WGS and WG/square base	-	-	-	-	-	-	196	○
589	556	Perforated metal plate panel for base (inside), HK combination workbenches, series WGS and WG/square base	-	-	-	-	-	-	191	○

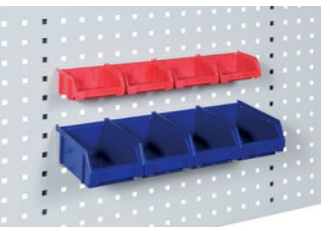
50202... = Prod. Gr. 5BC
50212... = Prod. Gr. 5BC
50239... = Prod. Gr. 504
50199... = Prod. Gr. 586

Mounting rail
for HK pegboards

Application:
For hooking onto pegboards, for clear allocation and arrangement of small parts required at the workstation.

Version:
- Rail made of sturdy, folded sheet steel, 2 mm thick
- Incl. easy-view storage bins

Technical data:
- Width: 420 mm
- Load-carrying capacity: 25 kg
- Type: Mounting rail for perforated metal plate wall including easy-view storage bins
- Material: Sheet steel



50239...	Ident. No.	240 ○

Prod. Gr. 504

Shelves
for HK pegboards

Application:
Ref. no. 204: For hooking onto the pegboard, suitable for use as a storage tray at the workstation.
Ref. no. 222: For mounting on two support struts (also wall stands or bases), suitable for use as a storage tray at the workstation and for accommodating easy-view storage bins.

Version:
- made of folded, high-quality sheet steel, 1 mm thick

- **Ref. no. 222:** Shelf with two hook-in brackets, can be hooked straight or slanted into the support struts

Note:
Ref. no. 222: Easy-view storage bins, see no. 50057 005-425 and no. 50638 810-837

More products can be found online at **www.hahn-kolb.de**

Technical data:
- Material: Sheet steel

Example application

(Without easy-view storage bins)

Width (mm)		975	400
Depth (mm)		235	145
Load-carrying capacity (kg)		50	8
Type		Shelf for support struts	Shelf for perforated metal plate wall
50239...	Ident. No.	222 O+	204 O

Prod. Gr. 504

Universal holder
for HK pegboards

Application:
For hooking onto support struts (also wall stands or bases), for holding work equipment, cans or beverage bottles.

Version:
- Made of high-quality processed plastic, universal fit

Technical data:
- Type: Universal holder for workbench assembly
- Material: Plastic

Sample application

50239...	Ident. No.	331 O

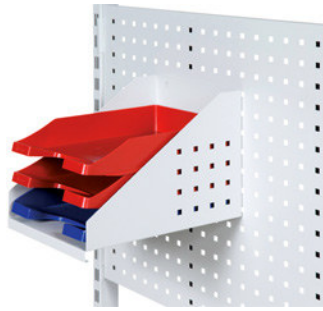
Prod. Gr. 504

Binder module
for HK pegboards

Application:
Suitable for hooking onto pegboards for binders or DIN A4 storage compartments.

Version:
- Made of sturdy, folded sheet steel, 1.2 mm thick
- Incl. detents on sides

Technical data:
- Width: 250 mm
- Height: 250 mm
- Depth: 300 mm
- Type: Binder module for perforated metal plate wall
- Material: Sheet steel



Sample applications

50239...	Ident. No.	320 O

Prod. Gr. 504

Swivel arms, support arms and other brackets

for HK workbenches

Application:

No. 50239: For hooking into support struts to accommodate various modular components.

Version:

- **No. 50202:**
  - Incl. 2 swivel arm elements and fixture
  - Swivel arm elements can be swivelled by 360° on axes
- **No. 50202 250:** Frame equipped with perforated back panel 655 mm in width, 10 x 10 mm hole grid with 38 mm spacing for commercially available tool holders
- **No. 50202 252:** for TFT monitors according to VESA standards with 75x75 or 100x100 mm hole spacing
- **No. 50202 254:** Frame equipped with a support rail for easy-view storage bins 655 mm in width, one tray shelf 655(615) x 460(400) mm
- **No. 50239:**
  - Made of robust square steel profile 50 x 30 x 2 mm
  - Swivel radius 180°
  - Maximum load capacity 25 kg

Note:

No. 50202 252: Keyboard shelf for swivel arm, see no. 50202 256

More products can be found online at **www.hahn-kolb.de**

No. 50202 248

No. 50202 250
Without tools and holders

No. 50202 252

No. 50202 254
Without boxes

Ident. No. 264 mounted in support strut

Ident. No. 266 mounted in support strut

							Single-hinged swivel arm		Double-hinged swivel arm	
Load-carrying capacity (kg)	Width (mm)	Height (mm)	Type	Material	50202... Ident. No.		50239... Ident. No.		50239... Ident. No.	
15	685	420	Swivel arm including frame with 3 mounting rails for easy-view storage bins - workbench assembly no. 50202 206-212	Steel/aluminium	248	○	-	-	-	-
15	685	420	Swivel arm with frame and perforated back panel, workbench assembly no. 50202 206-212	Sheet steel	250	○	-	-	-	-
15	-	-	Swivel arm with VESA monitor holder, workbench assembly no. 50202 206-212	Sheet steel	252	○	-	-	-	-
15	-	-	Swivel arm with frame, tray shelf and mounting rail, workbench assembly no. 50202 206-212	Sheet steel	254	○	-	-	-	-
-	-	-	Hinged swivel arm (single-hinged) for workbench assembly	Sheet steel	-	-	264	○	-	-
-	-	-	Hinged swivel arms (double-hinged) for workbench assembly	Sheet steel	-	-	-	-	266	○

50202... = Prod. Gr. 5BC
50239... = Prod. Gr. 504

Monitor mounts and tray shelves

for HK workbenches

Application:

Ref. no. 304: For mounting in support struts, to accommodate TFT flat screens, arbitrary slanting of the screen.

Ref. no. 310: For mounting in support struts, to accommodate PC keyboard, mouse and TFT flat screens.

Ref. no. 333: For mounting in support struts, suitable as tray compartment for tools and other equipment.

Version:

- **Ref. no. 304:** incl. twin-jointed swivel arm
- **Ref. no. 304-310:** made of robust rectangular steel profile
- **Ref. no. 310:** incl. swivel joint for optimum positioning
- **Ref. no. 333:**
  - Made of high-quality processed, folded sheet steel
  - Incl. ribbed rubber mat
  -
  - More products can be found online at **www.hahn-kolb.de**

Technical data:

- Material: Sheet steel

Example illustration

Width (mm)		-	-	450
Depth (mm)		-	-	310
Type		Screen holder including double-hinged swivel arm for hooking into support strut	Screen and keyboard holder with mouse support including double-hinged swivel arm	Tray shelf including double-hinged swivel arm for hooking into support strut
50239...	Ident. No.	304 ○	310 ○	333 ○

Prod. Gr. 504

SOFT-CLOSE

for smooth and quiet closing of drawers

Application:

Particularly suitable for the safe storage of delicate tools and parts in drawers in HK drawer cabinets, workbenches, undercounter cabinets, drawer blocks, group workbenches, assembly trolleys, roll containers and workbench trolleys. For drawers with a load capacity of up to 100 kg.

Version:

- The damping system brakes the drawer while closing; it closes the drawer smoothly and soundlessly by means of the self-closing mechanism

Advantage:

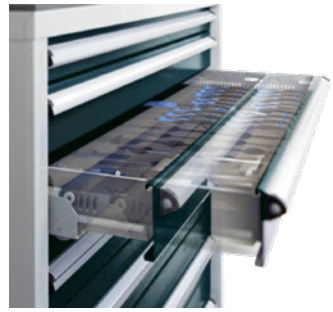
- Impact load on tools and parts stored in the drawer is reduced to a minimum due to the smooth-closing drawers

Note:

When ordering, please indicate the required number of SOFT-CLOSE drawers. The price shown is the extra price per drawer. Cannot be retrofitted on existing drawers

Technical data:

- Load-carrying capacity: 100 kg



Drawers with SOFT-CLOSE

Product video: YouTube ID: x5ry8OqhFKw

50392...	Ident. No.	005 ○

Prod. Gr. 586

ELECTRONIC CODE combination lock

for HK hinged door cabinets

Application:

Ideal for shift work, schools and training workshops where a variety of people require access to the cabinet.

Version:

- Cabinet opened using a 4-digit to 8-digit numeric code
- Battery-operated, no mains power required
- Low battery warning via LED display
- **Ref. no. 020:** Additional charge only applies when ordered together with a cabinet with doors.
- **Ref. no. 025:** Retrofit kit for existing HK cabinets with turning handle lock with three-point locking and Euro holes

Advantage:

- Up to 100 individual user PINs can be programmed on a single cabinet
- Keys are not required to open and close - no keys to lose
- Programmed directly on the cabinet or via a PC/laptop programming kit, see programming kit no. 50392 015
- **Ref. no. 025: S**imple conversion of existing doors with twist lock to electronic locking system with numeric code

Scope of delivery:

Incl. batteries

Type		For HK hinged door cabinets (extra charge)	For HK hinged door cabinets (retrofit kit)
50392...	Ident. No.	020 ○	025 ○

Prod. Gr. 586

Accessories for		50392 020	50392 025
50392... Emergency unlocking device For ELECTRONIC CODE combination lock	Ident. No.	013 ●	013 ●

ELECTRONIC CODE combination lock
for HK drawer cabinets

Application:
Ideal for shift work, schools and training workshops where a variety of people require access to the cabinet.

Version:
- Cabinet opened using a 4-digit to 8-digit numeric code
- Battery-operated, no mains power required
- Low battery warning via LED display
- For hinged door version see no. 50392 020

Advantage:
- Up to 100 individual user PINs can be programmed on a single cabinet
- Keys are not required to open and close - no keys to lose
- Programmed directly on the cabinet or a PC/ laptop programming kit, see programming kit no. 50392015

Scope of delivery:
Incl. 3 x Lithium batteries 1.5 V type Micro/AAA

Note:
Ref. no. 010: The price shown is the extra price charged. Retrofitting of existing cabinets, trolleys or workbenches is not possible
Ref. no. 011: For existing HK drawer cabinets where the pre-installed ELECTRONIC CODE combination lock has to be changed

Type		For HK drawer cabinets (extra charge)	For HK drawer cabinets (retrofit kit)
50392...	Ident. No.	010 ○	011 ○

Prod. Gr. 586

Accessories for		50392 010
50392... Emergency unlocking device For ELECTRONIC CODE combination lock	Ident. No.	013 ●

Programming kit
for ELECTRONIC CODE combination lock

Application:
For connection to an ELECTRONIC CODE combination lock and for connection with a PC or laptop. Can also be used for emergency unlocking.

Version:
- Interface converter for connection to a PC so that data can be transferred to the system
- USB cable 2.0 for connecting a converter to a PC or laptop
- Software on USB flash drive for convenient management of access rights (PIN codes) on the PC or laptop

Advantage:
- Easy and convenient programming and management of PIN codes via a PC or laptop
- If the batteries have been completely discharged, emergency opening can be carried out in conjunction with a laptop or USB power supply

50392...	Ident. No.	015 ○

Prod. Gr. 586

Emergency unlocking device
for ELECTRONIC CODE combination lock

Application:
For rapid emergency unlocking of the ELECTRONIC CODE combination lock. The required power is supplied by batteries. Simple plug connection.

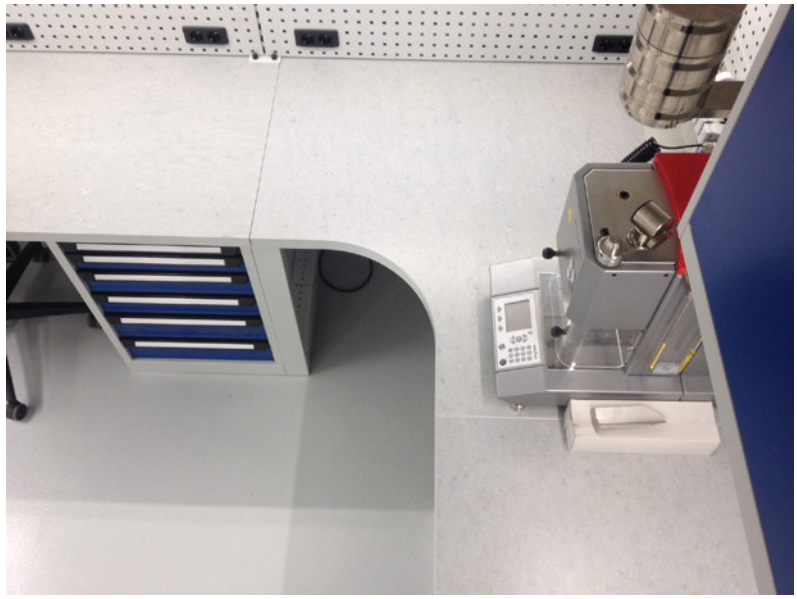
Version:
- Battery-powered emergency unlocking device with plug
- 3x 1.5 V AA batteries

Note:
Batteries not included in scope of delivery

50392...	Ident. No.	013 ●

Prod. Gr. 586

Workbench installations - examples



Workbench installations - examples

Workbench installations - examples

Tool trolley

Width 650 mm, with swing columns, lowerable intermediate boxes

Execution:

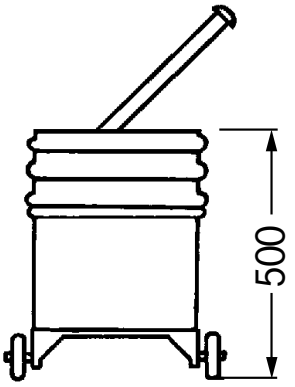
- Sturdy sheet-steel construction with large floor tray, table surface with rubber mat
- 2 intermediate boxes each with 4 sheet metal dividers for versatile partitioning
- Useful area of intermediate boxes W x D 480 x 315 mm, load capacity per intermediate box 15 kg
- With swivel columns for space-saving transport, can be folded down to the lowest height of the tool trolley in order to save space and act as handles
- The intermediate boxes can be lowered using the fold-down columns, total lowered height 500 mm
- Table top and intermediate boxes with rubber protection strips to protect against damage
- Lockable with padlock with shackle diameter 6.5 mm (not included in scope of delivery)

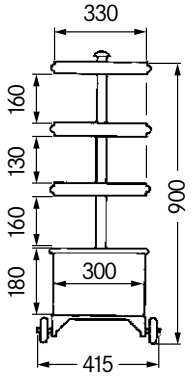
Technical data:

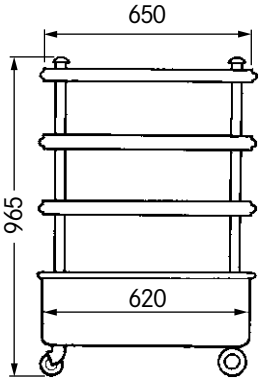
- With single pull-out safety brake
- Height: 965 mm
- With single-locking drawers
- With SOFT-CLOSE closing function: No
- Load-carrying capacity: 300 kg
- Central locking: No
- Lock type: Padlock
- Punched-hole, sidewall: No
- Punched-hole
- With edge protection: No
- With sliding handle: No
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Material of worktop: Plastic
- Material: Sheet steel
- Surface: Powder-coated

With tilting poles for space-saving transport

Without tools







			Cabinet colour	Light grey RAL 7035	
			Colour of front	Light grey RAL 7035	
Number of drawers (PCS)	Height (mm)	Width (mm)	Depth (mm)	50277... Ident. No.	
0	965	650	415	001	●

Prod. Gr. 5BA

Tool trolley

Width 778 mm, with fully extending drawers

Execution:
- Sturdy sheet steel construction with solvent-resistant plastic worktop and 2 integrated storage compartments
- Plastic-coated metal sliding handle attached directly to the frame
- Central locking with cylinder lock secures all drawers, incl. 2 keys
- 4 abrasion-proof transport wheels, 100 mm diameter, 2 of which can be steered, 1 lockable steering roller
- For accessories such as can holder, document holder, suspended bin, waste basket, see no. 50278 578-590, attachment for cable box, see no. 50278 813, add-on frame with 12 transparent tilt bins, see no. 50278 815, tool hooks for attachment to rectangular hole grid on sidewalls, see no. 50638 300-650.
- Suitable products for equipping the drawers include our ATORN hard foam inserts with tool assortments, see no. 50537 505-591 or AQURADO dimpled mat for drawers, see no. 50540 620, boxes from no. 50540 150.

Advantage:
- Indented side walls protect additional add-on parts from damage since they are located within the overall trolley dimensions
- Rectangular hole grid on the sidewalls for individual attachment options using e.g. hooks for tools or other add-on parts, e.g. can holder, waste basket etc.

Delivery:

Incl. 1 sheet metal divider per drawer

Notes:

To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 520 mm, depth 345 mm.

Technical data:
- Pullout type: Full extension
- With single pull-out safety brake: No
- Height: 915 mm
- With single-locking drawers: Yes
- With SOFT-CLOSE closing function: No
- Load-carrying capacity: 300 kg
- Central locking: Yes
- Lock type: Cylinder lock
- Punched-hole, sidewall: Yes
- Punched-hole: 10 x 10 mm
- With edge protection: No
- With sliding handle: Yes
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Wheel diameter: 100 mm
- Material of worktop: Plastic
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 560

Ident. No. 570

Individual locking of drawers

4 rubber-coated wheels, Ø 100 mm

Central locking with cylinder lock, incl. 2 keys

Fully extending drawers

Number of drawers (PCS)				6	7	8
Drawer front height				4 x 80 mm | 2 x 165 mm	6 x 80 mm | 1 x 165 mm	8 x 80 mm
Drawer width (inner dimension) (mm)				527	527	527
Drawer depth (inner dimension) (mm)				348	348	348
Load-carrying capacity per drawer (kg)				20	20	20
Height (mm)				915	915	915
Width (mm)				778	778	778
Depth (mm)				496	496	496
	Cabinet colour	Colour of front				
50278...	Light grey RAL 7035	Gentian blue RAL 5010	Ident. No.	560 ●+	570 ●+	571 ●+

Prod. Gr. 5BA

Tool trolley incl. 151 pcs tool assortment in 7 hard foam inserts

Width 778 mm, with 7 fully extending drawers

Application:
Can be used as a mobile workshop – all tools securely housed and at your fingertips

Execution:
- Sturdy sheet steel construction with solvent-resistant plastic worktop and 2 integrated storage compartments
- Plastic-coated metal sliding handle attached directly to the frame
- Central locking with cylinder lock secures all drawers, incl. 2 keys
- 4 abrasion-proof transport wheels, 100 mm diameter, 2 of which can be steered, 1 lockable steering roller
- 7 ATORN hard foam inserts fitted with 151 ATORN tools fill 4 drawers of the tool trolley
- Additional ATORN hard foam inserts equipped with tools for the flexible configuration of drawers, see no. 50537 505-591, additional accessories such as can holders, document holders, add-on trays, waste baskets, see no. 50278 578-590, cable box holder, see no. 50278 813, mounting frame incl. 12 transparent tip-out bins, see no. 50278 815

Advantage:
- Clearly-arranged and safe storage of tools in the drawers
- Precisely dimensioned cut-outs in the inserts and the use of a contrast colour (blue) means that missing tools can be detected at a glance
- Expensive tools can be stored securely and safely in the insert
- Indented side walls protect additional add-on parts from damage since they are located within the overall trolley dimensions
- Rectangular hole grid on the sidewalls for individual attachment options using e.g. hooks for tools or other add-on parts, e.g. can holder, waste basket etc.

Delivery:
Incl. 1 sheet metal divider per drawer, incl. 7 ATORN hard foam inserts equipped with 151 ATORN tools

Notes:
To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 520 mm, depth 345 mm.

Technical data:
- Pullout type: Full extension
- With single pull-out safety brake: No
- Height: 913 mm
- With single-locking drawers: Yes
- With SOFT-CLOSE closing function: No
- Load-carrying capacity: 300 kg
- Central locking: Yes
- Lock type: Cylinder lock
- Punched-hole, sidewall: Yes
- Punched-hole: 10 x 10 mm
- With edge protection: No
- With sliding handle: Yes
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Wheel diameter: 100 mm
- Material of worktop: Plastic
- Material: Sheet steel
- Surface: Powder-coated

Trolley incl. 7 hard foam inserts equipped with 151-piece tool assortment:

For contents, see nos. 50537 530 and 509

For contents, see nos. 50537 516 and 515

For contents, see nos. 50537 526 and 517

For contents, see no. 50537 591

								Cabinet colour	Light grey RAL 7035
								Colour of front	Gentian blue RAL 5010
Number of drawers (PCS)	Drawer front height	Drawer width (inner dimension) (mm)	Drawer depth (inner dimension) (mm)	Load-carrying capacity per drawer (kg)	Height (mm)	Width (mm)	Depth (mm)	**50278...** Ident. No.	
7	6 x 80 mm | 1 x 165 mm	527	348	20	913	778	496	**575**	●+

Prod. Gr. 586

Tool trolley with safety drawer lock

Width 786 mm, with fully extending drawers

Execution:
- Extremely robust design due to double-walled construction, completely welded construction of the entire body for daily rigorous use in the workshop
- Plastic worktop, solvent-resistant, with integrated storage compartments
- drawers with integrated self-closing mechanism and SOFT-CLOSE
- Impact protection at all four corners of the vehicle
- 2-stage locking concept:
- Central locking via cylinder lock locked with 2 hinged keys
- individual locking of the drawers, integrated into the drawer front plate
- mutual drawer lock, minimises the risk of overturning
- 4 ball-bearing wheels, diameter 125 mm, 2 of which are steering rollers with brakes; all wheels with thread guards which protect the bearings from dirt and threads

Advantage:
- High-quality chassis
- inserted side walls protect the additionally attached add-on parts from damages, since they are within the carriage dimensions
- Individual fastening options thanks to rectangular hole grid on the side walls, e. g. with hooks for tools or other attachments (can holder, paper roll holder, waste basket, etc.)

Notes:
Drawers are supplied without separating plates

Technical data:
- Pullout type: Full extension
- With single pull-out safety brake: Yes
- Height: 1020 mm
- With single-locking drawers: Yes
- With SOFT-CLOSE closing function: Yes
- Load-carrying capacity: 540 kg
- Central locking: Yes
- Lock type: Cylinder lock
- Punched-hole, sidewall: Yes
- Punched-hole: 10 x 10 mm
- With edge protection: Yes
- With sliding handle: Yes
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Wheel diameter: 125 mm
- Material of worktop: Plastic
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 673

Number of drawers (PCS)				6	7	8
Drawer front height				3 x 80 mm | 3 x 165 mm	5 x 80 mm | 2 x 165 mm	7 x 80 mm | 1 x 165 mm
Drawer width (inner dimension) (mm)				522	522	522
Drawer depth (inner dimension) (mm)				398	398	398
Load-carrying capacity per drawer (kg)				25	25	25
Height (mm)				1020	1020	1020
Width (mm)				785	785	785
Depth (mm)				518	518	518
	Cabinet colour	Colour of front				
50278...	Light grey RAL 7035	Gentian blue RAL 5010	Ident. No.	672 ●+	673 ●+	674 ●+

Prod. Gr. 5BA

Tool trolley with safety drawer lock

Width 959 mm, with fully extending drawers

Execution:
- Extremely robust design due to double-walled construction, completely welded construction of the entire body for daily rigorous use in the workshop
- Plastic worktop, solvent-resistant, with integrated storage compartments
- drawers with integrated self-closing mechanism and SOFT-CLOSE
- Impact protection at all four corners of the vehicle
- 2-stage locking concept:
- Central locking via cylinder lock locked with 2 hinged keys
- individual locking of the drawers, integrated into the drawer front plate
- mutual drawer lock, minimises the risk of overturning
- 4 ball-bearing wheels, diameter 125 mm, 2 of which are steering rollers with brakes; all wheels with thread guards which protect the bearings from dirt and threads

Advantage:
- High-quality chassis
- inserted side walls protect the additionally attached add-on parts from damages, since they are within the carriage dimensions
- Individual fastening options thanks to rectangular hole grid on the side walls, e. g. with hooks for tools or other attachments (can holder, paper roll holder, waste basket, etc.)

Technical data:
- Pullout type: Full extension
- With single pull-out safety brake: Yes
- Height: 1020 mm
- With single-locking drawers: Yes
- With SOFT-CLOSE closing function: Yes
- Load-carrying capacity: 1000 kg
- Central locking: Yes
- Lock type: Cylinder lock
- Punched-hole, sidewall: Yes
- Punched-hole: 10 x 10 mm
- With edge protection: Yes
- With sliding handle: Yes
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Wheel diameter: 125 mm
- Material of worktop: Stainless steel
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 657

Number of drawers (PCS)				7	8
Drawer front height				5 x 80 mm | 2 x 165 mm	7 x 80 mm | 1 x 165 mm
Drawer width (inner dimension) (mm)				696	696
Drawer depth (inner dimension) (mm)				398	398
Load-carrying capacity per drawer (kg)				40	40
Height (mm)				1020	1020
Width (mm)				959	959
Depth (mm)				518	518
	Cabinet colour	Colour of front			
50278...	Light grey RAL 7035	Gentian blue RAL 5010	Ident. No.	657 ●+	658 ●+

Prod. Gr. 5BA

ATORN Tool trolley with safety drawer lock

Width 1133 mm, with fully extending drawers

Execution:
- Extremely robust design due to double-walled construction, completely welded construction of the entire body for daily rigorous use in the workshop
- Plastic worktop, solvent-resistant, with integrated storage compartments
- drawers with integrated self-closing mechanism and SOFT-CLOSE
- Impact protection at all four corners of the vehicle
- 2-stage locking concept:
- Central locking feature with cylinder lock, locks with 2 folding keys
- Individual locking of drawers, integrated in drawer panel
- Mutual drawer lock function, reduces the risk of tipping to a minimum
- 4 ball-bearing wheels, diameter 125 mm, 2 of which are steering rollers with brakes; all wheels with thread guards which protect the bearings from dirt and threads

Advantage:
- High-quality chassis
- inserted side walls protect the additionally attached add-on parts from damages, since they are within the carriage dimensions
- Individual fastening options thanks to rectangular hole grid on the side walls, e. g. with hooks for tools or other attachments (can holder, paper roll holder, waste basket, etc.)

Technical data:
- Pullout type: Full extension
- With single pull-out safety brake: Yes
- Height: 1020 mm
- With single-locking drawers: Yes
- With SOFT-CLOSE closing function: Yes
- Load-carrying capacity: 1000 kg
- Central locking: Yes
- Lock type: Cylinder lock
- Punched-hole, sidewall: Yes
- Punched-hole: 10 x 10 mm
- With edge protection: Yes
- With sliding handle: Yes
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Wheel diameter: 125 mm
- Material of worktop: Stainless steel
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 667

Number of drawers (PCS)				7	8
Drawer front height				5 x 80 mm | 2 x 165 mm	7 x 80 mm | 1 x 165 mm
Drawer width (inner dimension) (mm)				871	871
Drawer depth (inner dimension) (mm)				398	398
Load-carrying capacity per drawer (kg)				40	40
Height (mm)				1020	1020
Width (mm)				1133	1133
Depth (mm)				518	518
	Cabinet colour	Colour of front			
50278...	Light grey RAL 7035	Gentian blue RAL 5010	Ident. No.	667 ●+	668 ●+

Prod. Gr. 5BA

ATORN Tool trolley incl. 136 pcs tool assortment, with safety drawer lock

Tools in 4 hard foam inserts, + bit box + bit holder

Execution:
- Sturdy sheet steel construction with solvent-resistant plastic worktop, 2 integrated storage compartments and 2 can holders
- Full-height edge protection on all 4 corners of the trolley, plastic-coated metal sliding handle attached directly to the frame
- Drawers with labelling space for individual identification with pictogram stickers
- individual fastening possibilities thanks to rectangular hole grid on the side walls, e. g. with hooks for tools or other add-on parts, e. g. can holder, waste basket etc.
- Central locking with cylinder lock secures all drawers, incl. 2 articulated wrenches
- Transportable thanks to 2 ball-bearing fixed wheels and 2 guide rollers, diameter 125 mm, with locking brake
- 4 ATORN hard foam inserts fitted with 74 ATORN tools fill 2 drawers of the tool trolley
- Incl. 4 ATORN hard foam inserts no. 50537 509/515/517/530, made from black/blue two-tone polyethylene (PE), resistant to most oils and chemicals thanks to closed-cell structure, equipped with 74 ATORN tools, ATORN bit box (52841030) + bit holder (52841220), 1 divider per drawer and pictogram labels for drawer marking.
- (For additional ATORN hard foam inserts with tools for flexible drawer configuration, see no. 50537 505-591, AQURADO dimpled mat for drawers, see no. 50540 620, additional accessories such as can holder, document holder, suspended bin, waste basket, see no. 50278 578-590, attachment for cable box, see no. 50278 813, add-on frame with 12 transparent tilt bins, see no. 50278)

Advantage:
- With individual drawer pull-out locking which means that only one drawer can be opened, protecting the trolley against tipping
- Clearly-arranged and safe storage of tools in the drawers
- Precisely dimensioned cut-outs in the inserts and the use of a contrast colour (blue) means that missing tools can be detected at a glance
- indented sidewalls protect additional add-on parts from damage since they are located within the overall trolley dimensions

Notes:
To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 520 mm, depth 345 mm.

Technical data:
- Pullout type: Full extension
- With single pull-out safety brake: Yes
- Height: 1042 mm
- With single-locking drawers: Yes
- With SOFT-CLOSE closing function: No
- Load-carrying capacity: 440 kg
- Central locking: Yes
- Lock type: Cylinder lock
- Punched-hole, sidewall: Yes
- Punched-hole: 10 x 10 mm
- With edge protection: Yes
- With sliding handle: Yes
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Wheel diameter: 125 mm
- Material of worktop: Plastic
- Material: Sheet steel
- Surface: Powder-coated

Number of drawers (PCS)				6
Drawer front height				3 x 75 mm | 3 x 160 mm
Drawer width (inner dimension) (mm)				527
Drawer depth (inner dimension) (mm)				398
Load-carrying capacity per drawer (kg)				25
Height (mm)				1042
Width (mm)				817
Depth (mm)				502
	Cabinet colour	Colour of front		
50278...	Light grey RAL 7035	Gentian blue RAL 5010	Ident. No.	594 ●

Prod. Gr. 586

ATORN Accessories for ATORN tool trolley

Application:
Ident. No. 584: For A4 documents and work papers, for inserting in the 10 x 10 mm perforated sidewall of the trolley
Ident. No. 586: For holding 3 cans, holder for inserting in the 10 x 10 mm perforated sidewall of the trolley
Ident. No. 588: As a storage compartment, for inserting in the 10 x 10 mm perforated sidewall of the trolley

Execution:
- **Ident. No. 578:**
  - Dimensions W x D x T 520 x 345 x 2 mm, colour black
  - Reinforced fabric mat with textured structure made of adhesive plastic
- **Ident. No. 579:**
  - Dimensions W x D x T 520 x 345 x 3 mm, colour black
  - Surface made of fine groove profile, grooved in longitudinal direction, oil-resistant
- **Ident. No. 580:**
  - For drawer front height 75/80 mm
  - 5 pieces, sheet metal partitions, height x depth 60 x 347 mm
- **Ident. No. 582:**
  - For drawer front height 160/165 mm
  - 5 pieces, sheet metal partitions, height x depth 120 x 347 mm
- **Ident. No. 586:**
  - Dimensions L x W x H 260 x 80 x 102 mm
  - Incl. assembly kit
- **Ident. No. 588:** Dimensions L x W x H 300 x 75 x 78 mm

Ident. No. 584

Ident. No. 586
(Without cans)

Ident. No. 588
(Without cans)

50278...	Anti-slip mat for drawer	Ident. No.	578 ●
50278...	Ribbed rubber mat for drawer	Ident. No.	579 ●
50278...	Separating plates, 5 pieces for height 75/80 mm	Ident. No.	580 ●
50278...	Separating plates, 5 pieces for height 160/165 mm	Ident. No.	582 ●
50278...	Document holder	Ident. No.	584 ●
50278...	Can holder	Ident. No.	586 ●
50278...	Suspended box	Ident. No.	588 ●

Prod. Gr. 5BA

Tool trolley with safety drawer lock

Width 645 mm, with fully extending drawers

Execution:
- Sturdy sheet steel construction with ABS plastic worktop with integrated small part trays
- Rubberised edge protection profiles on the corners protect the trolley against damage
- Individual fastening options thanks to rectangular perforated grid 10 x 10 mm, spacing between hole centres 38 mm on the sidewalls which can be used e.g. with hooks for tools or other add-on parts (can holder, waste basket etc.)
- Ergonomic steering handle made of aluminium
- Individual locking of drawers integrated into drawer fascia panel
- Central locking with cylinder lock incl. 2 articulated wrenches
- 2 large ball-bearing wheels, diameter 140 mm, 2 guide rollers, diameter 100 mm, one of which with parking brake
- Additional accessories such as can holders, storage compartments, waste baskets, see no. 50278 810-818; document pocket, see no. 50654 760; holder frame incl. 12 transparent tilting containers, see no. 50278 815; cable box holder, see no. 75002 600
- ORION tool assortments fitted in hard foam suitable for drawers, see from no. 50537 845-885; AQURADO textured mat for drawer, see no. 50540 610

Advantage:
- Reciprocal drawer lock which means that only one drawer can be opened, protecting the trolley against tipping

Notes:
To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 468 mm, depth 333 mm.

Technical data:
- Pullout type: Full extension
- With single pull-out safety brake: Yes
- Height: 925 mm
- With single-locking drawers: Yes
- Width: 645 mm
- With SOFT-CLOSE closing function: No
- Depth: 425 mm
- Load-carrying capacity: 300 kg
- Number of drawers: 5 PCS
- Central locking: Yes
- Lock type: Cylinder lock
- Punched-hole, sidewall: Yes
- Punched-hole: 10 x 10 mm
- With edge protection: Yes
- With sliding handle: Yes
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Wheel diameter: 140/100 mm
- Material of worktop: Plastic
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 820

							Cabinet colour	Light grey RAL 7035		Light grey RAL 7035	
							Colour of front	Gentian blue RAL 5010		Anthracite grey RAL 7016	
Number of drawers (PCS)	Drawer front height	Drawer width (inner dimension) (mm)	Drawer depth (inner dimension) (mm)	Load-carrying capacity per drawer (kg)	Height (mm)	Width (mm)	Depth (mm)	**50278...** Ident. No.		**50278...** Ident. No.	
5	2 x 65 mm | 2 x 140 mm | 1 x 215 mm	475	345	25	925	645	425	**800**	○+	**820**	○+

Prod. Gr. 5BA

HAZET Assistant tool trolley model 160 ST

Width 590 mm, with reversible columns and lowerable boxes

Execution:
- Comprising table top, 2 intermediate boxes, lower box
- Intermediate boxes with 2 sheet metal partitions each
- The intermediate boxes can be lowered using the fold-down columns, total lowered height 435 mm
- 4 ball-bearing rollers, 2 of which can be steered and locked

Advantage:
- Particularly easy to use, lockable
- For versatile use as a tool trolley at work and as a portable tool case
- The columns can be folded using a special hinge and then used as carrying handles
- Table top and intermediate boxes can be pulled up to the table top using 2 finger holes on the side

Technical data:
- Pullout type
- With single pull-out safety brake
- Height: 950 mm
- With single-locking drawers
- Width: 590 mm
- With SOFT-CLOSE closing function: No
- Depth: 345 mm
- Number of drawers: 0 PCS
- Central locking: No
- Lock type: Without lock
- Punched-hole, sidewall: No
- Punched-hole
- With edge protection: No
- With sliding handle: No
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Material of worktop: Plastic
- Material: Sheet steel
- Surface: Powder-coated

Model 160 ST

Model				160 ST
Number of drawers (PCS)				0
Height (mm)				950
Width (mm)				590
Depth (mm)				345
	Cabinet colour	Colour of front		
50273...	Blue	Blue	Ident. No.	**005** ●+

Prod. Gr. 506

Tool trolley, HAZET Assistant model 166 C

Width 725 mm, with reversible columns and lowerable boxes

Execution:
- Comprising table top, 2 intermediate boxes, lower box
- Table top made of plastic with integrated beech-wood panel
- Intermediate boxes with surrounding rubber profiles, including 2 sheet metal partitions for subdividing the boxes
- Wheels with dirt protection and thread guards
- The intermediate boxes can be lowered using the fold-down columns, total lowered height 647 mm
- Locked with a padlock, included in scope of delivery

Advantage:
- The columns can be folded using a special hinge and then used as carrying handles
- For versatile use as a tool trolley at work and as a portable tool case
- Table top and intermediate trays can be raised

Technical data:
- Pullout type
- With single pull-out safety brake
- Height: 1102 mm
- With single-locking drawers: No
- Width: 725 mm
- With SOFT-CLOSE closing function: No
- Depth: 398 mm
- Number of drawers: 0 PCS
- Central locking: No
- Lock type: Padlock
- Punched-hole, sidewall: No
- Punched-hole
- With edge protection: Yes
- With sliding handle: No
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Wheel diameter: 125/150 mm
- Material of worktop: Plastic/wood
- Material: Sheet steel
- Surface: Powder-coated

Model 166 C

Model				166 C
Number of drawers (PCS)				0
Height (mm)				1102
Width (mm)				725
Depth (mm)				398
	Cabinet colour	Colour of front		
50273...	Blue	Blue	Ident. No.	025 ●

Prod. Gr. 506

Tool trolley, model 2004

With fully extending drawers

Execution:
- Working platform made of ABS, with 3 shaped compartments for small parts and a raised wide edge, oil and acid-resistant
- Sturdy ergonomic steering handle for self-assembly
- All-round collision protection bumper with heel protection
- Lockable side storage space with 4 removable drawers for small parts, lockable via the central drawer locking system with a cylinder lock
- Load capacity of 60 kg with a drawer front height of 207 mm (evenly distributed load)
- The basic equipment includes 10 or 15 longitudinal and 2 or 3 cross-partitions, 4 removable drawers for small parts and 2 spacer boxes, 1500 ED-70K
- **Ident. No. 040:**
  - heavy-duty chassis on rollers, with 2 fixed castors, diameter 200 mm and steering rollers, diameter 125 mm, with complete stop
  - storage compartment on the access side with perforated metal plate wall, 10 x 10 mm, for affixing accessories and tools
- **Ident. No. 045:**
  - Heavy-duty chassis on rollers, with 2 fixed wheels, diameter 200 mm and guide rollers, diameter 125 mm, 1 with complete stop
  - Storage compartment on the access side with perforated metal plate wall 9 x 33 mm for affixing accessories and tools

Advantage:
- Stable, robust tool trolley with optimum ease of use (e.g. one-handed drawer opening)
- Safety lock ensures precise operation of drawer stopping mechanism when moving

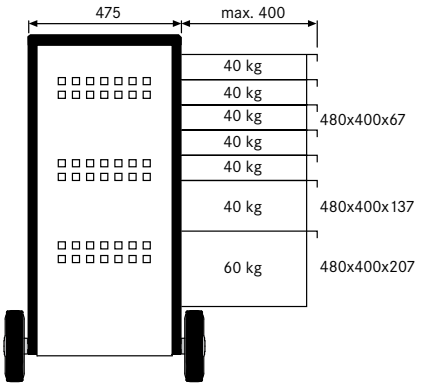
Notes:

To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 478 mm, depth 390 mm.

Technical data:
- Pullout type: Full extension
- With single pull-out safety brake: No
- Height: 985 mm
- With single-locking drawers: Yes
- Width: 775 mm
- With SOFT-CLOSE closing function: No
- Depth: 475 mm
- Load-carrying capacity: 500 kg
- Central locking: Yes
- Lock type: Cylinder lock
- Punched-hole, sidewall: Yes
- With edge protection: Yes
- With sliding handle: Yes
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Wheel diameter: 200/125 mm
- Material of worktop: Plastic
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 040

Ident. No. 045



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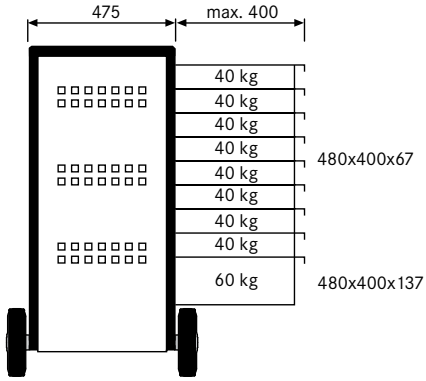

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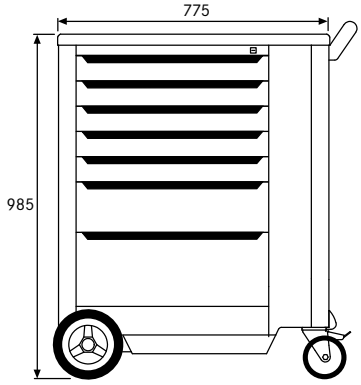

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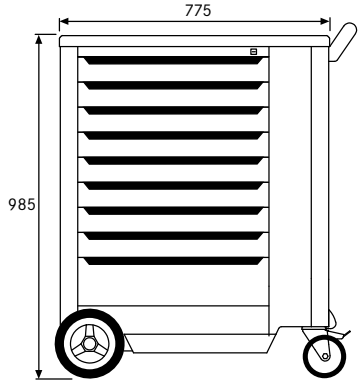


Ident. No. 045

										Cabinet colour	Traffic blue RAL 5017	
										Colour of front	Traffic blue RAL 5017	
Model	Number of drawers (PCS)	Drawer front height	Drawer width (inner dimension) (mm)	Drawer depth (inner dimension) (mm)	Load-carrying capacity per drawer (kg)	Height (mm)	Width (mm)	Depth (mm)	Number of drawers (PCS)	Punched-hole	**50278...** Ident. No.	
2004 0511	7	5 x 67 mm | 1 x 137 mm | 1 x 207 mm	480	400	40	985	775	475	7	10 x 10 mm	**040**	○+
2004 0810	9	8 x 67 mm | 1 x 137 mm	480	400	40	985	775	475	9	9 x 9 mm	**045**	○+

Prod. Gr. 530

GEDORE Top-mounted tool box, model 2430

Width 775 mm, with 3 fully extending drawers

Application:
As an attachment for tool trolley model 2002, 2002 SF, 2003, 2004 and 2005.

Execution:
- Cover made of ABS plastic
- Central locking with cylinder lock, incl. 2 keys

Delivery:
Incl. 6 longitudinal and 2 cross-partitions

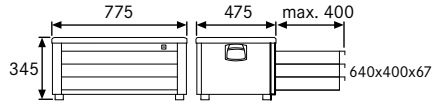
Notes:
To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 633 mm, depth 390 mm.

Technical data:
- Depth: 475 mm
- Width: 775 mm
- Height: 345 mm
- Material: Sheet steel

50278...	Ident. No.	**115** ○+

Prod. Gr. 530

Accessories for		**50278 115**
50278... Wooden panel For GEDORE tool trolley, model 2004/2005	Ident. No.	**200** ○



ATORN Hard foam inserts, equipped with high-quality ATORN tools

Width 293 mm, depth 587 mm, for HK drawer cabinets System 700

Application:
For flexible and modular equipping of drawers from the HK drawer cabinet system 700 S and 700 B.

Execution:
- The PE foam is lightweight, resistant, durable, odour-neutral and even food safe
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600 mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600 mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600 mm
- For flexible and modular drawer configuration in HK drawer cabinet system 700 S and 700 B.

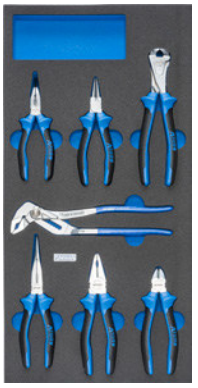
- **Ident. No. 701–705:**
  - Two-tone polyethylene (PE) foam inserts equipped with tool assortments
  - Closed-cell foam is resistant to most oils and chemicals
- **Ident. No. 900:**
  - two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
  - resistant against most oils and chemicals due to closed cells

Advantage:
- Clearly arranged, organised and protected storage of tools in the drawers
- Accurately fitting cut-outs in contrasting blue make it easy to spot when tools are missing and help to prevent loss of tools
- Expensive tools can be stored securely and safely in the insert

Technical data:
- Depth: 587 mm
- Height: 30 mm
- Length: 587 mm
- Width: 293 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Blue

Ident. No. 701

Ident. No. 702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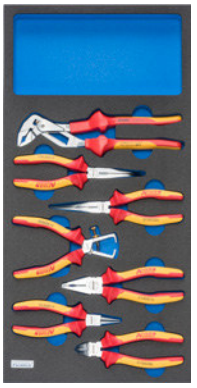
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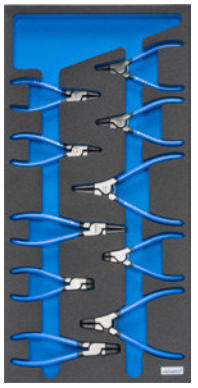

Ident. No. 705

Ident. No. 900

Two inserts fit into one drawer for System 700 S and three inserts for System 700 B

Suitable for drawer	Composition of set	50537... Ident. No.	
60 mm	1 each of ATORN slotted screwdriver 5.5 x 100/6.5 x 125/8.0 x 150 mm, 1 each of ATORN Phillips screwdriver PH 1/PH 2/PZ 1/PZ 2, 1 each of ATORN screwdriver T 6/T 7/T 8/T 9/T 10/T 15/T 20/T 25/T 27/T 30	701	●
60 mm	1 each of ATORN slotted screwdriver VDE 2.5 x 75/3.5 x 100/4 x 100/5.5 x 125, 1 each of ATORN Phillips screwdriver VDE PH 0/PH 1/PH 2/PZ 0/PZ 1/PZ 2, ATORN wire-stripping tool, voltage tester 3x0.8 mm	702	○
60 mm	1 each of ATORN round-nose pliers 160 mm, ATORN tripe pliers 160 mm, ATORN side cutters 165 mm, ATORN combination pliers 180 mm, ATORN snipe nose pliers 200 mm, ATORN end cutting nippers 200 mm, ATORN water pump pliers VDE 250 mm	703	●
60 mm	1 each of ATORN round-nose pliers VDE 160 mm, ATORN snipe nose pliers VDE 200 mm straight and curved, ATORN combination pliers VDE 180 mm, ATORN side cutters VDE 160 mm, ATORN water pump pliers VDE 250 mm, ATORN wire stripping pliers VDE 160 mm	704	●
60 mm	1 each of ATORN circlip pliers J0/J1/J2/J11/J21/A0/A1/A2/A11/A21	705	●
90 mm	1 each of ATORN combination spanner sizes 6/7/8/9/10/11/12/13/14/15/16/17/18/19/20/21/22/24/27/30 mm	900	●

Prod. Gr. 547

Hard foam inserts, equipped with high-quality ATORN tools

Width 293 mm, depth 587 mm, for HK drawer cabinets System 700

Application:
For flexible and modular equipping of drawers from the HK drawer cabinet system 700 S and 700 B.

Execution:
- Two-tone polyethylene (PE) foam inserts equipped with tool assortments
- Closed-cell foam is resistant to most oils and chemicals
- The PE foam is lightweight, resistant, durable, odour-neutral and even food safe
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600 mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600 mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600 mm
- For flexible and modular drawer configuration in HK drawer cabinet system 700 S and 700 B.

Advantage:
- Clearly arranged, organised and protected storage of tools in the drawers
- Accurately fitting cut-outs in contrasting blue make it easy to spot when tools are missing and help to prevent loss of tools
- Expensive tools can be stored securely and safely in the insert

Technical data:
- Depth: 587 mm
- Height: 30 mm
- Length: 587 mm
- Width: 293 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Blue
- Suitable for drawer: 60 mm

Ident. No. 706

Ident. No. 711

Two inserts fit into one drawer for System 700 S and three inserts for System 700 B

Composition of set	50537... Ident. No.	
ORION key files 100 mm cut 2, 6 pieces, DICK files 200 mm cut 2, 5 pieces, ORION file brush 115 x 40 mm	706	●
ATORN 1/2” and 1/4” socket wrench set, 35 pieces, ATORN bit box, 32 pieces	711	●

Prod. Gr. 547

CLIP-O-FLEX® Wheeled workbenches with CLIP-O-FLEX hook-on system

Height 958 mm, including 12 or 14 CLIP-O-FLEX trays

Application:
Thanks to the flexible and modular CLIP-O-FLEX system, the wheeled workbench can be optimally designed and adapted to the individual work sequences in production, assembly, development, training and further education. CLIP-O-FLEX sets your work/storage area or your organisation system with one clip and at the same time gives the highest level of horizontal and vertical flexibility.

Execution:
- Solidly welded steel sheet construction
- Workbench panel with CLIP-O-FLEX support rails installed on the left, right and at the rear
- **Ident. No. 140–143:** With fixed support brackets on the inside for CLIP-O-FLEX trays
- **Ident. No. 144–147:** With convenient pull-out system for CLIP-O-FLEX trays

Advantage:
- Simply remove the trays from the cabinet and hang on the hook-in rails at the side
- Flexible hook-on system with only one hooking movement
- Ergonomic workplace design thanks to different inclines and can be relocated horizontally
- Quick access to work equipment, very clear overview
- Rapid conversion and replacement, highest possible level of mobility, less walking required, optimum use of space

Notes:
The spacing between the tray base and CLIP-O-FLEX mounting profiles is max. 52 mm. Please consider the amount of tool protrusion (max. 22 mm) when using trays equipped with ATORN tool inlays (height 30 mm). Trays of tools with greater protrusion must be stored in the first storage level.

Technical data:
- Pullout type: Full extension
- With single pull-out safety brake: No
- Load-carrying capacity: 550 kg
- Dynamic load-carrying capacity: 225 kg
- Central locking: Yes
- Lock type: Cylinder lock
- With sliding handle: Yes
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Wheel diameter: 100 mm
- Material of worktop: Multiplex beech
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 140–141, 144–145

Ident. No. 142–143, 146–147

Incl. CLIP-O-FLEX trays

The tray can be fixed into the rail with one hooking movement and detached again

Version with support angles

Version with convenient pull-out system

Product video: YouTube ID: ub1ReeYvGwk

					Cabinet colour	White aluminium RAL 9006		Optional	
					Colour of front	Jet black RAL 9005		Optional	
Number of drawers (PCS)	Drawer front height	Drawer width (inner dimension) (mm)	Drawer depth (inner dimension) (mm)	Load-carrying capacity per drawer (kg)	Number of drawers (PCS)	50237... Ident. No.		50237... Ident. No.	
4	4 x 90 mm	365	294	35	4	144	○+	145	○+
2	2 x 90 mm	365	294	35	2	146	○+	147	○+

Prod. Gr. 586
For colours available without a surcharge, see page 1759

ATORN Hard foam inserts, equipped with high-quality ATORN tools

Width 490 mm, depth 265 mm for ANKE V series assembly workbenches

Application:
For flexible and modular drawer configuration in the ANKE series V workbenches.

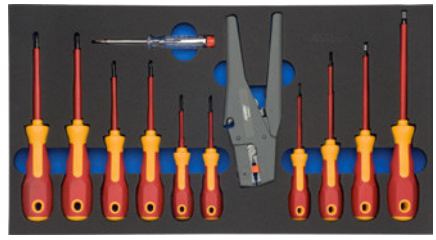
Execution:
- For flexible and modular drawer configuration in the ANKE series V workbenches.
- **Ident. No. 406:**
  - two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
  - resistant against most oils and chemicals due to closed cells
  - The PE foam is lightweight, resistant, durable, odour-neutral and even food safe
  - A tool insert fills half of the drawer space with an inner dimension of 500 x 540 mm
  - Two tool inserts fill the entire drawer space with an inner dimension of 500 x 540 mm
- **Ident. No. 420–440:**
  - Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
  - Closed cells provide resistance against most oils and chemicals
  - The PE foam is lightweight, resistant, durable, odour-neutral and safe for foodstuffs
  - One tool insert fills half of the useful area of a drawer with internal dimensions 500 x 540 mm
  - Two tool inserts fill the entire useful area of a drawer with internal dimensions 500 x 540 mm

Advantage:
- **Ident. No. 406:**
  - Clearly arranged, organised and protected storage of tools in the drawers
  - Accurately fitting cut-outs in contrasting blue make it easy to spot when tools are missing and help to prevent loss of tools
  - Expensive tools can be stored securely and safely in the insert
- **Ident. No. 420–440:**
  - For clear order and protected storage of tools in the drawers
  - Precisely dimensioned cut-outs and a contrast colour (blue) means that missing tools can be spotted at a glance, avoiding any loss of tools
  - Expensive tools will be kept safe and protected in the insert

Technical data:
- Depth: 265 mm
- Height: 30 mm
- Length: 265 mm
- Width: 490 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Blue

Ident. No. 406

Ident. No. 420



Ident. No. 425

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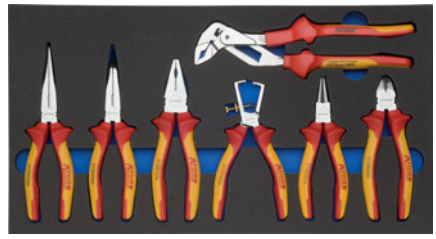
Ident. No. 435



Ident. No. 440

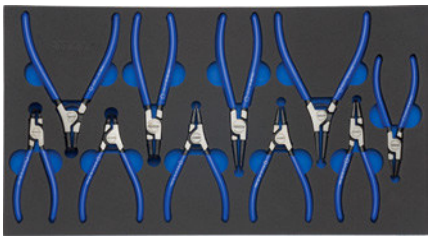
Suitable for drawer	Composition of set	50537... Ident. No.	
90 mm	1 ATORN combination spanner width a.f. 6/7/8/9/10/11/12/13/14/15/16/17/18/19/20/21/22/24 mm	406	●
60 mm	ATORN hexagonal angle screwdriver 9 pieces, 1 ATORN slotted screwdriver 5.5 x 100/6.5 x 125/8 x 150 mm, 1 ATORN Phillips screwdriver PH 1/PH 2/PH 3/PZ 1/PZ 2	420	●
60 mm	1 each of ATORN slotted screwdriver VDE 2.5 x 75/3.5 x 100/4 x 100/5.5 x 125, 1 each of ATORN Phillips screwdriver VDE PH 0/PH 1/PH 2/PZ 0/PZ 1/PZ 2, ATORN wire-stripping tool, voltage tester 3 x 0.8 mm	425	●
60 mm	1 ATORN TX screwdriver T 6/T 7/T 8/T 9/T 10/T 15/T 20/T 25/T 27/T 30/T 40, ATORN angled screwdriver 8 pieces T 9-T 40 with ball head	430	●
60 mm	1 ATORN round-nose pliers 160 mm ATORN triple pliers 160 mm, ATORN side-cutters 165 mm, ATORN combination pliers 180 mm, ATORN snipe nose pliers 200 mm, ATORN end cutting nippers 200 mm, ATORN water pump pliers VDE 250 mm	435	●
60 mm	1 ATORN round-nose pliers VDE 160 mm, ATORN snipe nose pliers VDE 200 mm straight and bent, ATORN combination pliers VDE 180 mm, ATORN side cutters VDE 160 mm, ATORN water pump pliers VDE 250 mm, ATORN wire stripping pliers VDE 160 mm	440	●

Prod. Gr. 547

ATORN Hard foam inserts, equipped with high-quality ATORN tools

Width 490 mm, depth 265 mm for ANKE V series assembly workbenches

Technical data:
- Depth: 265 mm
- Height: 30 mm
- Length: 265 mm
- Width: 490 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Blue
- Suitable for drawer: 60 mm



Ident. No. 445

Ident. No. 450

Ident. No. 470

Ident. No. 490

Composition of set	50537... Ident. No.	
1 ATORN circlip pliers J0/J1/J2/J11/J21/A0/A1/A2/A11/A21	445	●
ORION key files 100 mm cut 2, 6 pieces, DICK files 200 mm cut 2, 5 pieces, ORION file brush 115 x 40 mm	450	●
1 ATORN pocket tape measure 3 m, ATORN triangular hollow-ground scraper 150 mm, ORION knife 165 mm, ORION all-purpose shears 180 mm, ORION saw bow 255 mm, saw blades 12 pieces, TICOM metal marker white, telescopic mirror Ø 50 mm, telescopic pick-up magnet retention force 3 kg, LED hand-held lamp Turbo (without batteries)	470	●
ATORN socket wrench set 1/2" and 1/4", 35 pieces, ATORN Bitbox 32 pieces	490	●+

Prod. Gr. 547

ATORN Hard foam inserts equipped with high-quality ATORN tools

Width 260 mm, depth 345 mm, for ATORN tool trolley

Application:
For flexible drawer configuration in ATORN tool trolleys

Execution:
- **Ident. No. 511:**
  - Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
  - Closed cells provide resistance against most oils and chemicals
  - The PE foam is lightweight, resistant, durable, odour-neutral and safe for foodstuffs
  - One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348 mm
  - Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348 mm
  - For flexible drawer configuration in ATORN tool trolleys.
- **Ident. No. 905:** For the flexible drawer configuration in ATORN tool trolley no. 50278 560-595.
- **Ident. No. 905–912:**
  - two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
  - resistant against most oils and chemicals due to closed cells
  - The PE foam is lightweight, resistant, durable, odour-neutral and even food safe
  - one tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348 mm
  - two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348 mm
- **Ident. No. 907–912:** Suitable for tool trolley no. 50278 560-595.

Advantage:
- **Ident. No. 511:**
  - For clear order and protected storage of tools in the drawers
  - Precisely dimensioned cut-outs and a contrast colour (blue) means that missing tools can be spotted at a glance, avoiding any loss of tools
  - Expensive tools will be kept safe and protected in the insert
- **Ident. No. 905–912:**
  - Clearly arranged, organised and protected storage of tools in the drawers
  - Accurately fitting cut-outs in contrasting blue make it easy to spot when tools are missing and help to prevent loss of tools
  - Expensive tools can be stored securely and safely in the insert

Technical data:
- Depth: 345 mm
- Height: 30 mm
- Length: 345 mm
- Width: 260 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Blue
- Suitable for drawer: 60 mm

Ident. No. 511

Ident. No. 905

Ident. No. 907

Ident. No. 909

Ident. No. 912

Composition of set	50537... Ident. No.	
1 ATORN double ring wrench, size 6 x 7/8 x 9/10 x 11/12 x 13/14 x 15/16 x 17/18 x 19/20 x 22 mm	905	●
1 ATORN double open-end wrench, size 6 x 7/8 x 9/10 x 11/12 x 13/14 x 15/16 x 17/18 x 19/20 x 22/21 x 23/24 x 27/30 x 32 mm	907	●
1 ATORN combination spanner, size 6/7/8/9/10/11/12/13/14/15/16/17/18/19/21/22/24 mm	909	●
1 ATORN ratchet combination spanner width a.f. 8/9/10/11/12/13/14/15/16/17/18/19/21/22 mm, 1 ATORN adapter for 1/4" bits, for 1/4", 3/8", 1/2" square head	511	●
1 ATORN combination spanner, depressed centre design, for each size 6/7/8/9/10/11/12/13/14/15/16/17/18/19/21/22/24 mm	912	●

Prod. Gr. 547

ATORN Hard foam inserts equipped with high-quality ATORN tools

Width 260 mm, depth 345 mm, for ATORN tool trolley

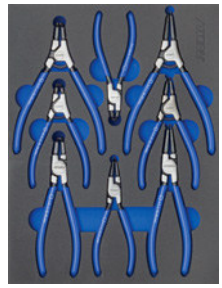
Technical data:
- Depth: 345 mm
- Height: 30 mm
- Length: 345 mm
- Width: 260 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Blue
- Suitable for drawer: 60 mm

Ident. No. 514

Ident. No. 515

Ident. No. 516

Ident. No. 517



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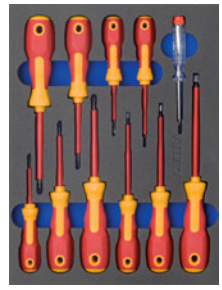


Ident. No. 519

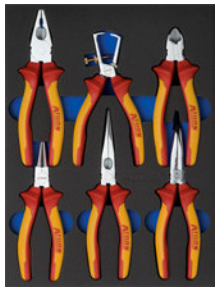
Composition of set	50537... Ident. No.	
1 ATORN hexagon head screwdriver width a.f. 2/2,5/3/4/5/6/8/10, ATORN angled screwdriver 13 pieces T5-T50 long design	514	●
ATORN hexagonal Allen key 9 pieces, 1 slotted screwdriver 5.5 x 100/6.5 x 125/8 x 150 mm, 1 ATORN Phillips screwdriver PH 1/PH 2/PH 3/PZ 1/PZ 2	515	●
1 ATORN TX screwdriver in each size T 6/T 7/T 8/T 9/T 10/T 15/T 20/T 25/T 27/T 30/T 40	516	●
1 ATORN flat-round pliers 200 mm, ATORN combination pliers 180 mm, ATORN water pump pliers 250 mm, ATORN side cutters 165 mm, ATORN round-nose pliers 160 mm	517	●
1 ATORN circlip pliers J1/J2/J11/J21/A1/A2/A11/A21	518	●
1 each of ATORN slotted screwdriver VDE 2.5/3.5/4/5.5, 1 each of ATORN Phillips screwdriver VDE PH 0/PH 1/PH 2/PZ 0/PZ 1/PZ 2, voltage tester 3 x 0.8 mm	519	●

Prod. Gr. 547

ATORN Hard foam inserts equipped with high-quality ATORN tools

Width 260 mm, depth 345 mm, for ATORN tool trolley

Technical data:
- Depth: 345 mm
- Height: 30 mm
- Length: 345 mm
- Width: 260 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Blue
- Suitable for drawer: 60 mm



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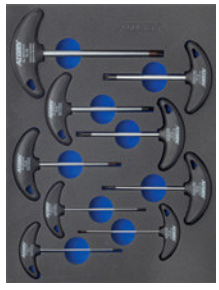


Ident. No. 523

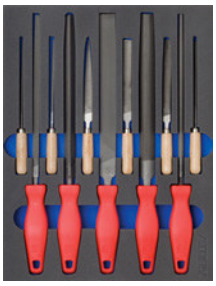
Composition of set	50537... Ident. No.	
1 ATORN round-nose pliers VDE 160 mm, ATORN snipe nose pliers VDE 200 mm straight and bent, ATORN combination pliers VDE 180 mm, ATORN side cutters VDE 160 mm, ATORN wire stripping pliers VDE 160 mm	521	●
1 ATORN hexagonal screwdriver with t-handle width a.f. 2/2,5/3/4/5/6/8/10 mm	522	●
1 ATORN TX screwdriver with t-handle in each size T 8/T 10/T 15/T 20/T 25/T 27/T 30/T 40/T 45	523	●

Prod. Gr. 547

ATORN Hard foam inserts equipped with high-quality ATORN tools

Width 260 mm, depth 345 mm, for ATORN tool trolley

Technical data:
- Depth: 345 mm
- Height: 30 mm
- Length: 345 mm
- Width: 260 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Blue
- Suitable for drawer: 60 mm



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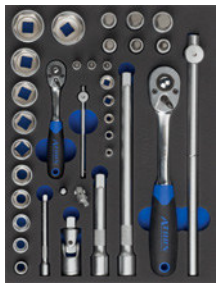


Ident. No. 530

Ident. No. 531

Ident. No. 532

Ident. No. 534

Composition of set	50537... Ident. No.	
ORION key files 100 mm cut 2, 6 pieces, DICK files 200 mm cut 2, 5 pieces	529	●
ATORN socket wrench set 1/4" and 1/2", 35 pieces equipped in the same way as 101 (but without box)	530	●
ATORN socket wrench set 3/8", 49 pieces	531	●
ATORN socket wrench set 1/4", 45 pieces, ATORN bitbox 32 pieces	532	●
ATORN socket wrench set 1/2", 35 pieces	534	●

Prod. Gr. 547

ATORN Hard foam inserts equipped with high-quality ATORN tools

Width 260 mm, depth 345 mm, for ATORN tool trolley

Technical data:
- Depth: 345 mm
- Height: 30 mm
- Length: 345 mm
- Width: 260 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Blue
- Suitable for drawer: 60 mm

Ident. No. 550

Ident. No. 570

Ident. No. 580

Composition of set	50537... Ident. No.	
1 ERDI ideal scissors 260 mm, ERDI ideal scissors straight 180 mm, weaver's scissors straight length 110 mm, all-purpose shears 250 mm, revolving punch pliers length 220 mm, ATORN utility knife	550	●
1 ATORN torque screwdriver 0.6-1.5/1.5-3/3-5.4 Nm, 1 ATORN socket wrench 1/4" 4/4.5/5/5.5/6/7/8/9/10/11/12/13/14, ATORN bit holder for blades 170 mm, 1/4" bit holder, ATORN bit adapter for cordless drill 1/4", ATORN Bitbox Collector Universal 61 pieces	570	●+
METABO cordless drill screwdriver PowerMaxx BS Basic 10.8 V/1.5 Ah incl. 2 x batteries (10.8 V/1.5 Ah), 1 x charger, ATORN Bitbox 32 pieces	580	●

50537 550 = Prod. Gr. 547
50537 570 = Prod. Gr. 547
50537 580 = Prod. Gr. 745

ORION® Hard foam inserts equipped with ORION tools

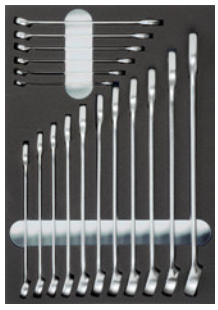
Width 232 mm, depth 332 mm, for HK tool trolley

Application:
for the flexible and modular equipping of drawers in the HK tool trolley no. 50278 800.

Execution:
- two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- resistant against most oils and chemicals due to closed cells
- the PE foam is lightweight, resistant, durable, odour-neutral and even food safe
- one tool insert fills half of the useful area of a drawer with internal dimensions 475 x 345 mm
- two tool inserts fill the entire useful area of a drawer with internal dimensions 475 x 345 mm

Technical data:
- Depth: 332 mm
- Height: 31 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Grey
- Suitable for drawer: 65 mm

Ident. No. 849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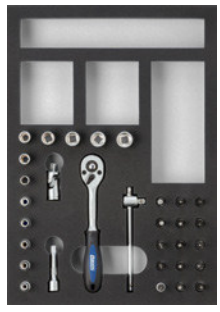

Ident. No. 875

Ident. No. 878

Ident. No. 885

Composition of set	50537... Ident. No.	
1 ORION Phillips screwdriver 8 pieces PH 0/PH 1/PH 2/PH 3/PZ 0/PZ 1/PZ 2/PZ 3	849	●
1 ORION combination spanner 17 pieces width a.f. 6/7/8/9/10/11/12/13/14/15/16/17/18/19/20/22/24 mm	858	●
ORION socket wrench set 3/8 inch 23 pcs	872	●
ORION socket wrench set 1/4 inch 31 pcs	875	●
ORION socket wrench set 1/2 inch 24 pcs	878	●
1 ORION vernier callipers 150 mm, ORION micrometer 0-25 mm, ORION spring divider 125 mm, ORION radius gauge R1-7 mm, ORION radius gauge R7.5-15 mm, ORION feeler gauge 13-sheet DIN 2275, ORION pocket tape measure 3 m, ORION spring steel strip ruler 300 mm	885	●

Prod. Gr. 547

Accessories for		50537 858	50537 872	50537 875	50537 878	50537 885
50278... Tool trolley with individual drawer pull-out locking 645 mm wide with fully extending drawers	Ident. No.	800 ○+	800 ○+	800 ○+	800 ○+	800 ○+

ORION® Hard foam insert equipped with tools, hammer, saw set

Width 467 mm, depth 332 mm, for HK tool trolley

Application:
for the flexible and modular equipping of drawers in the HK tool trolley no. 50278 800.

Execution:
- two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- resistant against most oils and chemicals due to closed cells
- the PE foam is lightweight, resistant, durable, odour-neutral and even food safe
- the tool insert fills the entire useful area of a drawer with internal dimensions 475 x 345 mm

Technical data:
- Composition of set: 1 ORION soft-face hammer 30 mm, ORION machinist's hammer 0.5 kg, ORION flat chisel 150 mm, ORION flat chisel 200 mm, ORION parting chisel 125 x 10 x 2 mm, ORION pin punch 3 mm, ORION pin punch 5 mm, ORION pin punch 8 mm, ORION centre punch 120 x 10 mm, ORION metal saw bow with blade, ATORN handsaw blades 10 pieces
- Depth: 332 mm
- Height: 31 mm
- Material: PE - Polyethylene
- Colour of top hard foam inlay: Black
- Colour of bottom hard foam inlay: Grey
- Suitable for drawer: 65 mm
- Width: 467 mm

50537...	Ident. No.	895 ●

Prod. Gr. 547

Accessories for		50537 895
50278... Tool trolley with individual drawer pull-out locking 645 mm wide with fully extending drawers	Ident. No.	800 ○+

ORION® Tool assortment

Files and saws, 11 pieces

Delivery:
1x flat file 300 mm, cut 1 / 1x flat file 300 mm, cut 3 / 1x triangular file 250 mm, cut 1 / 1x triangular file 250 mm, cut 3 / 1x round file 250 mm, cut 2 / 1x square file 250 mm, cut 2 / 1x half-round file 250 mm, cut 2 / 1x file brush / 1x saw bow 300 mm / 1x bi-metal saw blade / 1x chip brush

52561...	Ident. No.	010 ●

Prod. Gr. 6AF

Tool assortment

Hammers, chisels and pliers, 20 pieces

Delivery:
1x cross-peen hammer 300 g / 1x cross-peen hammer 500 g / 1x chisel/drift/centre punch set of 6 pieces / 1x parting chisel 150 mm / 1x pair of safety goggles / 1x slotted screwdriver 6.5 mm / 1x hand brush / 1x pair of ear defenders / 1x three-square scraper 150 mm / 1x utility knife with trapezoidal blade / 1x recoil-free soft-face hammer 40 mm / 1x diagonal cutters 165 mm with two-component handle cover / 1x water pump pliers 250 mm / 1x cross-head screwdriver PH 2

52561...	Ident. No.	020 ●

Prod. Gr. 593

ATORN Tool assortment

for electricians, 18 pieces

Delivery:
- 1 x VDE screwdrivers, 6 pieces, slotted/PH
- 1 x voltage testing screwdriver
- 1 x switch cabinet key
- 1 x VDE combination pliers 180 mm
- 1 x VDE snipe nose pliers 200 mm, angled
- 1 x VDE side cutters 160 mm
- 1 x automatic wire stripping pliers
- 1 x electrician's knife
- 1 crimping pliers 0.25–16 mm²
- 1 x BENNING DUTEST continuity tester
- 1 x LED pen light with batteries
- 1 x ERSA soldering iron Multitip C 25
- 1 x tin solder 250 g

52561...	Ident. No.	030 ●

Prod. Gr. 5HZ

Tool assortment

for industrial electronic technicians, 92 pieces

Delivery:
1x cross-peen hammer 0.4 kg / 1x plastic hammer D 32 / 1x half-round file 200 mm, cut 2 / 1x file handle made of compact and hard wood, 110 mm long / 6x key files 100 mm, cut 2 / 1x mini universal saw bow 240 mm / 9x combination wrenches 8-19 mm / 6x hex screwdrivers 2-6 mm, in plastic pouch / 1x socket set 1/4 inch, 42 pieces / 7x VDE slotted screwdrivers / 1x chrome-plated VDE Langbeck flat-nose pliers 160 mm / 1x chrome-plated, bent VDE snipe-nose pliers 200 mm, 45° / 1x chrome-plated VDE combination pliers 180 mm / 1x VDE diagonal cutters 140 mm / 1x all-purpose shears 190 mm / 1x crimping pliers for insulated connections 210 mm / 1x metal universal key for switch cabinet / 1x comb. shoulder and contact screw wrench / 1x universal cable knife / 1x wire stripper / 1x chrome-plated VDE round-nose pliers 160 mm / 1x chrome-plated VDE diagonal cutters 160 mm / 1x water pump pliers 250 mm / 1x cable and assembly knife / 1x automatic wire-stripping pliers / 1x voltage tester / 1x wire-stripping pliers 160 mm / 1x wooden folding rule 2 m

52560...	Ident. No.	010 ●

Prod. Gr. 580

Tool assortment

for industrial mechanics, 78 pieces

Delivery:
1x spirit level 500 mm / 1x cross-peen hammer 0.5 kg / 1x plastic hammer D 40 / 6x chisels, in metal case / 1x blind rivet pliers, NTS model, in assortment / 1x scriber with steel tip 165 mm / 1x flat file 200 mm, cut 2 / 1x round file 200 mm, cut 2 / 1x half-round file 200 mm, cut 2 / 1x triangular file 200 mm, cut 2 / 4x file handles made of compact and hard wood, 110 mm / 1x chrome-van. three-square scraper 150 mm / 1x metal saw bow for saw blade 300 mm / 10x HSS-Bi.Flex. hand saw blades 300 mm, 24 teeth / 12x combination wrenches AF 10-32 mm / 8x hex screwdrivers 2-10 mm, in plastic pouch / 6x screwdrivers in box / 1x water pump pliers 250 mm / 1x pipe wrench 1 1/2 inch, 425 mm / 1x plain heavy-duty diagonal cutters 160 mm / 1x plain combination pliers 180 mm / 1x chrome-plated triple pliers 160 mm / 1x pliers for circlips, straight 19-60 mm diameter type J 2 / 1x pliers for circlips, straight 19-60 mm diameter type A 2 / 1x stainless steel punch snips, left, 250 mm / 1x stainless steel punch snips, right, 250 mm / 1x square socket set 1/2 inch, in metal case, 13 pieces / 1x prism-jaw locking pliers 250 mm / 1x pocket tape rule 3 m / 1x precision pocket vernier callipers 150 mm / 1x pair of universal safety goggles / 1x safety knife with three trapezoidal blades

52560...	Ident. No.	020 ●

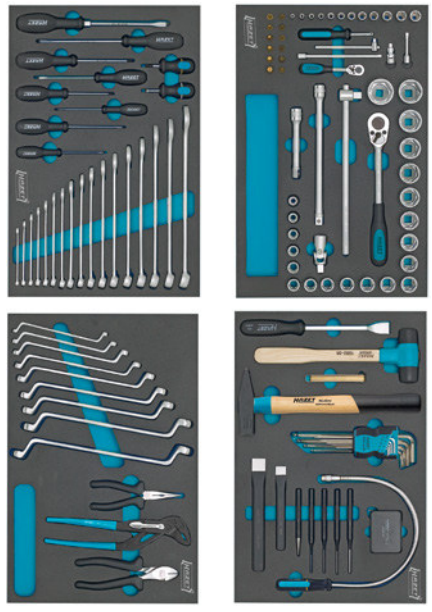
Prod. Gr. 580

Tool assortment, universal, 117 pieces

In 4 soft foam inlays

Execution:
- Socket wrench insert 519 x 342 mm with 1/4 inch and 1/2 inch sockets
- Combination wrench/screwdriver insert 519 x 342 mm
- Double box-end wrench/pliers insert 519 x 342 mm
- Universal insert 519 x 342 mm

Delivery:
Sockets 1/4 inch, 4 -14 mm, hexagon socket, slotted, cross-head, ratchet, push-fit handle, extensions, T-handle / sockets 1/2 inch, 10-34 mm, ratchet, extensions, T-handle, cardan joint / combination wrench AF 6-24 mm, slotted and cross-head screwdrivers long and short / double box-end wrench AF 6x7-21x23 mm, water pump pliers, heavy-duty diagonal cutters, snipe-nose pliers / chisel, pin punch, cross-peen hammer, soft-face hammer, scraper, pick-up magnet / L-shaped key set, feeler gauge, tape rule



50276...	Ident. No.	032 ●

Prod. Gr. 506

Roller container

With 2 shelves and 3 drawers

Execution:
- Welded sheet steel structure
- Shelves/deposit trays equipped with a ribbed rubber mat
- Tilt-proof due to built-in individual drawer pull-out lock
- 4 wheels with rubber tyres
- For suitable insert materials for drawers, see from no. 50485 060-265 and no. 50537 610-695
- Other equipment options available at extra cost: SOFT-CLOSE for drawers, see no. 50392 005, ELECTRONIC CODE combination lock, see no. 50392 010

Advantage:
- The roller container can be pushed under workbenches with a clearance height of 800 mm

Notes:
To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 435 mm, depth 585 mm.

Technical data:
- With single pull-out safety brake: Yes
- Central locking: Yes
- Lock type: DOM® locking system
- With sliding handle: Yes
- Load-carrying capacity: 400 kg
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Number of wheel adjusters: 2 PCS
- Material of wheel: Solid rubber
- Wheel diameter: 100 mm
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 211, 213

Number of drawers (PCS)				3	3
Pullout type				Single extension slide	Full extension
Drawer front height				1 x 90 mm | 2 x 120 mm	1 x 90 mm | 2 x 120 mm
Drawer width (inner dimension) (mm)				450	450
Drawer depth (inner dimension) (mm)				600	600
Load-carrying capacity per drawer (kg)				100	70
Number of loading surfaces (PCS)				2	2
Height (mm)				790	790
Width (mm)				570	570
Depth (mm)				680	680
	Cabinet colour	Colour of front			
50284...	Light grey RAL 7035	Gentian blue RAL 5010	Ident. No.	210 ○+	212 ○+
50284...	Light grey RAL 7035	Anthracite grey RAL 7016	Ident. No.	211 ○+	213 ○+

Prod. Gr. 501

For colours available without a surcharge, see page 1759

Roller container

With 1 shelf and drawers

Execution:
- Welded sheet steel structure
- Deposit tray equipped with a ribbed rubber mat
- Tilt-proof due to built-in individual drawer pull-out lock
- 4 wheels with rubber tyres
- For suitable insert materials for drawers, see from no. 50485 060-265 and no. 50537 610-695
- Other equipment options available at extra cost: SOFT-CLOSE for drawers, see no. 50392 005, ELECTRONIC CODE combination lock, see no. 50392 010

Advantage:
- The roller container can be pushed under workbenches with a clearance height of 800 mm

Notes:
To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 435 mm, depth 585 mm.

Technical data:
- With single pull-out safety brake: Yes
- Central locking: Yes
- Lock type: DOM® locking system
- With sliding handle: Yes
- Load-carrying capacity: 400 kg
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Number of wheel adjusters: 2 PCS
- Material of wheel: Solid rubber
- Wheel diameter: 100 mm
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 221, 223

Ident. No. 231, 233

Number of drawers (PCS)				4	4	5	5
Pullout type				Single extension slide	Full extension	Single extension slide	Full extension
Drawer front height				1 x 60 mm | 1 x 120 mm | 2 x 180 mm	1 x 60 mm | 1 x 120 mm | 2 x 180 mm	1 x 60 mm | 1 x 90 mm | 2 x 120 mm | 1 x 150 mm	1 x 60 mm | 1 x 90 mm | 2 x 120 mm | 1 x 150 mm
Drawer width (inner dimension) (mm)				450	450	450	450
Drawer depth (inner dimension) (mm)				600	600	600	600
Load-carrying capacity per drawer (kg)				100	70	100	70
Number of loading surfaces (PCS)				1	1	1	1
Height (mm)				790	790	790	790
Width (mm)				570	570	570	570
Depth (mm)				680	680	680	680
	Cabinet colour	Colour of front					
50284...	Light grey RAL 7035	Gentian blue RAL 5010	Ident. No.	220 ○+	222 ○+	230 ○+	232 ○+
50284...	Light grey RAL 7035	Anthracite grey RAL 7016	Ident. No.	221 ○+	223 ○+	231 ○+	233 ○+

Prod. Gr. 501

For colours available without a surcharge, see page 1759

ATORN Parallel vice

Rear-opening, made of grey cast iron

Application:

For clamping all angular and round workpieces for manual processing.

Execution:

- High-quality grey cast iron with pearlitic microstructure
- Interchangeable and reversible jaws with smooth and serrated clamping surface
- Smooth-running spindle with trapezoidal thread
- Cast-on pipe clamping jaws
- Plain anvil face
- Painted similarly to RAL 5015

Advantage:

- Excellent clamping accuracy thanks to long, prismatic precision guide
- Spindle protected from dirt and damage by covering

Technical data:

- Jaws width: 100 mm
- Min./max. clamping width: 0-140 mm
- Clamp in depth: 75 mm
- Weight: 13 kg
- Colour: Blue
- Material: Grey cast iron

51028...	Ident. No.	001 ●

Prod. Gr. 5HA

Accessories for		51028 001
51028... Rotary base for ATORN vices, colour blue For bench mounting	Ident. No.	021 ●
51028... Steel jaw pairs 100, 125 and 150 mm	Ident. No.	041 ●

Mobile workbench

Working height 840 mm, with 4 drawers and 1 open compartment

Application:

The mobile workstation with versatile options for use.

Execution:

- Welded sheet steel construction equipped with one workbench top panel made of solid beechwood, 40 mm thick
- Suitable insert material for drawers, see from no. 50485 060-265 and from no. 50537 610-695
- Other equipment options available at extra cost: SOFT-CLOSE for drawers, see no. 50392 005, ELECTRONIC CODE combination lock, see no. 50392 010

Advantage:

- When you buy this product, you plant a tree and also receive a tree certificate!

Notes:

To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 435 mm, depth 585 mm.

Technical data:

- Number of drawers: 4 PCS
- Worktop height: 40 mm
- Worktop depth: 700 mm
- On castors: Yes
- Moving device, can be lowered: No
- With single pull-out safety brake: Yes
- With wheel lock: Yes
- Surface: Powder-coated
- Lock type: DOM® locking system
- Drawer front height: 1 x 60 mm \| 1 x 90 mm \| 1 x 150 mm \| 1 x 180 mm
- Load-carrying capacity: 820 kg
- Material: Sheet steel
- Material of worktop: Solid beech
- Material of wheel: Solid rubber
- Central locking: Yes

Ident. No. 211

Worktop width (mm)				1155	1155
Pullout type				Single extension slide	Full extension
Load-carrying capacity per drawer (kg)				100	70
	Colour of front	Cabinet colour			
50285...	Gentian blue RAL 5010	Light grey RAL 7035	Ident. No.	210 ○+	212 ○+
50285...	Anthracite grey RAL 7016	Light grey RAL 7035	Ident. No.	211 ○+	213 ○+

Prod. Gr. 501

For colours available without a surcharge, see page 1759

Mobile workbench

Working height 840 mm, with 4 drawers and 1 door

Application:
The mobile workstation with versatile options for use.

Execution:
- Welded sheet steel construction equipped with one workbench top panel made of solid beech-wood, 40 mm thick
- Suitable insert material for drawers, see from no. 50485 060-265 and from no. 50537 610-695
- Other equipment options available at extra cost: SOFT-CLOSE for drawers, see no. 50392 005, ELECTRONIC CODE combination lock, see no. 50392 010

Advantage:
- When you buy this product, you plant a tree and also receive a tree certificate!

Notes:
To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 435 mm, depth 585 mm.

Technical data:
- Number of drawers: 4 PCS
- Number of doors: 1 PCS
- Worktop height: 40 mm
- Worktop depth: 700 mm
- On castors: Yes
- Moving device, can be lowered: No
- With single pull-out safety brake: Yes
- With wheel lock: Yes
- Surface: Powder-coated
- Lock type: DOM® locking system
- Drawer front height: 1 x 60 mm | 1 x 90 mm | 1 x 150 mm | 1 x 180 mm
- Load-carrying capacity: 820 kg
- Material: Sheet steel
- Material of worktop: Solid beech
- Material of wheel: Solid rubber
- Central locking: Yes

Worktop width (mm)				1155	1155
Pullout type				Single extension slide	Full extension
Load-carrying capacity per drawer (kg)				100	70
	Colour of front	Cabinet colour			
50285...	Gentian blue RAL 5010	Light grey RAL 7035	Ident. No.	232 ○+	234 ○+
50286...	Anthracite grey RAL 7016	Light grey RAL 7035	Ident. No.	233 ○+	234 ○+

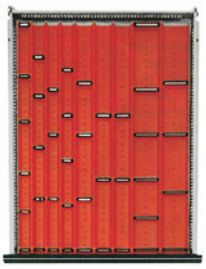
Prod. Gr. 501
For colours available without a surcharge, see page 1759

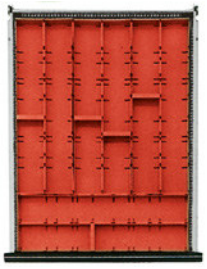
Assortment of fittings for drawers

For HK assembly trolley, roller container, Mobile workbench

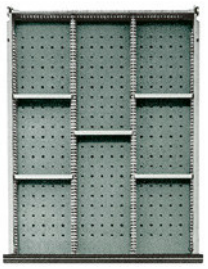
Application:
For customised fitting and partitioning of individual drawers.

Execution:
- Suitable for internal drawer dimensions: Width x depth 450 x 600 mm
- **Ident. No. 210:** Oil-resistant
- **Ident. No. 250–265:** with textured mat and boxes


Ident. No. 060
① Trough trays


Ident. No. 090
② Containers

Ident. No. 095–100
③ Spare part boxes


Ident. No. 110–130
④ Compartment dividers

Ident. No. 200
⑤ Non-slip mat

Ident. No. 210
⑥ Ribbed rubber mat

Ident. No. 250
⑦ AQURADO set with textured mat and 10 boxes, 24/48 mm high (without tools)

Ident. No. 260
⑧ AQURADO set with textured mat and 7 boxes, 48 mm high (without tools)

Ident. No. 265
⑩ AQURADO set with textured mat and 14 boxes, 24 mm high (without tools)

For drawer cabinet height (mm)				40	70	100
50485...		① Trough trays	Ident. No.	060 ○	-	-
50485...		② Containers	Ident. No.	090 ○	-	-
50485...		③ Spare part boxes	Ident. No.	095 ○	100 ○	-

For drawer cabinet height (mm)				40	70	100
HK	50485...	④ Compartment dividers	Ident. No.	110 ○	120 ○	130 ○
HK	50485...	⑤ Non-slip mat	Ident. No.	200 ●	-	-
HK	50485...	⑥ Ribbed rubber mat	Ident. No.	210 ●	-	-
AQURADO	50485...	⑦ Set with textured mat and 10 boxes	Ident. No.	-	250 ●	-
AQURADO	50485...	⑧ Set with textured mat and 7 boxes	Ident. No.	-	260 ●	-
AQURADO	50485...	⑩ Set with textured mat and 14 boxes	Ident. No.	265 ●	-	-

HK = Prod. Gr. 503
AQURADO = Prod. Gr. 581

Wheeled workbench, working height 790 mm, 850 mm and 970 mm

With drawers, optionally with doors

Application:
The mobile workstation with versatile options for use.

Execution:
- Solidly welded sheet steel structure with end-to-end closed rear wall
- Push handlebar on one front side
- Workbench top panel made of solid beech, glued together longitudinally in bars, thickness 40 mm
- Optionally with integrated housing on the side, fitted with easy-view tilting bins

Notes:
Ident. No. 060–091: To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 390 mm, depth 530 mm.
Ident. No. 100–111: To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: for drawer width 410 mm = width 400 mm, depth 530 mm; for drawer width 940 mm = width 930 mm, depth 530 mm.

Technical data:
- Number of drawers: 4 PCS
- Worktop height: 40 mm
- Worktop depth: 650 mm
- Pullout type: Single extension slide
- On castors: Yes
- Moving device, can be lowered: No
- With single pull-out safety brake: No
- With wheel lock: Yes
- Surface: Powder-coated
- Lock type: Cylinder lock
- Load-carrying capacity: 600 kg
- Load-carrying capacity per drawer: 100 kg
- Material: Sheet steel
- Material of worktop: Solid beech
- Material of wheel: Polyurethane
- Central locking: Yes

Ident. No. 091

Ident. No. 101

Worktop width (mm)				1140	1140	1140	1140	1140	1140
Number of doors (PCS)				-	1	-	1	-	1
Drawer front height				2 x 90 mm | 1 x 150 mm | 1 x 210 mm	2 x 90 mm | 1 x 150 mm | 1 x 210 mm	1 x 90 mm | 1 x 150 mm | 2 x 180 mm	1 x 90 mm | 1 x 150 mm | 2 x 180 mm	1 x 150 mm | 1 x 90 mm | 1 x 180 mm | 1 x 270 mm	1 x 150 mm | 1 x 90 mm | 1 x 180 mm | 1 x 270 mm
	Colour of front	Cabinet colour							
50272...	Gentian blue RAL 5010	Light grey RAL 7035	Ident. No.	060 ○+	070 ○+	080 ○+	090 ○+	100 ○+	110 ○+
50272...	Anthracite grey RAL 7016	Light grey RAL 7035	Ident. No.	061 ○+	071 ○+	081 ○+	091 ○+	101 ○+	111 ○+

Prod. Gr. 501
For colours available without a surcharge, see page 1759

Wheeled workbenches, working height 950 mm

With 6 drawers that extend on both sides

Application:
The mobile workstation with versatile options for use.

Execution:
- Sturdy and warp-free steel sheet structure, with push handle on the side of the housing
- 2 storage compartments, compartment height 370 mm with anti-roll-off edging, height 50 mm
- Side wall with square perforation grid, individual attachment options, e.g. with hooks for tools or other attachments such as can holders, paper roll holders, waste basket etc. for holding hooks and RasterPlan tool holders

Technical data:
- Pullout type: Pull-out to both sides
- With single pull-out safety brake: No
- With single-locking drawers: No
- Load-carrying capacity: 450 kg
- Number of drawers: 6 PCS
- Dynamic load-carrying capacity: 250 kg
- Central locking: Yes
- Lock type: Cylinder lock
- Punched-hole, sidewall: Yes
- Punched-hole: 10 x 10 mm
- With sliding handle: Yes
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: No
- Material of wheel: Solid rubber
- Wheel diameter: 100 mm
- Material of worktop: Solid beech
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 051

Ident. No. 053

Drawers can be pulled out on both sides

Drawer partitioning set, optional, Ident. No. 057-058

				Cabinet colour	Gentian blue RAL 5010		Light grey RAL 7035		Anthracite, metallic	
				Colour of front	Light grey RAL 7035		Light grey RAL 7035		Light grey RAL 7035	
Number of drawers (PCS)	Drawer front height	Drawer width (inner dimension) (mm)	Drawer depth (inner dimension) (mm)	Load-carrying capacity per drawer (kg)	50272... Ident. No.		50272... Ident. No.		50272... Ident. No.	
6	2 x 65 mm | 3 x 130 mm | 1 x 180 mm	500	400	30	051	○+	052	○+	053	○+

Prod. Gr. 586

Accessories for		50272 051	50272 052	50272 053
50272... Drawer divider set For wheeled workbenches, no. 50272 051-053, For drawer height 65 mm	Ident. No.	057 ○	057 ○	057 ○
50272... Drawer divider set For wheeled workbenches, no. 50272 051-053, For drawer height 130/180 mm	Ident. No.	058 ○	058 ○	058 ○

GEDORE Wheeled workbench, model 1502

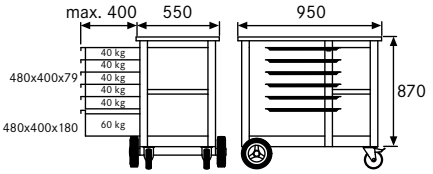
Working height 875 mm, with 6 fully extending drawers

Application:
The mobile workstation with versatile options for use.

Execution:
- Drawers can have individual partitions and pull-out stops
- 2 easily accessible trays for bulky parts
- Basic configuration contains 10 longitudinal and 2 cross-partitions and 2 spacing boxes 1500 ED-70 K for drawers

Notes:
To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 478 mm, depth 390 mm.

Technical data:
- Pullout type: Full extension
- With single pull-out safety brake: No
- With single-locking drawers: No
- Load-carrying capacity: 700 kg
- Number of drawers: 6 PCS
- Dynamic load-carrying capacity: 500 kg
- Central locking: Yes
- Lock type: Cylinder lock
- With sliding handle: No
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Wheel diameter: 125/200 mm
- Material of worktop: Multiplex beech
- Material: Sheet steel
- Surface: Powder-coated



Model				1502
Number of drawers (PCS)				6
Drawer front height				5 x 79 mm | 1 x 180 mm
Drawer width (inner dimension) (mm)				480
Drawer depth (inner dimension) (mm)				400
Load-carrying capacity per drawer (kg)				40
	Cabinet colour	Colour of front		
50271...	Traffic blue RAL 5017	Traffic blue RAL 5017	Ident. No.	012 ●+

Prod. Gr. 530

Wheeled workbench, model 1504

Working height 985 mm

Application:
The mobile workstation with versatile options for use.

Execution:
- Large locking side section with fixed storage tray
- Basic configuration contains 10 longitudinal and 2 cross-partitions and 4 spacing boxes 1500 ED-70 K for drawers

Notes:
To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 478 mm, depth 390 mm.

Technical data:
- Pullout type: Full extension
- With single pull-out safety brake: No
- With single-locking drawers: No
- Load-carrying capacity: 700 kg
- Dynamic load-carrying capacity: 500 kg
- Central locking: Yes
- Lock type: Cylinder lock
- With sliding handle: No
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Wheel diameter: 125/200 mm
- Material of worktop: Multiplex beech
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 030

Ident. No. 032

Ident. No. 034

Model				1504 0511	1504 0701	1504 0810
Number of drawers (PCS)				7	8	9
Drawer front height				5 x 67 mm | 1 x 137 mm | 1 x 207 mm	7 x 67 mm | 1 x 207 mm	8 x 67 mm | 1 x 137 mm
Drawer width (inner dimension) (mm)				480	480	480
Drawer depth (inner dimension) (mm)				400	400	400
Load-carrying capacity per drawer (kg)				40	40	40
Number of drawers (PCS)				7	8	9
	Cabinet colour	Colour of front				
50271...	Traffic blue RAL 5017	Traffic blue RAL 5017	Ident. No.	030 ●+	032 ○+	034 ○+

Prod. Gr. 530

Wheeled workbench, model 1504

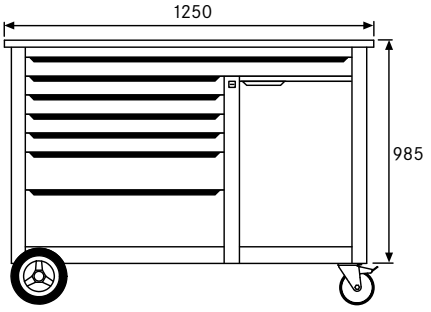
Working height 985 mm

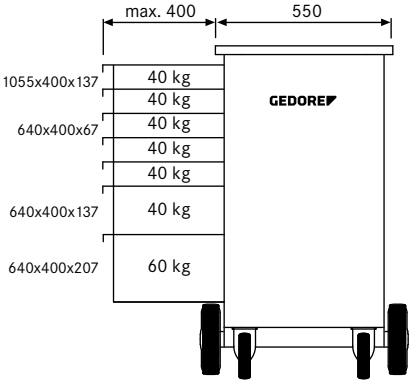
Application:
The mobile workstation with versatile options for use.

Execution:
- Large locking side section with fixed storage tray
- Basic configuration contains 10 longitudinal and 2 cross-partitions and 4 spacing boxes 1500 ED-70 K for drawers

Notes:
To order customised hard foam inserts suitable for these drawers, please use the following clear internal dimensions: Width 478 mm, depth 390 mm.

Technical data:
- Pullout type: Full extension
- With single pull-out safety brake: No
- With single-locking drawers: No
- Load-carrying capacity: 700 kg
- Number of drawers: 7 PCS
- Dynamic load-carrying capacity: 500 kg
- Central locking: Yes
- Lock type: Cylinder lock
- With sliding handle: No
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Material of wheel: Solid rubber
- Wheel diameter: 125/200 mm
- Material of worktop: Multiplex beech
- Material: Sheet steel
- Surface: Powder-coated





Model				1504 XL
Number of drawers (PCS)				7
Drawer front height				5 x 67 mm | 1 x 137 mm | 1 x 207 mm
Drawer width (inner dimension) (mm)				640
Drawer depth (inner dimension) (mm)				400
Load-carrying capacity per drawer (kg)				40
	Cabinet colour	Colour of front		
50271...	Traffic blue RAL 5017	Traffic blue RAL 5017	Ident. No.	038 ○+

Prod. Gr. 530

V series mobile workbenches
Either stationary or with retractable transport wheels

Workbench version:

- Worktop in solid beech, plate thickness 50 mm, sanding possible, glued stats structure, special interlinking, thus extremely robust and with almost unlimited durability
- Working height 850 mm
- Sturdy, welded sheet steel frame, base made of square steel tube 45 x 45 x 2 mm, load capacity 1,500 kg for evenly distributed load when stationary, 450 kg when mobile, load capacity includes dead load of workbench
- Can be individually fitted with drawers and doors; a 30 mm grid system enables the installation of drawers with a front height of 60-360 mm and doors with a front height of 360 and 540 mm
- Drawers with 100 % full-extension slide, 100 kg load capacity and individual pull-out lock
- Retractable transport wheels: the drive/stop position is adjusted by a simple turn of the lever on the front side of the workbench
- Vice: 100 mm jaw width with 360° folding, swivelling and height-adjustable lift. The vice compartment is equipped with a door. After folding out the vice, the door can be closed again

System structure version:

- 1 pair CONNECT assembly supports, height 800 mm above the worktop
- Very stable connection between the assembly supports and the worktop through a 2-point screw connection through the worktop from beneath
- Perforated metal plate wall with 10 mm square holes and 38 mm spacing
- Attached module such as power supply strip, support rails for easy-view storage bins in a 50 mm grid, height-adjustable without tools
- Energy power strip ready wired using plug-in connectors; a qualified electrician is required for connecting the CEE socket (not included in the scope of the services)

Delivery:

Ready assembled, system components can be ordered individually for retrofitting; they will, however, be supplied unassembled.

Accessories:

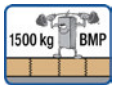
- Support elements for perforated metal plate wall, see no. 50638,
- Easy-view storage bins for support rails, see no. 50638 810-837,
- Drawer partitioning sets, compartment dividers and partition strips, see no. 50228
- AQUARDO textured mats for drawers, to be equipped with universal boxes, see no. 50540 660

Colour:

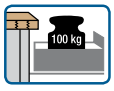
Body housing, assembly supports, support rails in RAL 7035 light grey, drawer fronts, power strip available in RAL 5010 gentian blue or RAL 7016 anthracite grey, powder-coated.

See RAL colour table below for colours available as a free-of-charge option.

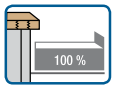
Standard features:



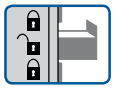
Maximum load per workbench

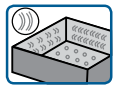


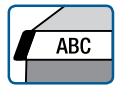
Maximum load per drawer



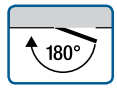
Full-extension slide


Individual pull-out lock

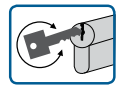

Perforated floors + slotted walls

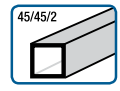


Aluminium handle strips with label strips and protective PVC profile

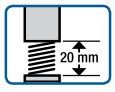


Door opening angle


Central lock



Base



Level compensation

Castor diameter

Fully assembled

Choose your preferred colour (no extra charge) for products with this logo:

RAL 1015	RAL 3002	RAL 3020	RAL 5010	RAL 5012	RAL 5014	RAL 5015	RAL 6011	RAL 7035	RAL 9010
Light ivory	Carmine red	Traffic red	Gentian blue	Light blue	Pigeon blue	Sky blue	Reseda green	Light grey	Pure white

Colours may be subject to printing-related differences; the original colours according to RAL are decisive.

Assortment boxes with fixed dividers

Optionally made of polystyrene or polypropylene

Application:
For orderly storage of small parts.

Execution:
- Food-safe colours
- **Ident. No. 012–024:** Made of polystyrene
- **Ident. No. 108–124:**
  - Made from polypropylene
  - Resistant against common acids and alkalis

Delivery:
Without contents

Technical data:
- Width: 335 mm
- Height: 55 mm
- Depth: 225 mm
- Compartment type, boxes: Solid

Material		PS - Polystyrene	PS - Polystyrene	PP -Polypropylene	PP -Polypropylene	PP -Polypropylene
Box colour		Yellow	Blue	Red	Yellow	Blue
With handle		No	No	Yes	Yes	Yes
Number of compartments		16	24	8	12	24
50001...	Ident. No.	012 ●	024 ●	108 ●	112 ●	124 ●

Prod. Gr. 505

Ident. No. 024
(Contents not included)

Ident. No. 112
(Contents not included)

Assortment boxes with fixed dividers “Assorter”

Made of polypropylene

Application:
For orderly storage of small parts.

Execution:
- Made from polypropylene
- Transparent cover
- Sturdy hinges and sliding locks
- Resistant to most solvents and oils
- Stackable, stable in form

Technical data:
- Material: Plastic
- Box colour: Dark blue/grey
- With handle: No
- Compartment type, boxes: Solid

Ident. No. 320

Ident. No. 322

Ident. No. 324

Ident. No. 326

Ident. No. 328

Ident. No. 330

Type		Assorter 44748	Assorter 44901	Assorter 44809	Assorter 43221	Assorter 42095	Assorter 11780
Width (mm)		175	175	240	240	338	338
Height (mm)		32	32	43	43	57	57
Depth (mm)		143	143	195	195	260	260
Number of compartments (PCS)		7	12	9	18	15	32
50002...	Ident. No.	320 ●	322 ●	324 ●	326 ●	328 ●	330 ●

Prod. Gr. 500

Accessories for		50002 328	50002 330
50002... HandyBox 55, empty, without ASSORTER Made of polypropylene	Ident. No.	344 ●	344 ●

Assortment box with removable compartment inserts “Assorter”

Made of polypropylene

Application:
For orderly storage of small parts.

Execution:
- With slide closures and carrying handle, U-profiles in lid to prevent contents sliding around in transport
- Transparent cover
- Resistant to most solvents and oils

Advantage:
- Stackable

Technical data:
- Type: Assorter 55 4x8-17
- Number of boxes: 17 PCS
- Width x height x depth: 338 x 57 x 261 mm
- Width: 338 mm
- Height: 57 mm
- Depth: 261 mm
- Material: Plastic
- Box colour: Dark blue/grey
- With handle: Yes
- Compartment type, boxes: Adjustable
- Mandatory testing according to DGUV (UVV): No

50002...	Ident. No.	342 ●

Prod. Gr. 500

Assortment case with removable compartment inserts “Boxxer”

Made of polypropylene and polycarbonate

Application:
For orderly storage of small parts.

Execution:
- Carry handle with latching mechanism for one-handed operation and safety locking
- Resistant to most solvents and oils
- **Ident. No. 430–465:**
  - With double-walled polypropylene case base and extremely robust polycarbonate lid
  - Removable polypropylene inserts allow partitions to be placed as required
  - Exchangeable identification label (3 colours included)
  - 2 built-in fixed partitions
- **Ident. No. 470–485:**
  - with double-walled polypropylene case base and extremely robust polycarbonate lid
  - removable polypropylene inserts allow partitions to be placed as required
  - exchangeable identification label (3 colours included)
  - Two built-in fixed partitions

Advantage:
- Profile grid in lid prevents contents becoming mixed up, even with heavy contents
- Support feet in rear wall for stability even when in an upright position

Technical data:
- Material: Plastic
- Colour: Dark blue | Grey
- Compartment type, boxes: Adjustable
- Mandatory testing according to DGUV (UVV): No

Ident. No. 430

Ident. No. 445

Ident. No. 455

Ident. No. 460

Ident. No. 465

Ident. No. 470

Ident. No. 480

Ident. No. 485

Type		BOXXSER 55 4x4-9	BOXXSER 55 5x5-15	BOXXSER 55 6x6-14	BOXXSER 55 5x10-25	BOXXSER 55 5x10-45	BOXXSER 80 5x10-14	BOXXSER 80 8x8-18	BOXXSER 80 8x8-20/1
Number of boxes (PCS)		9	15	14	25	45	14	18	20
Width x height x depth		225 x 55 x 241 mm	284 x 55 x 298 mm	323 x 55 x 354 mm	361 x 55 x 421 mm	361 x 55 x 421 mm	361 x 78 x 421 mm	401 x 78 x 465 mm	401 x 78 x 465 mm
Width (mm)		225	284	323	361	361	361	401	401
Height (mm)		55	55	55	55	55	78	78	78
Depth (mm)		241	298	354	421	421	421	465	465
With handle		No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
50002...	Ident. No.	430 ●	445 ●	455 ●	460 ●	465 ●	470 ●	480 ●	485 ●

Prod. Gr. 500

Portable “Handy Boxxer”, empty

Made of polypropylene

Application:
HandyBoxxser was developed for storage and transport of Boxxser assortment cases.

Execution:
- HandyBoxxser provides space for four Boxxsers while taking up minimal space and easy access to the contents.
- With ergonomic carrying handle

Technical data:
- Type: HandyBoxxser 5x5
- Width: 305 mm
- Height: 342 mm
- Material: PP - Polypropylene
- Colour: Dark blue | Grey

Empty box (case not included in scope of delivery)

50002...	Ident. No.	498 ●

Prod. Gr. 500

Accessories for		50002 498
50002... BOXXSER 55 assortment case with removable compartment inserts Made from polypropylene and polycarbonate,	Ident. No.	445 ●
50021... Insert set, accessory for type G drawer 4 pieces, 4 x A8-2 box, 47 x 55 x 157 mm (H x W x D)	Ident. No.	063 ●
50021... Insert set, 8 x A8-1 box, 47 x 55 x 79 mm (H x W x D)	Ident. No.	064 ●
50021... Insert set, 8 x boxes A9-2, (H x W x D) 47 x 39 x 109 mm	Ident. No.	066 ●
50021... Insert set, 16 x boxes A9-1, (H x W x D) 47 x 39 x 55 mm	Ident. No.	068 ●
59004... Assortment box accessories Boxxser ID labels,	Ident. No.	946 ○ 947 ○ 948 ○
59004... Inserts with shelf for ASSORTER 55, BOXXSER 55, CarryLite 55 Compact, drawer and bottom tray 55 of the ToolCase,	Ident. No.	961 ○ 962 ○

Tool box

Made of sheet steel

Execution:
- Sheet steel thickness 1.0 mm
- Lid projects on all sides
- Inset hollow folding handle in lid
- Welded lid corners
- Upper box edge folded for reinforcement
- One clamp lock
- End-to-end rod hinge
- Lockable with a padlock (not included in scope of delivery)
- Accessories: For padlocks, see no. 50025 010

Technical data:
- Depth: 170 mm
- Width: 400 mm
- Height: 125 mm
- Material: Sheet steel

50005...	Ident. No.	010 ●

Prod. Gr. 505

K 470 universal case

Foam seal in the lid

Application:
Space-saving, secure storage and transport

Execution:
- Large and ergonomic handle and locks for ease of use, even when wearing gloves
- Foam seal in the lid protects against dust and moisture, optionally with IP65 or IP 67 degree of protection
- Insensitive to heat and cold, tested from -54 °C to +80 °C
- Numerous quality features, including fully welded profiles, high-grade steel hinges, beads and solid rivets, ensure a long service life. Extra-strong 1.5 mm sheet for all K 470 from dimensions 750 × 550 mm provides extra stability
- Lid with high-grade steel hinge, two straps and foam seal in the lid
- Can be stacked securely thanks to cast aluminium stacking corners
- High stability thanks to three fully welded aluminium frames
- UN approval for transporting dangerous goods available for an additional fee
- Snap locks: Can be secured using a key lock, lead seal, spring anti-opening mechanism or padlock (max. bar thickness 6 mm)
- Extra-strong 1.5 mm sheet for all K 470 from dimensions 750 × 550 mm

Advantage:
- Ergonomic and durable comfort locks for at least 20,000 actuation cycles

Technical data:
- Material: Aluminium

Ident. No. 273

Ident. No. 274

Ident. No. 275

Ident. No. 276

Ident. No. 277

Ident. No. 278

Ident. No. 279

Ident. No. 280

Ident. No. 281

Ident. No. 282

Ident. No. 283

Ident. No. 284

Ident. No. 285

Ident. No. 286

Ident. No. 287

Ident. No. 288

Ident. No. 289

Ident. No. 290

Ident. No. 291

Ident. No. 292

Ident. No. 293

Ident. No. 294

Ident. No. 295

Ident. No. 296

Volume (l)	External length (mm)	External width (mm)	External height (mm)	Internal length (mm)	Internal width (mm)	Interior height (mm)	59000... Ident. No.	
115	600	600	410	550	550	380	273	○
116	650	480	480	600	430	450	274	○
119	1400	450	250	1350	400	220	275	○
121	740	510	410	690	460	380	276	○
13	400	300	180	350	250	150	277	○
148	650	610	470	600	560	440	278	○
150	740	690	370	690	640	340	279	○
157	800	600	410	750	550	380	280	○
162	1000	500	410	950	450	380	281	○
173	950	530	430	900	480	400	282	○
175	600	600	610	550	550	580	283	○
190	740	690	460	690	640	430	284	○
195	830	530	550	780	480	520	285	○
239	800	600	610	750	550	580	286	○
259	950	690	480	900	640	450	287	○
27	400	300	340	350	250	310	288	○
29	600	400	180	550	350	150	289	○
396	1600	600	495	1550	550	465	290	○
414	1200	800	510	1150	750	480	291	○
42	600	400	250	550	350	220	292	○
60	1200	400	180	1150	350	150	293	○
60	600	400	340	550	350	310	294	○
66	600	600	250	550	550	220	295	○
73	600	400	410	550	350	380	296	○

Prod. Gr. 5AZ

ZARGES

Battery safety container K 470

Special containers made of aluminium

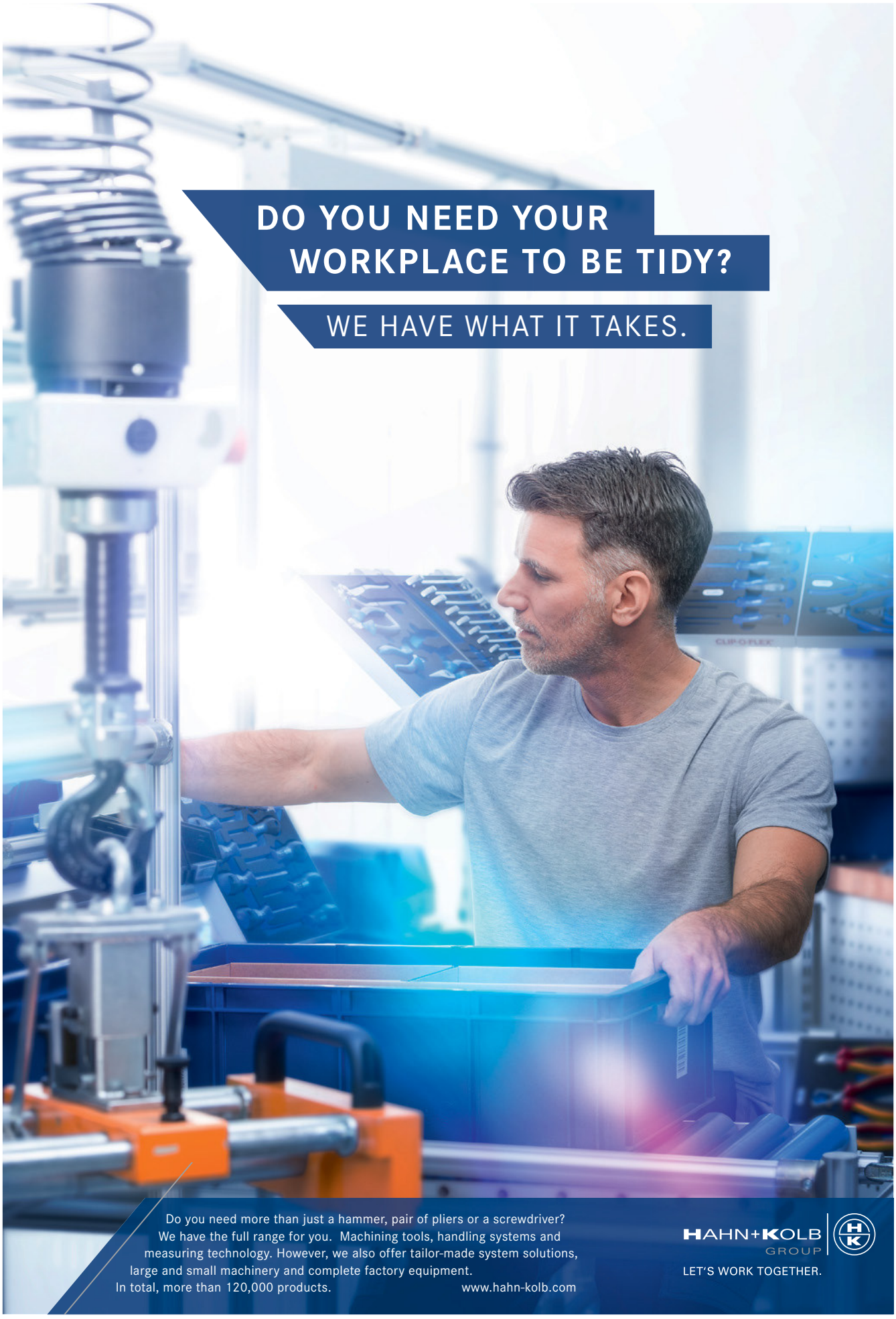
Application:
For the safe storage and transport of damaged or defective lithium batteries in accordance with Packaging Instructions 908.

Execution:
- Suitable for up to 3 lithium batteries up to 500 Wh each.
- Equipped with fire-resistant cushioning and absorbent material made of textured fibreglass
- High stability thanks to 3 fully welded aluminium frames
- Weight: 11.5 kg
- Fire test successfully passed: no spreading of flames to neighbouring batteries, temperature on container surface remains below 100°C
- Tested and approved in line with UN provisions as hazardous goods packaging, i.e. proper public transport in line with P908 possible

Technical data:
- Volume: 66 l
- External length: 600 mm
- External width: 600 mm
- External height: 250 mm
- With lid: Yes
- With handle: Yes
- With rollers: No
- Internal length: 550 mm
- Material: Aluminium
- Colour: Silver
- Internal width: 550 mm
- Interior height: 220 mm

50018...	Ident. No.	500 ●

Prod. Gr. 5AZ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WE HAVE WHAT IT TAKES.
Do you need more than just a hammer, pair of pliers or a screwdriver? We have the full range for you. Machining tools, handling systems and measuring technology. However, we also offer tailor-made system solutions, large and small machinery and complete factory equipment. In total, more than 120,000 products.
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Better workplaces and processes with CLIP-O-FLEX

The innovative CLIP-O-FLEX® mounting module is a genuine multi-talent. It enables equipment and tools to be attached, prepared and stored securely, flexibly and in a space-saving manner. This can optimise entire workplaces and processes in the sense of increasing productivity - including by retrofitting existing workshop equipment. It is precisely because of this that it now forms the core element of a new product range for complete workplace solutions that are more flexible, efficient and ergonomic, and so better overall in terms of quality, than the previous workshop equipment.

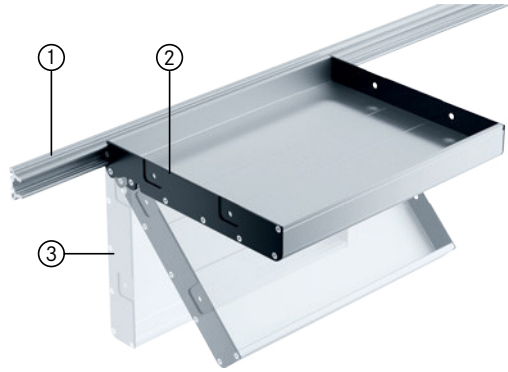
The CLIP-O-FLEX® mounting module is a relatively small module with enormous effects of different kinds. Initially developed as a flexible attachment system, it has since optimised entire workplaces and processes. It resolves the apparent contradiction between the necessary stability and the greatest possible flexibility in the workplace environment in production and workshops with a sophisticated mechanism.

What are the multiple effects of this small module?

- **It is as secure as required in production and at the workstation and as flexible as possible in this environment:** The user can easily and securely change the mount vertically with an angle of inclination of up to 90°, and it can also be moved horizontally.
- **User-friendly and ergonomic:** Operating the clip mechanism and therefore flexibly attaching and releasing different components, equipment and tools is greatly simplified and facilitated, which benefits the operator at the workstation.
- **Saves time and space in production and the workshops:** The vertically and horizontally flexible mounting module enables work material to be made available exactly where it is processed and needed. This reduces walking distances and the space occupied throughout production.
- **Specifically implements quality assurance:** Ensures greater order and cleanliness in the workplace. It changes behaviour and therefore becomes an effective instrument for implementing quality assurance systems such as 5S in the workplace.

How does the flexible mounting module work?

- On one side of the CLIP-O-FLEX® mounting module, a stable support rail ① is mounted on the workstation or suitable places for its accommodation in production.
- The counterpiece for the mounting module forms a sophisticated clip-on profile ② on the other side. It features a clip system for securely and durably attaching workplace surfaces and equipment, trays, tools or containers etc.
- The intelligent connection of support rail and clip-on profile makes it possible to easily and immediately release, tilt and move what is securely fastened in a unique way ③.



To what extent does CLIP-O-FLEX® have the potential to revolutionise the world of work?

Whether the first installation, tuning or an individual addition: Whatever the circumstances, the CLIP-O-FLEX® interface has the potential to revolutionise whole workplaces and processes in production. If a customer converts a part of their workshop to CLIP-O-FLEX®, the employees' usual processes and actions change very quickly. The agility and flexibility of the entire system require different thinking and ultimately different actions and behaviour. On the one hand it is a motivation to keep more order and cleanliness at the workstation, above all in combination with the hard foam inserts from OPT-I-STORE®. On the other hand it also provides a great deal of relief with regard to ergonomics and efficiency. Tools, materials and work surfaces can be attached, removed, moved and adjusted much more easily. Setup times and long routes are eliminated, space and time are no longer wasted but used in an optimised way.

Better workplaces and processes with CLIP-O-FLEX

Workplace system range

Your company requires new workstations: Why not order the best workplace solution now?

For the first time we can offer complete workplace systems with our new CLIP-O-FLEX® Workplaces product range. They all have a multitude of advantages, which primarily result from the optimised installation of the CLIP-O-FLEX® mounting module. The workplaces we have developed ensure stability and safety combined with maximum flexibility. Work is made easier and more efficient for users due to the ergonomic benefits, particularly since no elements are permanently fixed and thus immobile. Our workstations can also be converted easily at any time in such a way that they are geared to the different needs of users and, conversely, there is no need for the operator to adjust to the workstation. A feel-good design and the use of the most suitable materials are a matter of course for us.

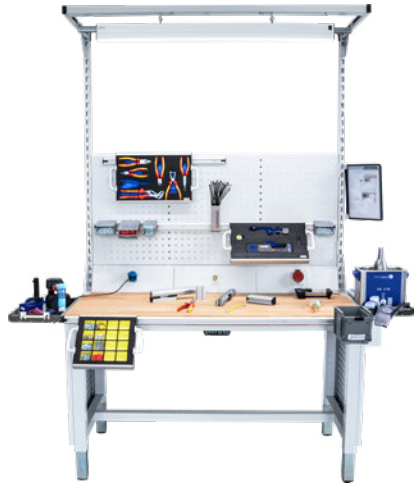
Our workplace system range of innovative workshop equipment includes several versions:

- CLIP-O-FLEX® system workstations with or without hub, light basic versions, add-on variants or heavy-duty workbench versions
- CLIP-O-FLEX® system trolley, multi-purpose trolley, media trolley
- CLIP-O-FLEX® Workplace - customer-specific workshop furniture

Workplace tuning range

Your company would like to optimise existing workplaces: Being the reason why "tuning" is also possible for workplaces.

'Tuning' is an additional increase in the performance of technical devices compared to a standard version. We usually use it to describe a fine tuning of a car's components, which leads to significant improvements in performance. We apply this basic principle to optimising workplaces and processes using the CLIP-O-FLEX® mounting module. Existing workplaces can be easily upgraded or retrofitted with it. This leads to a more flexible, yet at the same time still secure attachment, preparation or storage of equipment and materials in the workplace.



Our modular workplace tuning range is compatible with common workplace systems, including those from other manufacturers. The following can be expanded with the CLIP-O-FLEX:® mounting module, for example:

- Tool, transport and assembly trolleys
- Tool cabinets and cases
- Workbenches and work tables

Accessories and components range

Your company wants to procure CLIP-O-FLEX® ACCESSORIES: Are CLIP-O-FLEX® parts also available separately?

The CLIP-O-FLEX® mounting module comprises two parts: A support rail and clip-on profile as the matching counterpart. The effect is produced firstly through the combination of both components, which can also be ordered individually in a variety of versions and materials. Be it to optimise workplaces and processes on your own or to expand or supplement existing CLIP-O-FLEX® Workplace Solutions.

Our accessories and components range includes a variety of products and individual parts, with the following core products available in our shop:

- CLIP-O-FLEX® support rail
- CLIP-O-FLEX® clip-on profile
- CLIP-O-FLEX® trays
- CLIP-O-FLEX® accessories

CLIP-O-FLEX® System workstations for seated activities

CLIP-O-FLEX support rail on side and front

Application:
Suitable for assembly, logistics, measuring and production workstations. When outstanding productivity and ergonomics are needed. Full integration of the CLIP-O-FLEX® interface to optimise workflows through flexible workstation design. Easily expandable with CLIP-O-FLEX® trays, boxes, tool holders and other accessories.

Execution:
- Modern 10 mm HPL worktop
- CLIP-O-FLEX support rail on side and front
- Multiple socket outlet with three safety sockets
- **Ident. No. 331–355:** Dimmable LED lighting
- **Ident. No. 331–357:**
  - 3x CLIP-O-FLEX multi-purpose supply station
  - Equipment rail incl. tool hangers
- **Ident. No. 355–356, 358:** Drawer block with 2 drawers
- **Ident. No. 358–359:** 1x CLIP-O-FLEX multi-purpose supply station

Notes:
Type designations/abbreviations:
Seated: Seated workstation
Standing: Standing workstation
Seated-standing: Height-adjustable workstation
M: Mobile (wheels)
D: Drawer block
A: Attachments:
L: Lighting

Technical data:
- Width: 1500 mm
- Depth: 800 mm
- Worktop width: 1470 mm
- Worktop depth: 695 mm
- Worktop thickness: 10 mm
- Working height: 740 mm
- ESD-capable: No
- With rollers: No
- Anodised: Yes
- Load-carrying capacity: 400 kg
- Material of worktop: Hard pressure laminate board
- Material: Aluminium
- Operating voltage: 230 V/AC
- Current consumption: 16 A

Ident. No. 359

Ident. No. 358

Ident. No. 357

Ident. No. 356

Ident. No. 331

Ident. No. 355

Type	Height (mm)	With lighting	Colour temperature (K)	Luminous flux (lm)	Life time of illuminant (h)	Operating temperature (°C)	Min. colour rendering index (CRI)	IP protection type, lamp	Light length (mm)	Luminaire efficacy (lm/W)	Lamp power rating (W)	50237... Ident. No.	
Seated	860	No	-	-	-	-	-	-	-	-	-	359	○+
SeatedD	860	No	-	-	-	-	-	-	-	-	-	358	○+
SeatedA	1950	No	-	-	-	-	-	-	-	-	-	357	○+
SeatedAD	1950	No	-	-	-	-	-	-	-	-	-	356	○+
SeatedAL	1950	Yes	4000	3294	100000	40	85	IP 20	953	86	40	331	○+
SeatedALD	1950	Yes	4000	3294	100000	40	85	IP 20	953	86	40	355	○+

Prod. Gr. 586

CLIP-O-FLEX® Mobile system workstations for seated activities

CLIP-O-FLEX support rail on side and front

Application:
Suitable for assembly, logistics, measuring and production workstations. When outstanding productivity and ergonomics are needed. Full integration of the CLIP-O-FLEX® interface to optimise workflows through flexible workstation design. Easily expandable with CLIP-O-FLEX® trays, boxes, tool holders and other accessories.

Execution:
- Modern 10 mm HPL worktop
- CLIP-O-FLEX support rail on side and front
- Multiple socket outlet with three safety sockets
- Mobile
- **Ident. No. 349, 351, 353:** Drawer block with 2 drawers
- **Ident. No. 349–350:** Dimmable LED lighting
- **Ident. No. 349–352:**
  - 3x CLIP-O-FLEX multi-purpose supply station
  - Equipment rail incl. tool hangers
- **Ident. No. 353–354:** 1x CLIP-O-FLEX multi-purpose supply station

Notes:

Type designations/abbreviations:
Seated: Seated workstation
Standing: Standing workstation
Seated-standing: Height-adjustable workstation
M: Mobile (wheels)
D: Drawer block
A: Attachments:
L: Lighting

Technical data:
- Width: 1500 mm
- Depth: 800 mm
- Worktop width: 1470 mm
- Worktop depth: 695 mm
- Worktop thickness: 10 mm
- Working height: 740 mm
- ESD-capable: No
- With rollers: Yes
- Anodised: Yes
- Load-carrying capacity: 400 kg
- Material of worktop: Hard pressure laminate board
- Material: Aluminium
- Operating voltage: 230 V/AC
- Current consumption: 16 A

Ident. No. 354

Ident. No. 353

Ident. No. 352

Ident. No. 351

Ident. No. 350

Ident. No. 349

Type	Height (mm)	With lighting	Colour temperature (K)	Luminous flux (lm)	Life time of illuminant (h)	Operating temperature (°C)	Min. colour rendering index (CRI)	IP protection type, lamp	Light length (mm)	Luminaire efficacy (lm/W)	Lamp power rating (W)	50237... Ident. No.	
SeatedM	860	No	-	-	-	-	-	-	-	-	-	354	o+
SeatedMD	860	No	-	-	-	-	-	-	-	-	-	353	o+
SeatedMA	1950	No	-	-	-	-	-	-	-	-	-	352	o+
SeatedMAD	1950	No	-	-	-	-	-	-	-	-	-	351	o+
SeatedMAL	1950	Yes	4000	3294	100000	40	85	IP 20	953	86	40	350	o+
Seat MALD	1950	Yes	4000	3294	100000	40	85	IP 20	953	86	40	349	o+

Prod. Gr. 586

CLIP-O-FLEX® System workstations for standing activities

CLIP-O-FLEX support rail on side and front

Application:
Suitable for assembly, logistics, measuring and production workstations. When outstanding productivity and ergonomics are needed. Full integration of the CLIP-O-FLEX® interface to optimise workflows through flexible workstation design. Easily expandable with CLIP-O-FLEX® trays, boxes, tool holders and other accessories.

Execution:
- Modern 10 mm HPL worktop
- CLIP-O-FLEX support rail on side and front
- Multiple socket outlet with three safety sockets
- **Ident. No. 330, 345:** Dimmable LED lighting
- **Ident. No. 330, 345–347:** 3x CLIP-O-FLEX multi-purpose supply station
- **Ident. No. 330, 346–347:** Equipment rail incl. tool hangers
- **Ident. No. 332, 348:** 1x CLIP-O-FLEX multi-purpose supply station
- **Ident. No. 345–346, 348:** Drawer block with 2 drawers

Notes:
Type designations/abbreviations:
Seated: Seated workstation
Standing: Standing workstation
Seated-standing: Height-adjustable workstation
M: Mobile (wheels)
D: Drawer block
A: Attachments:
L: Lighting

Technical data:
- Width: 1500 mm
- Depth: 800 mm
- Worktop width: 1470 mm
- Worktop depth: 695 mm
- Worktop thickness: 10 mm
- Working height: 900 mm
- ESD-capable: No
- With rollers: No
- Anodised: Yes
- Load-carrying capacity: 400 kg
- Material of worktop: Hard pressure laminate board
- Operating voltage: 230 V/AC
- Current consumption: 16 A

Ident. No. 332

Ident. No. 348

Ident. No. 347

Ident. No. 346

Ident. No. 330

Ident. No. 345

Type	Height (mm)	With lighting	Colour temperature (K)	Material	Luminous flux (lm)	Life time of illuminant (h)	Operating temperature (°C)	Min. colour rendering index (CRI)	IP protection type, lamp	Light length (mm)	Luminaire efficacy (lm/W)	50237... Ident. No.	
Standing	1020	No	-	-	-	-	-	-	-	-	-	332	○+
StandingD	1020	No	-	-	-	-	-	-	-	-	-	348	○+
StandingA	2100	No	-	-	-	-	-	-	-	-	-	347	○+
StandingAD	2100	No	-	-	-	-	-	-	-	-	-	346	○+
StandingAL	2100	Yes	4000	Aluminium	3294	100000	40	85	IP 20	953	86	330	○+
StandingALD	2100	Yes	4000	Aluminium	3294	100000	40	85	IP 20	953	86	345	○+

Prod. Gr. 586

CLIP-O-FLEX® Mobile system workstations for standing activities

CLIP-O-FLEX support rail on side and front

Application:
Suitable for assembly, logistics, measuring and production workstations. When outstanding productivity and ergonomics are needed. Full integration of the CLIP-O-FLEX® interface to optimise workflows through flexible workstation design. Easily expandable with CLIP-O-FLEX® trays, boxes, tool holders and other accessories.

Execution:
- Modern 10 mm HPL worktop
- CLIP-O-FLEX support rail on side and front
- Multiple socket outlet with three safety sockets
- Mobile
- **Ident. No. 339, 341, 343:** Drawer block with 2 drawers
- **Ident. No. 339–340:** Dimmable LED lighting
- **Ident. No. 339–342:** 3x CLIP-O-FLEX multi-purpose supply station
- **Ident. No. 340–342:** Equipment rail incl. tool hangers
- **Ident. No. 343–344:** 1x CLIP-O-FLEX multi-purpose supply station

Notes:
Type designations/abbreviations:
Seated: Seated workstation
Standing: Standing workstation
Seated-standing: Height-adjustable workstation
M: Mobile (wheels)
D: Drawer block
A: Attachments:
L: Lighting

Technical data:
- Width: 1500 mm
- Depth: 800 mm
- Worktop width: 1470 mm
- Worktop depth: 695 mm
- Worktop thickness: 10 mm
- Working height: 900 mm
- ESD-capable: No
- With rollers: Yes
- Anodised: Yes
- Load-carrying capacity: 400 kg
- Material of worktop: Hard pressure laminate board
- Material: Aluminium
- Operating voltage: 230 V/AC
- Current consumption: 16 A

Ident. No. 344

Ident. No. 343

Ident. No. 342

Ident. No. 341

Ident. No. 340

Ident. No. 339

Type	Height (mm)	With lighting	Colour temperature (K)	Luminous flux (lm)	Life time of illuminant (h)	Operating temperature (°C)	Min. colour rendering index (CRI)	IP protection type, lamp	Light length (mm)	Luminaire efficacy (lm/W)	Lamp power rating (W)	50237... Ident. No.	
StandingM	1020	No	-	-	-	-	-	-	-	-	-	344	o+
StandingMD	1020	No	-	-	-	-	-	-	-	-	-	343	o+
StandingMA	2100	No	-	-	-	-	-	-	-	-	-	342	o+
StandingMAD	2100	No	-	-	-	-	-	-	-	-	-	341	o+
StandingMAL	2100	Yes	4000	3294	100000	40	85	IP 20	953	86	40	340	o+
StandingMALD	2100	Yes	4000	3294	100000	40	85	IP 20	953	86	40	339	o+

Prod. Gr. 586

CLIP-O-FLEX® System workstations, height-adjustable

CLIP-O-FLEX support rail on side and front

Application:
Suitable for assembly, logistics, measuring and production workstations. When outstanding productivity and ergonomics are needed. Full integration of the CLIP-O-FLEX® interface to optimise workflows through flexible workstation design. Easily expandable with CLIP-O-FLEX® trays, boxes, tool holders and other accessories.

Execution:
- Modern 10 mm HPL worktop
- CLIP-O-FLEX support rail on side and front
- Multiple socket outlet with three safety sockets
- Working height is infinitely adjustable, four memory positions available
- **Ident. No. 328–366:** Dimmable LED lighting
- **Ident. No. 328–368:**
  - 3x CLIP-O-FLEX multi-purpose supply station
  - Equipment rail incl. tool hangers
- **Ident. No. 366–367, 369:** Drawer block with 2 drawers
- **Ident. No. 369–370:** 1x CLIP-O-FLEX multi-purpose supply station

Notes:
Type designations/abbreviations:
Seated: Seated workstation
Standing: Standing workstation
Seated-standing: Height-adjustable workstation
M: Mobile (wheels)
D: Drawer block
A: Attachments:
L: Lighting

Technical data:
- Width: 1500 mm
- Depth: 800 mm
- Worktop width: 1470 mm
- Worktop depth: 695 mm
- Worktop thickness: 10 mm
- Min. working height: 840 mm
- Max. working height: 1240 mm
- ESD-capable: No
- With rollers: No
- Anodised: Yes
- Load-carrying capacity: 400 kg
- Material of worktop: Hard pressure laminate board
- Material: Aluminium
- Operating voltage: 230 V/AC
- Current consumption: 16 A

Ident. No. 370

Ident. No. 369

Ident. No. 368

Ident. No. 367

Ident. No. 328

Ident. No. 366

Type	Min. height (mm)	Max. height (mm)	With lighting	Colour temperature (K)	Luminous flux (lm)	Life time of illuminant (h)	Operating temperature (°C)	Min. colour rendering index (CRI)	IP protection type, lamp	Light length (mm)	Luminaire efficacy (lm/W)	50237... Ident. No.	
Seated-standing	1355	995	No	-	-	-	-	-	-	-	-	370	○+
Seated-standingD	1355	995	No	-	-	-	-	-	-	-	-	369	○+
Seated-standingA	2050	2450	No	-	-	-	-	-	-	-	-	368	○+
Seated-standingAD	2050	2450	No	-	-	-	-	-	-	-	-	367	○+
Seated-standingAL	2050	2450	Yes	4000	3294	100000	40	85	IP 20	953	86	328	○+
Seated-standingALD	2050	2450	Yes	4000	3294	100000	40	85	IP 20	953	86	366	○+

Prod. Gr. 586

CLIP-O-FLEX® Mobile system workstations, height-adjustable

CLIP-O-FLEX support rail on side and front

Application:
Suitable for assembly, logistics, measuring and production workstations. When outstanding productivity and ergonomics are needed. Full integration of the CLIP-O-FLEX® interface to optimise workflows through flexible workstation design. Easily expandable with CLIP-O-FLEX® trays, boxes, tool holders and other accessories.

Execution:
- Modern 10 mm HPL worktop
- CLIP-O-FLEX support rail on side and front
- Multiple socket outlet with three safety sockets
- Working height is infinitely adjustable, four memory positions available
- Mobile
- **Ident. No. 360, 362, 364:** Drawer block with 2 drawers
- **Ident. No. 360–361:** Dimmable LED lighting
- **Ident. No. 360–363:**
  - 3x CLIP-O-FLEX multi-purpose supply station
  - Equipment rail incl. tool hangers
- **Ident. No. 364–365:** 1x CLIP-O-FLEX multi-purpose supply station

Notes:
Type designations/abbreviations:
Seated: Seated workstation
Standing: Standing workstation
Seated-standing: Height-adjustable workstation
M: Mobile (wheels)
D: Drawer block
A: Attachments:
L: Lighting

Technical data:
- Width: 1500 mm
- Depth: 800 mm
- Worktop width: 1470 mm
- Worktop depth: 695 mm
- Worktop thickness: 10 mm
- Min. working height: 840 mm
- Max. working height: 1240 mm
- ESD-capable: No
- With rollers: Yes
- Anodised: Yes
- Load-carrying capacity: 400 kg
- Material of worktop: Hard pressure laminate board
- Material: Aluminium
- Operating voltage: 230 V/AC
- Current consumption: 16 A

Ident. No. 365

Ident. No. 364

Ident. No. 363

Ident. No. 362

Ident. No. 361

Ident. No. 360

Type	Min. height (mm)	Max. height (mm)	With lighting	Colour temperature (K)	Luminous flux (lm)	Life time of illuminant (h)	Operating temperature (°C)	Min. colour rendering index (CRI)	IP protection type, lamp	Light length (mm)	Luminaire efficacy (lm/W)	50237... Ident. No.	
Seated-standingM	1355	995	No	-	-	-	-	-	-	-	-	365	o+
Seated-standingMD	1355	995	No	-	-	-	-	-	-	-	-	364	o+
Seated-standingMA	2050	2450	No	-	-	-	-	-	-	-	-	363	o+
Seated-standingMAD	2050	2450	No	-	-	-	-	-	-	-	-	362	o+
Seated-standingMAL	2050	2450	Yes	4000	3294	100000	40	85	IP 20	953	86	361	o+
Seated-standingMALD	2050	2450	Yes	4000	3294	100000	40	85	IP 20	953	86	360	o+

Prod. Gr. 586

CLIP-O-FLEX® System workstation for measurement, height-adjustable

With hard stone panel, accuracy 0

Application:
Specially designed for use as a measuring workstation with an integrated hard stone worktop. For when outstanding productivity and ergonomics are needed. Full integration of the CLIP-O-FLEX® interface to optimise workflows through flexible workstation design. Easily expandable with CLIP-O-FLEX® trays, boxes, tool holders and other accessories.

Execution:
- **Incl. hard stone worktop, accuracy class 0, integrated into the table top**
- Adjustable feet incl. levelling function
- Working height is infinitely adjustable, four memory positions available
- 10 mm HPL worktop
- CLIP-O-FLEX® support rail on side and front
- 3x CLIP-O-FLEX® multi-purpose levels
- Multiple socket outlet with three safety sockets
- Central on/off switch; light switch
- Dimmable LED lighting

Advantage:
- The fitted hard stone worktop is accuracy class 0.

Technical data:
- Type: Measuring systems
- Width: 1500 mm
- Depth: 800 mm
- Worktop width: 1470 mm
- Worktop depth: 695 mm
- Worktop thickness: 10 mm
- Min. working height: 840 mm
- Max. working height: 1240 mm
- Min. height: 2000 mm
- Max. height: 2400 mm
- With lighting: Yes
- ESD-capable: No
- With rollers: No
- Anodised: Yes
- Load-carrying capacity: 400 kg
- Material of worktop: Hard pressure laminate board
- Colour temperature: 4000 K
- Material: Aluminium
- Luminous flux: 3294 lm
- Life time of illuminant: 100000 h
- Operating voltage: 230 V/AC
- Operating temperature: 40 °C
- Min. colour rendering index (CRI): 85
- IP protection type, lamp: IP 20
- Light length: 953 mm
- Luminaire efficacy: 86 lm/W
- Current consumption: 16 A
- Lamp power rating: 40 W
- Protection class lamp: Protection class I/protective grounding
- Mandatory testing according to DGUV (UVV): Yes

50237...	Ident. No.	329 ○+

Prod. Gr. 586

CLIP-O-FLEX® System workstation tuning set

Retrofit kit for existing workbenches

Application:
Retrofit kit for existing workbenches. Continue to use existing workbench feet or drawer cabinets, or combine with new workbench feet or drawer cabinets. For when outstanding productivity is needed. Full integration of the CLIP-O-FLEX® interface to optimise workflows through flexible workstation design.

Execution:
- Multiplex beech worktop
- CLIP-O-FLEX® support rail on side and front
- 3x CLIP-O-FLEX® multi-purpose levels
- Multiple socket outlet with three safety sockets
- Central on/off switch; light switch
- Dimmable LED lighting
- Equipment rail incl. tool hangers

Technical data:
- Type: Table top tuning kit
- Width: 1500 mm
- Depth: 800 mm
- Worktop width: 1470 mm
- Worktop depth: 695 mm
- Worktop thickness: 10 mm
- Height: 1240 mm
- With lighting: Yes
- ESD-capable: No
- With rollers: No
- Anodised: Yes
- Load-carrying capacity: 400 kg
- Material of worktop: Hard pressure laminate board
- Colour temperature: 4000 K
- Material: Aluminium
- Luminous flux: 3294 lm
- Life time of illuminant: 100000 h
- Operating voltage: 230 V/AC
- Operating temperature: 40 °C
- Min. colour rendering index (CRI): 85
- IP protection type, lamp: IP 20
- Light length: 953 mm
- Luminaire efficacy: 86 lm/W
- Current consumption: 16 A
- Lamp power rating: 40 W
- Protection class lamp: Protection class I/protective grounding
- Included in delivery: Fully assembled, on pallet,
- incl. upper structure
- Mandatory testing according to DGUV (UVV): Yes

50237...	Ident. No.	333 ○+

Prod. Gr. 586

CLIP-O-FLEX® System workbench with CLIP-O-FLEX mounting rail

As a single workstation or in combination as a group workbench

Application:
For the highest demands in regards to productivity and flexibility. Full integration of the CLIP-O-FLEX® interface to optimise workflows through flexible workstation design. Suitable as a single workstation or in combination as a group workbench. Easy to expand with CLIP-O-FLEX® trays, boxes, tool holders and other accessories.

Execution:
- Adjustable feet incl. level compensation
- 40 mm beech worktop (multiplex, oiled)
- CLIP-O-FLEX mounting rail on side and front
- Multiple socket outlet with three safety sockets
- Central on/off switch; light switch
- 3x CLIP-O-FLEX® multi-purpose levels
- Equipment rail incl. tool hangers

Advantage:
- Optimised system dimensions
- Can be set up in a variety of combinations
- Can be expanded infinitely
- Easy to customise
- Several integrated CLIP-O-FLEX interfaces

Technical data:
- Width: 1440 mm
- Depth: 720 mm
- Worktop width: 1410 mm
- Worktop depth: 615 mm
- Worktop thickness: 40 mm
- Working height: 900 mm
- With lighting: Yes
- ESD-capable: No
- With rollers: No
- Anodised: Yes
- Load-carrying capacity: 400 kg
- Material of worktop: Multiplex beech
- Colour temperature: 4000 K
- Material: Aluminium
- Luminous flux: 3294 lm
- Life time of illuminant: 100000 h
- Operating voltage: 230 V/AC
- Operating temperature: 40 °C
- Min. colour rendering index (CRI): 85
- IP protection type, lamp: IP 20
- Light length: 953 mm
- Luminaire efficacy: 86 lm/W
- Current consumption: 16 A
- Lamp power rating: 40 W
- Protection class lamp: Protection class I/protective grounding
- Mandatory testing according to DGUV (UVV): Yes

50237...	Ident. No.	371 ○+

Prod. Gr. 586

CLIP-O-FLEX® System trolley made of aluminium profile

Application:
Ident. No. 337: Mobile workstation ideally suited for use as a PC workstation with a specially raised work surface. The top CLIP-O-FLEX® level can be optimally equipped with up to two monitor brackets on each side. Monitors can be mounted on both sides. Tray shelf for printer or PC incl. dedicated power supply.

Execution:
- 4x swivel castors incl. brake
- **Ident. No. 336:**
  - Basic version of a multi-purpose trolley for materials with integrated CLIP-O-FLEX® interface that can be equipped as desired
  - Can be equipped with tool trays, small parts storage boxes and tool holders as well as other CLIP-O-FLEX® accessories
  - 5x CLIP-O-FLEX® levels for equipping on both sides
  - 4x push handles
- **Ident. No. 337:**
  - 10 mm HPL worktop
  - HPL tray shelf, 360 mm deep
  - Incl. CLIP-O-FLEX® level on the side and front
  - Central on/off switch
  - 2x multiple socket outlets with three safety sockets (one on top of and one beneath the table top)
  - 2x CLIP-O-FLEX® multi-purpose level with one compartment
  - 1x CLIP-O-FLEX® multi-purpose level with two compartments
- **Ident. No. 338:**
  - Basic version of a multi-purpose trolley with integrated CLIP-O-FLEX® interface that can be equipped as desired
  - Can be equipped with tool holders e.g. for brooms, shovels or various cleaning tools. The load area is ideally suited for waste bins
  - 10 mm HPL shelf
  - 2x CLIP-O-FLEX® levels on both sides
  - 1x CLIP-O-FLEX® level at the top
  - 2x push handles

Technical data:
- Depth: 800 mm
- Height: 1650 mm

Ident. No. 336

Ident. No. 337

Ident. No. 338

Type	Width (mm)	50237... Ident. No.	
Multi-purpose trolley	600	338	○+
System trolley	1200	336	○+
Media trolley	1200	337	○+

Prod. Gr. 586

CLIP-O-FLEX® Aluminium trays

Application:
Just one click enables you to expand your individual workstation, thereby providing flexibility both horizontally and vertically. Tools and small parts are always within reach - at the machine, at the assembly station, in your tool case or stored neatly in the cabinet.

Execution:
- Angle adjustment: 0/45/90°
- Integrated anti-slip surface
- For front side and table top use
- Natural/black anodised

Technical data:
- Material: Aluminium
- Colour: Black | Aluminium silver
- Surface: Anodised
- Interior height: 31 mm

Suspension angle	Load-carrying capacity (kg)	Internal width (mm)	Internal depth (mm)	50237... Ident. No.	
0° | 45° | 90°	25	280	260	312	○
0° | 45° | 90°	25	345	260	313	○
0° | 45° | 90°	25	430	260	314	○
0° | 45° | 90°	25	215	300	315	○
0° | 45° | 90°	25	430	300	316	○
0° | 45° | 90°	25	280	400	317	○
0° | 45° | 90°	25	430	400	318	○
0° | 45° | 90°	-	600	400	319	○

Prod. Gr. 586

CLIP-O-FLEX® Tray accessories

Application:
Ident. No. 280–282: The handles can be used to carry CLIP-O-FLEX trays easily and conveniently
Ident. No. 320–326: For the individual setup and configuration of CLIP-O-FLEX® tool trays

Execution:
- **Ident. No. 320–326:**
  - Black plastic
  - Wall thickness: 2 mm
  - Can be individually equipped

Delivery:
Ident. No. 280–282: Packing unit 2 pieces

Ident. No. 320–326

Ident. No. 280–282

Type	Colour	Number of pieces per packet (PCS)	50237... Ident. No.	
For tray 280x260 mm	Black	-	320	○
For tray 345x260 mm	Black	-	321	○
For tray 430x260 mm	Black	-	322	○
For tray 215x300 mm	Black	-	323	○
For tray 430x300 mm	Black	-	324	○
For tray 280x400 mm	Black	-	325	○
For tray 430x400 mm	Black	-	326	○
Handles	White	2	280	●
Handles	Red	2	281	●
Handles	Black	2	282	●

Prod. Gr. 586

CLIP-O-FLEX® Clip-on profiles

Application:

Ident. No. 213: For attachment to CLIP-O-FLEX support rails; various materials can also be screwed, riveted or affixed.

Execution:

- **Ident. No. 085:**
  - Length 105 mm, made of aluminium with black cover caps on left and right
  - The hook-on profile is simply slotted in on the rear of W-KLT® storage boxes no. 50057 012-013
- **Ident. No. 213:**
  - Made of aluminium 54 mm wide, naturally oxidised
  - With black cover caps, left- and right-hand side

Advantage:

- **Ident. No. 085:** The hook.on profile allows W-KLT® storage boxes no. 50057 012-013 to be flexibly and ergonomically attached to any workstation with CLIP-O-FLEX support rails no. 50237 005-257.

Delivery:

Ident. No. 213: 1 pair = 2 pieces

Technical data:

- Material: Aluminium
- Surface: Anodised

	Suspension angle	Punched-hole	Load-carrying capacity (kg)	Type	Number of pieces per packet (PCS)	50237... Ident. No.	
	0° | 12,5°	-	-	Multi-Clip 227	-	309	○
	0° | 12,5°	-	-	Multi-Clip 447	-	310	○
	0° | 12,5°	-	-	Multi-Clip 667	-	311	○
	0° | 45°	4 x M5	10	-	2	213	●
	0° | 12,5° | 25°	-	15	-	-	085	●

Prod. Gr. 586

Accessories for		50237 085	50237 309	50237 310	50237 311
50057... W-KLT® storage boxes with front flap Stackable, made from polypropylene	Ident. No.	012 ● 013 ● 014 ●	012 ● 013 ● 014 ●	012 ● 013 ● 014 ●	012 ● 013 ● 014 ●

CLIP-O-FLEX® Mounting rails

Application:

Ident. No. 005–019: For attachment to the wall, workbench, trolley, workbench structure or perforated metal plate walls As a holder for CLIP-O-FLEX insert profiles and trays.

Ident. No. 294: For mounting on a wall, workbench, trolley, workbench attachment or perforated metal plate wall. As a holder for CLIP-O-FLEX clip-on profiles and trays.

Execution:

- Total length = nominal length + 5 mm (cover caps)
- **Ident. No. 005–019:**
  - Made of naturally anodised aluminium
  - Pre-drilled, suitable for perforated metal plate walls with centre-to-centre distance 38 mm
  - Incl. lateral (left- and right-hand) cover caps
- **Ident. No. 294:**
  - Made of natural anodised aluminium
  - Includes cover caps for the left and right sides

Advantage:

- A tray, storage compartment or shelf can be inserted into the rail or detached again with only one movement
- Optimum horizontal and vertical flexibility
- **Ident. No. 005–019:**
  - Elements can be inserted into the sophisticated rail profile in various angles from 0–90° using the insert profiles and trays no. 50237 091-106
  - The profiles are can be easily moved sideways within the rails
  - Ergonomic and flexible workplace design
- **Ident. No. 294:**
  - Elements can be inserted into the ingenious rail profile at various angles ranging from 0-90° using clip-on profiles and trays no. 50237 091-106
  - The profiles can be easily moved sideways within the rails
  - Ergonomic and flexible workstation design

Delivery:

Ident. No. 005–019: Incl. lateral cover caps on left and right

Notes:

Ident. No. 005–019: For trays to mount on rails, see no. 50237 101-106, for hook-in profiles see no. 50237 091-098/211-213

Technical data:

- Material: Aluminium
- Surface: Anodised

Ident. No. 294

Ident. No. 005–019

Product video: YouTube ID: ub1ReeYvGwk

Length (mm)	Width (mm)	Depth (mm)	Number of drill holes	50237... Ident. No.	
3000	-	-	0	294	●
500	38	20	2	005	●
700	38	20	3	006	●
750	38	20	4	007	●
800	38	20	4	008	●
990	38	20	4	011	●
1400	38	20	6	014	●
1500	38	20	6	015	●
2000	38	20	6	019	●+

Prod. Gr. 586

CLIP-O-FLEX® Tool holders and tool hooks

Application:

Ident. No. 293: For safely storing commercially available packing tape and adhesive tape dispensers.

Ident. No. 295–308: CLIP-O-FLEX® tool holders keep your workplace neat and tidy. Unique due to the 2 mounting angles available (0/12.5°) and its ability to be repositioned horizontally. The ideal complement to tool trays or other CLIP-O-FLEX® products.

Ident. No. 327: The FlipClip Regular allows up to six elements to be clipped into the system rail from the front and easily secured. The spacing between the individual clips can be adjusted as desired. Efficient use of space from a wall width of just one metre is guaranteed. FlipClip Regular is available with either a PVC or a steel plate. A maximum load capacity of 15 kg per clip (with the steel base plate) makes it possible to store even heavy objects easily and above all securely.

Execution:

- **Ident. No. 306:** Flexible holder for round tools such as brooms, shovels and similar products with a handle measuring between 20 and 30 mm
- **Ident. No. 307:** For various tools and objects such as screwdrivers, cutter knives, pens, folding rules and more
- **Ident. No. 308:** Pair of holders for heavy and large tools such as torque wrenches and similar products
- **Ident. No. 327:**
  - Load capacity per clip: up to 15 kg
  - 0° angle to the mounting surface
  - Aluminium mounting rail
  - FlipClip metal base plate
  - Operation is very easy due to the synchronous clamping jaws. The trick behind this is that the weight determines the clamping pressure.

Type		Hook A, 30x40	Hook A, 40x60	Hook A, 80x20	Hook A, 50x20	Hook G, 50x50	Hook R 30, coated	Hook A 90x30, coated	Hook R 40, coated
50237...	Ident. No.	295 ○	296 ○	297 ○	302 ○	303 ○	298 ○	299 ○	300 ○

Type		Holder D 80	Film cutter	Holder D 100	Regular	Tool tray N8/10	Tapered holster	Holder for a diameter of 20 to 30 mm	Packing tape dispenser
50237...	Ident. No.	304 ○	301 ○	305 ○	327 ○	308 ○	307 ○	306 ○	293 ○

Prod. Gr. 586

Work surface extension

Application:

Extends the work surface by approx. 300 mm or provides an additional storage area at the workstation. Can be attached to either the front or side.

There is a gap and very small height difference between the worktop and the extension. Can also be used as a storage shelf on CLIP-O-FLEX® rails mounted to table tops.

Type		Beech work surface extension	HPL work surface extension
50237...	Ident. No.	334 ○	335 ○

Prod. Gr. 586

Ident. No. 334

Ident. No. 335

CLIP-O-FLEX® Caps and nuts

Application:

Ident. No. 095: For attaching to the support rails for connecting two support rails when used at a 90° angle, for example on a workbench top panel.

Ident. No. 096: For attaching to the support rails.

Ident. No. 099: For the connection of support rails.

Ident. No. 289: For attaching CLIP-O-FLEX® support rails to perforated sheet metal plates

Execution:

- **Ident. No. 099:** Can be attached to support rails as an intermediate piece for rail extensions
- **Ident. No. 289:**
  - Material: Steel
  - Assembly: for 10x10 mm punched holes
  - Scope of delivery: 10 pieces

Delivery:

Ident. No. 095–096: Packing unit 2 pieces

Ident. No. 289: 10 pieces in pack, excluding screws

Notes:

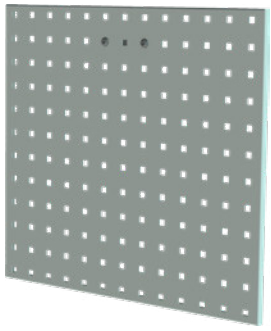
Ident. No. 289: RasterPlan perforated metal plate walls in various colours see no. 50637 702-731

Type		Plastic corner element	Cover cap	Longitudinal connector	Cage nut
Number of pieces per packet (PCS)		2	2	1	10
50237...	Ident. No.	095 ●	096 ●	099 ●	289 ●

Prod. Gr. 586

CLIP-O-FLEX® Perforated plates

Execution:
- For adding a perforated metal plate to CLIP-O-FLEX® workstations
- Available in three sizes and orientations
- Made of sheet steel with a top-grade finish, 1.25 mm thick
- 10x10 mm square holes
- Distance from hole centre to hole centre: 38 mm
- Vertically and horizontally chamfered all round and reinforced with lower braces



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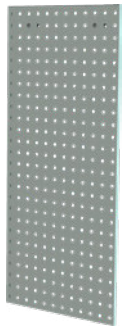

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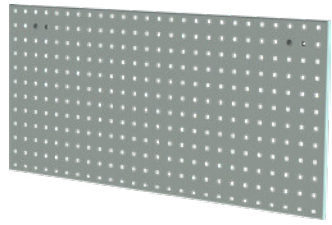


Ident. No. 292

Type		Perforated metal plate 1000x450 mm	Perforated metal plate 450x1000 mm	Perforated metal plate 450x500 mm
50237...	Ident. No.	290 O+	291 O+	292 O

Prod. Gr. 586

W-KLT® storage boxes with front flap

Stackable, made of polypropylene

Application:
In Euro dimensions with integrated dispenser function for clearly arranged storage of small parts, consumables and bulk materials.

Execution:
- Box made from polypropylene, dispenser made from ABS
- Circumferential stack edge for easy stacking
- Reinforced base, high load-bearing capacity and dimensional stability
- Recessed handles for optimum grip when transporting
- Smooth internal walls facilitate easy cleaning of boxes
- Label field for clear labelling of box or goods

Advantage:
- Allows access to contents when stacked, space-saving storage of containers with integrated dispensers
- The open front flap allows you to identify and remove contents easily even when stacked
- Up to 50% less shelf space and surface area required
- Maximum efficiency and optimisation of work processes
- Impact-resistant and break-proof

Notes:
Accessories: W-KLT®-CLIP hook-on profile no. 50237 085 is simply slotted onto the back of W-KLT® storage boxes. This allows the storage box to be mounted easily on CLIP-O-FLEX support rails. For optimum and ergonomic provision of storage boxes in the workplace.

Technical data:
- Load-carrying capacity: 30 kg
- Material: PP - Polypropylene
- Min. temperature resistance: -20
- Max. temperature resistance: 90
- With handle: Yes

Ident. No. 013

Ident. No. 014

L1 (mm)					297	396
L2 (mm)					385	486
B2 (mm)					198	298
H2 (mm)					147	147
L3 (mm)					247	335
B1 (mm)					166	265
H1 (mm)					115	115
Stack load (kg)					75	75
		Colour	With lid			
W-KLT® storage boxes with front flap	50057...	Night blue RAL 5022	No	Ident. No.	013 ●	014 ●

Prod. Gr. 504

HK system trolley – the UNIVERSAL TROLLEY for individual configuration

With extensive equipment elements

Customise your TROLLEY according to your requirements and expectations.
With 10 x 10 mm square perforation in the central or asymmetrical divider and in the two outer walls, we offer a comprehensive range of accessories and flexible options for individually equipping your basic trolley according to your application.
Use the trolley, for example, as a cleaning station, mobile workstation, 5S assembly trolley, LEAN workplace trolley, mobile workshop trolley, material picking trolley, for storage and mobile transport for slings or long, bulky tools, parts, cables, etc.
We would be happy to address any special requirements for additional equipment elements. Please contact us.

Design:

- Robust, welded sheet steel construction
- Outer walls and divider with 10x10 mm square perforation, 38 mm grid spacing and slotted perforation, for attaching tool holders, support elements, hooks and various accessories
- Four integrated handles in outer walls for moving the trolley easily
- Powder-coated surface: Body RAL 7035 light grey, accent roof available in RAL 5010 gentian blue or RAL 7016 anthracite grey.

Example as tool picking trolley – equipped with CLIP-O-FLEX support rails, trays and tool inlays

Example as material/tool trolley – equipped with various accessory parts such as shelves, tool holders and bins

Advantages:

- The UNIVERSAL TROLLEY with numerous equipment options – configure YOUR OWN individual trolley
- With square and slotted perforation in walls, the trolley can be customised to meet your requirements
- Diverse and extensive accessories range for equipping the trolley
- Rapid retrofitting and conversion of accessory parts to cope with new workplace requirements
- Up to 24 RAL colours deliverable on request at no extra charge

Example as clearing station – equipped with paper dispenser, recyclable materials collector and broom set

Example as cleaning station – equipped with cleaning equipment

Further information and advice on request.
Technical hotline +49 (0)7141 498-5819

System trolley

For personalised configuration

Application:
basic trolley can be individually equipped with various elements, e.g. as a cleaning trolley, 5S assembly trolley, tool/material provision trolley, for storage and mobile transport for slings or long, bulky tools, parts, cables etc.

Execution:
- sturdy sheet steel construction, fully welded
- outer walls and divider with 10x10 mm square perforations, grid spacing 38 mm, and slotted perforations for attaching support elements, hooks and various accessories
- mobile thanks to 4 steering rollers Ø 125 mm, with trackless light-grey solid rubber tread and thread protection, 2 rollers with wheel blocks
- easy to move with four integrated handles in outer walls
- ref. no. 110: centre divider – usable depth 300/300 mm
- ref. no. 112: asymmetrical divider – usable depth 400/200 mm
- additional colours (at no extra charge) and special equipment requirements deliverable on request

Advantage:
- THE UNIVERSAL TROLLEY with numerous equipment options – configure YOUR OWN individual trolley
- square and slotted perforations in walls enable the trolley to be custom-equipped as per requirements
- versatile and comprehensive accessories range for equipping trolley
- rapid retooling and conversion of accessories for changing workplace requirements

Notes:
For versatile and comprehensive equipment elements see from no. 50240 120-138, RasterPlan tool hooks and support elements see from no. 50638 300, RasterPlan easy-view storage bins see from no. 50638 810-847.

Technical data:
- Load-carrying capacity: 600 kg
- Distance between centre of hole and centre of hole: 38 mm
- Number of steering rollers: 4 PCS
- Wheel diameter: 125 mm
- With wheel lock: Yes
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 301

Design		Divider centric	Divider centric
Width (mm)		745	745
Depth (mm)		650	650
Height (mm)		1880	1880
Colour of trolley		Light grey RAL 7035	Optional
50240...	Ident. No.	301 O+	302 O+

Prod. Gr. 559

For colours available without a surcharge, see page 1759

Accent roof

Accessories for HK system trolley no. 50240 301-302

Application:
visual design element for HK system trolley no. 50240 110-113

Technical data:
- Width: 745 mm
- Depth: 650 mm
- Height: 70 mm
- Material: Sheet steel
- Surface: Powder-coated

Colour		Gentian blue RAL 5010	Optional	Anthracite grey RAL 7016
50240...	Ident. No.	320 O+	321 O+	322 O+

Prod. Gr. 559

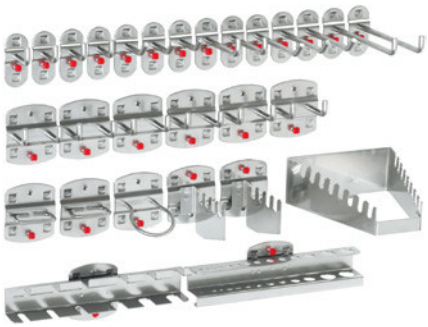
®RasterPlan Hook assortments

Multi-piece compartments, for 10 x 10 mm square perforation

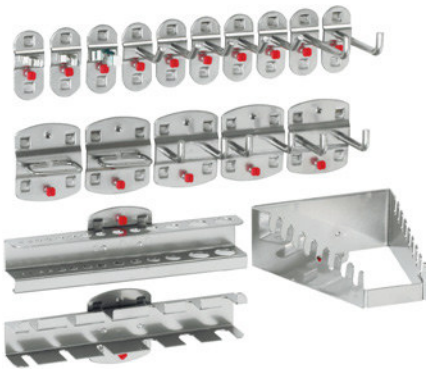
Application:
Individual holder for tools and parts in pegboards with 10 x 10 mm square holes, spacing 38 mm

Execution:
- The hooks are simply inserted into the required hole and fixed in place with the red plastic screw

Delivery:
Screw included in scope of delivery



Ident. No. 344



Ident. No. 345

Ident. No. 649

50638...	Hook assortment, 28 pieces in set	Ident. No.	344 ●
50638...	Hook assortment, 18 pieces in set	Ident. No.	345 ●
50638...	Hook assortment, 10 pieces in set	Ident. No.	649 ●

Prod. Gr. 5AC

®RasterPlan Tool Tower, optionally stationary or mobile

With 4 external perforated plates

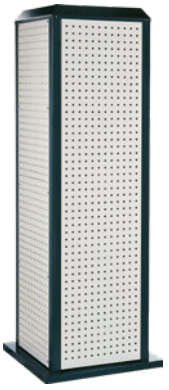
MADE IN

Application:
For storing and provisioning tools and small parts. Also ideal for use as an info point for centrally displaying information and notifications for customers, visitors, departments and employees.

Execution:
- with 4 external perforated panels, 10x10 mm square perforation, grid spacing 38 mm
- **Ident. No. 250–251:** robust frame construction with fixed base
- **Ident. No. 252–253:**
  - sturdy frame construction with base and 4 steering rollers
  - with 4 steering rollers, 2 of which with locking devices according to EN 1757-3

Advantage:
- square perforations in walls enable the ToolTower to be custom-equipped as per requirements
- rapid retooling and conversion of accessories for changing workplace requirements
- **Ident. No. 252–253:** mobile application possible thanks to steering rollers

Technical data:
- Punched-hole: 10 x 10 mm
- Distance between centre of hole and centre of hole: 38 mm
- With doors: No
- Lockable: No
- Lock type
- Material: Sheet steel
- Colour of perforated panel: Light grey RAL 7035
- Surface: Plastic-coated



Ident. No. 251

Ident. No. 253

Example equipped with tools and hooks

						Colour of frame	Gentian blue RAL 5010		Anthracite grey RAL 7016	
						Colour of roof	Gentian blue RAL 5010		Anthracite grey RAL 7016	
Design	Width (mm)	Depth (mm)	Height (mm)	Number of steering rollers	Wheel Ø (mm)	With wheel lock	50240... Ident. No.		50240... Ident. No.	
Stationary	700	700	2015	-	-	No	250	○+	251	○+
Mobile	700	700	2175	4	125	Yes	252	○+	253	○+

Prod. Gr. 5AC

®RasterPlan Tool Tower, optionally stationary or mobile

With 4 external perforated plates, 1 of which is a locking door

MADE IN

Application:
For storing and provisioning tools and small parts. Also ideal for use as an info point for centrally displaying information and notifications for customers, visitors, departments and employees.

Execution:
- **Ident. No. 260–261:**
  - robust frame construction with fixed base
  - with 4 external perforated panels, 10x10 mm square perforation, grid spacing 38 mm, of which 1 panel as lockable door
- **Ident. No. 262–263:**
  - sturdy frame construction with base and 4 steering rollers
  - With 4 external perforated panels, 10x10 mm square perforation, grid spacing 38 mm, of which 1 panel as lockable door
  - with 4 steering rollers, 2 of which with locking devices according to EN 1757-3

Advantage:
- square perforations in walls enable the ToolTower to be custom-equipped as per requirements
- rapid retooling and conversion of accessories for changing workplace requirements
- interior space can also be fully utilised – equipping possible with tool holders, shelving, boxes, CLIP-O-FLEX system (support rails and trays)
- **Ident. No. 262–263:** mobile application possible thanks to steering rollers

Technical data:
- Punched-hole: 10 x 10 mm
- Distance between centre of hole and centre of hole: 38 mm
- Number of steering rollers: 4
- With doors: Yes
- Number of shelves: 2
- Lockable: Yes
- Lock type: Cylinder lock
- Material: Sheet steel
- Colour of perforated panel: Light grey RAL 7035
- Surface: Plastic-coated

Ident. No. 263

					Colour of frame	Gentian blue RAL 5010		Anthracite grey RAL 7016	
					Colour of roof	Gentian blue RAL 5010		Anthracite grey RAL 7016	
Design	Width (mm)	Depth (mm)	Height (mm)	Wheel Ø (mm)	With wheel lock	50240... Ident. No.		50240... Ident. No.	
Stationary	700	700	2015	-	No	260	○+	261	○+
Mobile	700	700	2175	125	Yes	262	○+	263	○+

Prod. Gr. 5AC

CONNECT Vario Mobil (CVM) system trolley
Individually equipped with accessories

Design:

- Mobile base trolley, consisting of 2 sectional supports, pushing handle and tray base
- Available in 2 versions depending on application:
  - Version with tray base on both sides – depth 720 mm (360 mm per side)
  - Version with tray base on one side – depth 450 mm
- Tray base load capacity max. 100 kg
- Incl. 4 steering rollers, dia. 125 mm, 2 with locking devices
- Tool-free installation of attachment elements in 50-mm grid
- Perforated sheet metal wall panels 720 x 600 mm (W x D) with 10 mm square holes and 38 mm axis distance

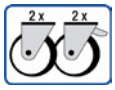
Suitable accessories: Support elements and tool hooks for perforated sheet metal walls can be found from no. 50638 300-651 and Euro-standard stacking containers from no. 50059 110-290

Powder coating: Basic cart/body hanging cabinet/suspended drawer RAL 7035, light grey. Perforated sheet metal panel/front hanging cabinet, hanging file cabinet, trays, shelves available in RAL 5010 gentian blue or RAL 7016 anthracite grey

Delivery: Profile supports, sliding handle and tray base ready-mounted, wheels not mounted.

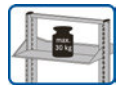
On request: Additional system trolleys deliverable in different variants and heights of 750 or 1350 mm.

Standard features:

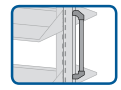


4 steering rollers,
2 with wheel blocks

Roller diameter


Max. load capacity
per shelf

Max. load, base trolley


Sliding handle

Example as a cleaning station, tray bottom on both sides

Base trolley, tray base on one side

Choose your preferred colour (no extra charge) for products with this logo:

RAL 1015	RAL 3002	RAL 3020	RAL 5010	RAL 5012	RAL 5014	RAL 5015	RAL 6011	RAL 7035	RAL 9010
light ivory	carmine red	traffic red	gentian blue	light blue	pigeon blue	sky blue	reseda green	light grey	pure white

Colours may be subject to printing-related differences; the original colours according to RAL are definitive.

Stool
Five legs

Execution:
- Height-adjustable thanks to hidden dustproof threaded spindle
- Round beechwood seat, diameter 350 mm in natural varnish
- Base frame made of steel tube with plastic skid base

Technical data:
- Material of frame: Steel plate
- Min. seat height: 450 mm
- Max. seat height: 570 mm
- Seat diameter: 350 mm
- Adjustable in height: Yes

	Base frame colour		
50123...	Black grey RAL 7021	Ident. No.	010 ○+

Prod. Gr. 504

ATORN Beech work stool
With a small cross base + safety gas spring for height adjustment

Execution:
- Round beech wood seat with natural-coloured varnish, diameter 350 mm
- Practical ring release of covered safety gas spring for height adjustment
- Small plastic cross base, diameter 440 mm

Technical data:
- Load-carrying capacity: 120 kg
- Adjustable in height: Yes
- ESD-capable: No
- Material of frame: Steel/plastic

Base frame design				Five legs
Min. seat height (mm)				440
Max. seat height (mm)				630
Seat Ø (mm)				350
	Material of seat part	Base frame colour		
50123...	Beech	Black	Ident. No.	030 ○

Prod. Gr. 504

bimos

All-round stool with castors (DIN 68877)

The comfortable and versatile solution for short periods of sitting

Application:
The stool is a comfortable and flexible solution for short-term sitting in industrial applications, the service sector, healthcare settings and laboratories. Get more out of your stool with the optional flex support.

Execution:
- Seat height can be infinitely adjusted between 450 and 650 mm
- Seat cushion: Large, rounded seat cushion with extra-thick, comfortable padding
- Optional flex support: height-adjustable for arms and back
- **Ident. No. 112–114:** Fabric cover: breathable, comfortable and soft
- **Ident. No. 115–117:** Synthetic leather cover: washable, soft, comfortable and resistant to oils and disinfectants
- **Ident. No. 118–120:** PU foam: extremely durable, washable, resistant to mechanical influences
- **Ident. No. 121–123:** Supertec: comfortable, breathable and highly resistant thanks to micro-plating. Cut-resistant, non-slip and easy to clean

Advantage:
- Height adjustment via pneumatic spring using the practical ring trigger
- Coloured ring for protecting edges and cushions, provides durability
- Space-saving thanks to an elegant, compact, star-shaped base with a diameter of 540 mm

Technical data:
- Load-carrying capacity: 120 kg
- Material of frame: Plastic
- Min. seat height: 450 mm
- Max. seat height: 650 mm
- Seat diameter: 400 mm
- Colour of seating: Black
- Adjustable in height: Yes
- Height adjustment: Gas pressure spring
- With foot ring: No

Ident. No. 112

Ident. No. 113

Ident. No. 114

Ident. No. 115

Ident. No. 116

Ident. No. 117

Ident. No. 118

Ident. No. 119

Ident. No. 120

Ident. No. 121

Ident. No. 122

Ident. No. 123

		All-round stool with castors		Backrests	
Material of seating	Colour	50120... Ident. No.		50120... Ident. No.	
Fabric	Black | Blue	112	●	136	●
Fabric	Black | Grey	113	●	136	●
Fabric	Black | Green	114	●	136	●
Synthetic leather	Black | Blue	115	●	136	●
Synthetic leather	Black | Grey	116	●	136	●
Synthetic leather	Black | Green	117	●	136	●

		All-round stool with castors		Backrests	
Material of seating	Colour	50120... Ident. No.		50120... Ident. No.	
PU foam	Black | Blue	118	●	136	●
PU foam	Black | Grey	119	●	136	●
PU foam	Black | Green	120	●	136	●
Supertec	Black | Blue	121	●	136	●
Supertec	Black | Grey	122	●	136	●
Supertec	Black | Green	123	●	136	●

Prod. Gr. 5AA

bimos Flexstütze (DIN 68877)

For arms and backs

Application:
The flex support for arms and back is a real upgrade for the stool and turns it into a flexible seat.

Advantage:
- Relieves the back and arms
- Promotes mobility and flexibility
- Quick and simple installation of the flex support

Notes:
Suitable for all stools with product numbers 50120100-50120135.

Technical data:
- Type: All-round flex support
- Material: Polyurethane foam
- Colour: Black
- Washable: Yes
- Breathable: No
- Adjustable in height: Yes
- Max. height adjustment: 100 mm
- Load-carrying capacity: 120 kg
- ESD-capable: No

	Material		
50120...	Polyurethane foam	Ident. No.	136 ●

Prod. Gr. 5AA

bimos All-round stool with castors, ESD (DIN 68877)

Application:
The ESD stool is a comfortable and flexible solution for short periods of sitting in ESD workplaces.

Execution:
- Infinitely variable seat height adjustment between 450 and 650 mm
- ESD PU foam: extremely durable, washable, resistant to mechanical influences
- Seat cushion: Large, rounded seat cushion with extra-thick comfortable padding
- ESD-capable in accordance with EN 61340-5-1

Advantage:
- Height adjustment via pneumatic spring using the practical ring trigger
- Black coloured ring for protecting edges and upholstery, provides durability
- Space-saving thanks to an elegant, compact five-star base with a diameter of 540 mm

Technical data:
- Load-carrying capacity: 120 kg
- Material of seating: PU foam
- Material of frame: Aluminium
- Min. seat height: 450 mm
- Max. seat height: 650 mm
- Seat diameter: 400 mm
- Colour: Black
- Adjustable in height: Yes
- Height adjustment: Gas pressure spring

		Base frame colour		
All-round stool with castors, ESD	50120...	Silver coloured	Ident. No.	137 ●

Prod. Gr. 5AA

bimos All-round stool with castors, clean room (DIN 68877)

Application:
The clean room stool is a comfortable and flexible solution for short periods of sitting in clean room workplaces.

Execution:
- Infinitely variable seat height adjustment between 450 and 650 mm
- The synthetic leather cover is washable, soft, comfortable and resistant to disinfectants
- Seat cushion: Large, rounded seat cushion with extra-thick comfortable padding
- Clean room class 3 in accordance with EN ISO 14644-1
- ESD-capable in accordance with EN 61340-5-1

Advantage:
- Height adjustment via pneumatic spring using the practical ring trigger
- Hygienic design, suitable for clean rooms
- Space-saving thanks to an elegant, compact five-star base with a diameter of 540 mm
- Synthetic leather cover, washable and resistant to disinfectants
- soft and comfortable

Technical data:
- Load-carrying capacity: 120 kg
- Adjustable in height: Yes
- On castors: Yes
- ESD-capable: Yes
- DIN: 68877
- Colour of tape: Black
- Material of frame: Aluminium
- Colour of the cushion: Black

Base frame design					Five-star base with rollers
Min. seat height (mm)					450
Max. seat height (mm)					650
Seat Ø (mm)					400
		Material of seat part	Base frame colour		
All-round stool with castors, clean room	50120...	Synthetic leather	Silver coloured	Ident. No.	138 ●

Prod. Gr. 5AA

Combined rolling/reclining seat

For fast, easy switching between sitting and lying position

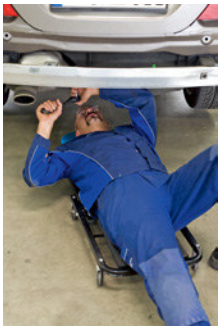
Application:
For comfortable working in seated and lying position.

Execution:
- Stable, robust steel tube frame with six large wheels, diameter 63 mm, tilt-proof
- Load capacity up to 150 kg
- Padded seat/reclining surface, easy to clean off dirt
- Dimensions for lying position: L x W x H 1198 x 450 x 130 mm
- Seat height 420 mm, seat 300 x 310 mm
- Colour: black and headrest or seat HAZET blue

Advantage:
- Creeper and creeper seat “in-one”, quick and uncomplicated switch between both functions

Delivery:
Supplied flat-packed, easy assembly

Technical data:
- Load-carrying capacity: 150 kg
- With foot strut: No
- Adjustable seat inclination: No
- Adjustable in height: No
- On castors: Yes
- ESD-capable: No
- Material of frame: Steel



As rolling/reclining seat

Base frame design				Frame with rollers
Min. seat height (mm)				420
Max. seat height (mm)				420
Seat Ø (mm)				300
	Material of seat part	Base frame colour		
50120...	Upholstery	Black	Ident. No.	031 ●

Prod. Gr. 506

ErgoPlus perching stool

Folding

Execution:
- Stable structure made from plastic-coated steel profiles, warp-resistant and durable
- Seat and backrest infinitely height-adjustable using a turning knob

Advantage:
- Eases strain on feet and spinal column, supports through relaxed standing

Notes:
Perching stools provide support while the feet remain in contact with the floor. Perching stools must not be used as seats.

Technical data:
- Base frame design: Two feet
- Adjustable in height: Yes
- Height-adjustable backrest: Yes
- Replaceable cushion: No
- Load-carrying capacity: 120 kg
- ESD-capable: No
- Material of seat/backrest: Fabric
- Material of frame: Steel
- Colour of seating: Black
- Min. seat height: 550 mm
- Max. seat height: 900 mm

Ident. No. 012
With black Skai cover

Min. seat height (mm)		550	550	550
Max. seat height (mm)		900	900	900
Base frame colour		Light grey RAL 7035	Jet black RAL 9005	Traffic red RAL 3020
50130...	Ident. No.	012 ●	015 ●	020 ●+

Prod. Gr. 504

bimos

Work stools and standing aids with castors and sliders (DIN 68877)

Seat with SoftTouch PU foam

Execution:

- **Ident. No. 100:** Seat with innovative SoftTouch PU foam with wave profile for the optimal support and climate comfort
- **Ident. No. 100, 104:**
  - extra-large range of seat heights, infinitely adjustable
  - Seat with comfortable back support - soft, washable, robust and durable
  - base made of sturdy plastic with five feet to prevent tipping
- **Ident. No. 102:**
  - Extra-large range of seat heights, infinitely adjustable
  - Seat with innovative soft-touch PU foam with wave profile for the best grip and climatic comfort
  - Seat with comfortable back support, soft, wipe-able, robust and durable
  - Base made of sturdy plastic with five feet to prevent tipping
- **Ident. No. 104:**
  - Seat with innovative SoftTouch PU foam with wave profile for the best grip and climate comfort
  - Height-adjustable ring-design footrest

Advantage:

- **Ident. No. 100, 104:** Combined solution for sitting and standing - relief for the body and healthy posture thanks to integrated back support
- **Ident. No. 102:** Combined solution for sitting and standing - relief for the body and healthy posture through integrated back support

Technical data:

- Adjustable in height: Yes
- Load-carrying capacity: 120 kg
- ESD-capable: No
- Material of frame: Plastic
- Base frame colour: Black

Ident. No. 100

Ident. No. 102

Ident. No. 104

Min. seat height (mm)		450	510
Max. seat height (mm)		650	780
Base frame design		Five-star base with rollers	Five-star base with glides
50130...	Ident. No.	100 ●	104 ●

Prod. Gr. 5AA

Office swivel chair (DIN EN 1335)

With padded high-rise backrest

Application:
For challenging ergonomics in office workspaces. The ergonomic package ensures active-dynamic sitting and supports the body in every working position in the office.

Execution:
- Classic soft comfort padding
- 4D armrests optional
- Traditional soft and comfortable padding
- Chair castors with large diameter (65 mm)
- Universal rollers suitable for hard and soft floors
- DIN EN 1335 (international standard for office swivel chairs)
- GS mark for tested safety
- Delivered pre-assembled

Advantage:
- Functional, ergonomic and comfortable upholstery
- Easy-care backrest, back made of plastic
- Synchronous engineering with weight regulation
- Blue Angel
- Tested for harmful substances

Delivery:
Armrests not included

Technical data:
- Adjustable in height: Yes
- Height-adjustable backrest: Yes
- Min. seat height: 412 mm
- Max. seat height: 544 mm
- Seat depth: 460 mm
- Seat width: 490 mm
- Load-carrying capacity: 120 kg
- Base frame design: Five-star base with rollers
- Adjustable seat inclination: No
- Base frame colour: Black
- Colour of the cushion: Black
- With armrests: No
- Replaceable cushion: No
- Material of frame: Plastic

50126...	Ident. No.	004 ●

Prod. Gr. 504

Accessories for		50126 004
50126... 4D – armrest (pair) For office swivel chairs HK no. 50126004 - 005	Ident. No.	006 ●

Office swivel chair (DIN EN 1335)

With breathable mesh backrest

Application:
For challenging ergonomics in office workspaces. The ergonomic package ensures active-dynamic sitting and supports the body in every working position in the office.

Execution:
- Mesh back gives the impression of
- airiness
- 4D armrests optional
- The mesh back gives the impression of lightness
- Chair castors with large diameter (65 mm)
- Universal rollers suitable for hard and soft floors
- DIN EN 1335 (international standard for office swivel chairs)
- GS mark for tested safety
- Delivered pre-assembled

Advantage:
- Easy to clean
- Breathable
- Synchronous engineering with weight regulation
- Blue Angel
- Tested for harmful substances

Delivery:
Armrests not included

Technical data:
- Adjustable in height: Yes
- Height-adjustable backrest: Yes
- Min. seat height: 412 mm
- Max. seat height: 544 mm
- Seat depth: 460 mm
- Seat width: 490 mm
- Load-carrying capacity: 120 kg
- Base frame design: Five-star base with rollers
- Adjustable seat inclination: No
- Base frame colour: Black
- Colour of the cushion: Black
- With armrests: No
- Replaceable cushion: No
- Material of frame: Plastic

50126...	Ident. No.	005 ●

Prod. Gr. 504

Accessories for		50126 005
50126... 4D – armrest (pair) For office swivel chairs HK no. 50126004 - 005	Ident. No.	006 ●

4D - armrest (pair)

For office swivel chairs HK no. 50126004 - 005

Application:
Adjustable width, height and depth, swivel

Technical data:
- Colour: Black
- Washable: Yes

50126...	Ident. No.	006 ●

Prod. Gr. 504

Chair, stackable

Seat and backrest made of laminated beechwood, 4-legged

MADE IN

Execution:
- Stable steel tube frame with plastic glide runners
- Seat and backrest made of laminated beechwood
- Multi-bonded, clear varnished

Technical data:
- Adjustable in height: No
- Height-adjustable backrest: No
- Min. seat height: 475 mm
- Max. seat height: 475 mm
- Base frame design: Steel tube with glides
- Adjustable seat inclination: No
- Replaceable cushion: No
- Material of frame: Steel

Ident. No. 021

Base frame colour		Black grey RAL 7021	Light grey RAL 7035
50120...	Ident. No.	020 ○	021 ○

Prod. Gr. 504

Industrial swivel chair (DIN 68877)

Seat and backrest made of laminated beechwood, with gliders

MADE IN

Execution:
- Height-adjustable thanks to hidden dustproof threaded spindle
- Laminated beech in natural varnish
- Rigid connection between backrest and seat support
- Base frame made of steel tube with plastic glide runners and five feet to prevent tipping

Technical data:
- Adjustable in height: Yes
- Height-adjustable backrest: No
- Adjustable seat inclination: No
- Replaceable cushion: No
- With armrests: No
- With foot ring: No
- With rising aid: No
- Load-carrying capacity: 120 kg
- On castors: No
- ESD-capable: No
- DIN: 68877
- Material of frame: Steel
- Base frame colour: Black grey RAL 7021
- Surface: Powder-coated

Base frame design				Five-star base with glides
Min. seat height (mm)				450
Max. seat height (mm)				570
	With cushion	Material of seat/ backrest		
50125...	No	Beech	Ident. No.	010 ○+

Prod. Gr. 504

bimos

ISITEC swivel work chair (DIN 68877)

Seat and backrest made of integral foam

Execution:
- Seat and backrest made of robust integral foam
- Height of backrest can be easily adjusted by ratcheting mechanism
- Ref. no. 026: Height-adjustable foot rest ring
- **Ident. No. 022:**
  - Seat height adjustment with pneumatic spring, Seat incline adjustment to -8°
  - Accessories: Ident. no. 150, arm rests (1 pair)
- **Ident. No. 024–026:**
  - Seat height adjustment with pneumatic spring, seat angle adjustment up to -8°
  - Accessories: Ref. no. 150 armrests (1 pair)

Advantage:
- Contact backrest that continuously adjusts to the movements of the upper body or can be easily locked in any position with a control lever
- **Ident. No. 022:**
  - Seat and back rest resistant against light acids and alkalis, can be easily wiped and cleaned without problem
  - Lumbar support ensures optimal support to fit natural back curvature
  - The light weight of the unit itself and the integrated carry handle make it possible to place the chair conveniently to the side
- **Ident. No. 024–026:**
  - Seat and backrest resistant to weak acids and alkalis, washable and easy to clean
  - Lumbar support ensures optimal support to follow the natural back curvature
  - The light weight of the unit itself and the integrated carry handle allow the chair to be conveniently moved out of the way.

Technical data:
- Model: ISITEC
- Adjustable in height: Yes
- Height-adjustable backrest: Yes
- Adjustable seat inclination: Yes
- Replaceable cushion: No
- With armrests: Optional
- With rising aid: No
- Load-carrying capacity: 120 kg
- ESD-capable: No
- DIN: 68877
- Material of frame: Plastic
- Base frame colour: Black

Ident. No. 022

Ident. No. 024

Ident. No. 026

Base frame design					Five-star base with glides	Five-star base with rollers	Five-star base with glides
Min. seat height (mm)					430	430	580
Max. seat height (mm)					600	600	850
With foot ring					No	No	Yes
On castors					No	Yes	No
	With cushion	Material of seat/ backrest	Colour				
50127...	Yes	PU foam	Black	Ident. No.	022 ●	024 ●	026 ●

Prod. Gr. 5AA

Accessories for			50127 022	50127 024	50127 026
50128...	Arm rests	Ident. No.	150 ●	150 ●	150 ●

bimos

ALL-IN-ONE Highline swivel work chair (DIN 68877)

with different cushions

Application:

Ident. No. 100–102, 110–124: An all-rounder with all-inclusive ergonomics - can be tailored to any individual and any workplace situation. With its unique range of setting options to cater for the manifold requirements of industrial, workshop, healthcare, research and development applications.

Ident. No. 104: An all-rounder with all-inclusive ergonomics - can be tailored to any individual and any workplace situation. With its unique range of setting options to meet the diverse requirements for industrial, workshop, healthcare, research and development applications.

Execution:

- Seat height adjustment with pneumatic spring
- **Ident. No. 100–102, 110–120, 124:** Stable, low-profile steel five-star base, black
- **Ident. No. 100–102, 110–124:**
  - Synchronous technology with weight management
  - Angle, height and depth of seat can be adjusted
  - Angle and height of backrest can be adjusted
  - Accessories: Ref. no. 130, arm rests (1 pair), swivelling and adjustable in height, width and depth
- **Ident. No. 100–120, 124:** Ref. no. 104/114/124: Height-adjustable foot rest ring
- **Ident. No. 104:**
  - synchronous engineering with weight regulation
  - Seat can be adjusted for tilt, height and depth
  - Backrest can be adjusted for tilt and height
  - Stable, low-profile steel star base, colour black
  - Accessories: Ident. no. 130, arm rests (1 pair), swivelling and adjustable in height, width and depth
- **Ident. No. 122:**
  - Closes the gap between office and work chairs
  - Provides all the ergonomic features of quality office chairs
  - Stable, low-profile steel star-shaped base, black
  - Ref. no. 104/114/124: Height-adjustable ring-design footrest

Advantage:

- **Ident. No. 100–102, 110–120, 124:** Extra tall and large, ergonomically shaped backrest
- **Ident. No. 104:** Extra high and large, ergonomically shaped backrest
- **Ident. No. 122:**
  - A chair to suit all needs, from health to comfort
  - Unique, all-inclusive ergonomic concept
  - Can be optimally adjusted to body size
  - Supports the body in every posture
  - For every work situation

Technical data:

- Model: ALL-IN-ONE
- Adjustable in height: Yes
- Height-adjustable backrest: Yes
- Adjustable seat inclination: Yes
- Replaceable cushion: No
- With armrests: Optional
- With rising aid: No
- Load-carrying capacity: 120 kg
- ESD-capable: No
- DIN: 68877
- Material of frame: Steel
- Base frame colour: Black

Ident. No. 100

Ident. No. 102

Ident. No. 104

Ident. No. 112

Ident. No. 122

Ident. No. 124
Figures with gliders, PU foam and foot ring

With weight regulation

The chair that can do it all

With synchronous mechanics

Back rest height

Back rest inclination

Seat height

Seat depth

Seat incline

Base frame design					Five-star base with glides	Five-star base with rollers	Five-star base with glides
Min. seat height (mm)					450	450	570
Max. seat height (mm)					600	600	830
With foot ring					No	No	Yes
On castors					No	Yes	No
	With cushion	Material of seat/ backrest	Colour				
50127...	Yes	Fabric	Black	Ident. No.	100 ○	102 ●	104 ●

Base frame design					Five-star base with glides	Five-star base with rollers	Five-star base with glides
Min. seat height (mm)					450	450	570
Max. seat height (mm)					600	600	830
With foot ring					No	No	Yes
On castors					No	Yes	No
	With cushion	Material of seat/ backrest	Colour				
50127...	Yes	Synthetic leather	Blue	Ident. No.	110 ○	112 ●	114 ●
50127...	Yes	PU foam	Black	Ident. No.	120 ●	122 ●	124 ●

Prod. Gr. 5AA

Accessories for		50127 100	50127 102	50127 104	50127 110	50127 112	50127 114	50127 120
50127... Universal arm rests for swivel work chairs	Ident. No.	130 ●	130 ●	130 ●	130 ●	130 ●	130 ●	130 ●

Accessories for		50127 122	50127 124
50127... Universal arm rests for swivel work chairs	Ident. No.	130 ●	130 ●

bimos

Swivel work chair NEON (DIN 68877)

With permanent contact backrest, various cushions with unique changing system

Execution:
- Seat height adjustment with pneumatic spring
- Backrest height adjustment
- Permanent contact backrest
- Body weight adjustment
- Seat tilt adjustment
- Seat depth adjustment
- **Ident. No. 151, 154:**
  - Stable aluminium star base in black
  - Accessories: Ident. no. 158, arm rests (1 pair)
- **Ident. No. 152, 155:**
  - stable aluminium star base in black
  - Accessories: Ref. no. 158, arm rests (1 pair)
- **Ident. No. 153, 156:**
  - sturdy aluminium star-shaped base in black
  - Accessories: Ref. no. 158, armrests (1 pair)

Advantage:
- **Ident. No. 151, 154:**
  - Extra-large, ergonomically-shaped backrest
  - Consisting of two elements: Chair element with frame and mechanics and cushion element
- **Ident. No. 151–152, 154–155:** Cushions can be replaced effortlessly thanks to the 1 + 1 system; simply slot in the cushion elements and click to fix
- **Ident. No. 152–153, 155–156:**
  - extra-large, ergonomically shaped backrest
  - consisting of two elements: Chair element with frame and mechanics and cushion element
- **Ident. No. 153, 156:** Cushions can be replaced effortlessly thanks to the 1 + 1 system; simply insert the cushion elements and click to lock

Delivery:

Ident. No. 151, 154: Cushions and armrests not included

Ident. No. 152, 155: without cushion

Ident. No. 153, 156: cushions and armrests not included

Notes:

Cushion must be ordered separately, for various cushions, see no. 50128 162-169

Technical data:
- Model: NEON
- Adjustable in height: Yes
- Height-adjustable backrest: Yes
- Adjustable seat inclination: Yes
- Replaceable cushion: Yes
- With foot ring: No
- Load-carrying capacity: 120 kg
- ESD-capable: No
- DIN: 68877
- Material of frame: Aluminium
- Base frame colour: Black

Ident. No. 151

Ident. No. 153

Ident. No. 155

Unique interchangeable padding system

The permanent contact backrest follows the person's movements and ensures that the back is always ideally supported. The weight regulation system ensures that the back rest resistance and body weight are always balanced. The permanent contact backrest is particularly suitable for work that requires a stance of predominantly bending forwards with a short distance between the workpiece and the eyes (e.g. in precision engineering or in a laboratory)

Product video: YouTube ID: GO_c-9T2bfA

Base frame design				Five-star base with glides	Five-star base with rollers	Five-star base with glides	Five-star base with glides
Min. seat height (mm)				450	450	590	450
Max. seat height (mm)				620	620	870	620
With armrests				No	Optional	No	Optional
With rising aid				No	No	Yes	No
On castors				No	Yes	No	No
		With cushion					
50128...	With grey flex band	No	Ident. No.	151 ●	152 ●	153 ●	-
50128...	With green flex band	No	Ident. No.	-	155 ●	156 ●	154 ●

Prod. Gr. 5AA

Accessories for		50128 151	50128 152	50128 153	50128 154	50128 155	50128 156
50128... Arm rest NEON For chairs no. 50128151-156,	Ident. No.	158 ●	158 ●	158 ●	158 ●	158 ●	158 ●
50128... NEON fabric cushion For chairs no. 50128151-156,	Ident. No.	162 ● 163 ●	163 ●	162 ● 163 ●	163 ●	163 ●	163 ●
50128... NEON cushion For chairs no. 50128151-156, Black	Ident. No.	164 ●	164 ●	164 ●	164 ●	164 ●	164 ●
50128... NEON cushion For chairs no. 50128151-156, Blue	Ident. No.	165 ●	165 ●	165 ●	165 ●	165 ●	165 ●
50128... NEON cushion For chairs no. 50128151-156,	Ident. No.	166 ● 167 ●	166 ● 167 ●	166 ● 167 ●	166 ● 167 ●	166 ● 167 ●	166 ● 167 ●
50128... Supertec® cushion For chairs no. 50128151-156, Black	Ident. No.	168 ●	168 ●	168 ●	168 ●	168 ●	168 ●
50128... Supertec® cushion For chairs no. 50128151-156, Blue	Ident. No.	169 ●	169 ●	169 ●	169 ●	169 ●	169 ●

bimos

ESD-Basic swivel work chair (DIN 68877)

with different cushions

Application:

Ident. No. 142, 145, 148–149: The ESD-compliant work chair makes a key contribution to reliable ESD protection measures at electronic workstations. An optimum choice of materials and joining technologies mean that BIMOS ESD Basic chairs are protected against the occurrence of electrostatic charge. It also ensures that any charge carried by the user is reliably transferred to the conductive base.

Ident. No. 143, 146: The ESD-compliant work chair makes a key contribution to reliable ESD protection measures at electronic workstations. An optimum choice of materials and joining technologies mean that BIMOS ESD Basic chairs are protected from electrostatic charge. It also ensures that any charge carried by the user is reliably transferred to the conductive base.

Execution:

- Ref. no. 143/146/149: Height-adjustable foot rest ring
- **Ident. No. 142, 145, 148–149:**
  - Infinitely variable and user-friendly seat height adjustment via pneumatic spring with dust protection
  - ESD-capable in accordance with DIN EN 61340-5-1
- **Ident. No. 143, 146:**
  - Infinitely-variable and user-friendly seat height adjustment via pneumatic pressure spring with dust protection
  - ESD-capable according to DIN EN 61340-5-1

Advantage:

- **Ident. No. 142, 145, 148–149:** Ergonomically shaped permanent contact backrest, height-adjustable
- **Ident. No. 143, 146:** Ergonomically-shaped permanent-contact backrests, height-adjustable

Technical data:

- Model: ESD-Basic
- Adjustable in height: Yes
- Height-adjustable backrest: Yes
- Adjustable seat inclination: No
- Replaceable cushion: No
- With armrests: Optional
- With rising aid: No
- Load-carrying capacity: 120 kg
- ESD-capable: Yes
- DIN: 68877
- Material of frame: Aluminium
- Gloss level: Polished

Ident. No. 145

Ident. No. 148

Ident. No. 149

Base frame design					Five-star base with rollers	Five-star base with glides
Min. seat height (mm)					460	620
Max. seat height (mm)					620	870
With foot ring					No	Yes
On castors					Yes	No
	With cushion	Material of seat/ backrest	Colour			
50128...	Yes	Fabric	Black	Ident. No.	142 ●	143 ●
50128...	Yes	Fabric	Blue	Ident. No.	145 ●	146 ●
50128...	Yes	Synthetic leather	Black	Ident. No.	148 ●	149 ●

Prod. Gr. 5AA

Accessories for		50128 142	50128 143	50128 145	50128 146	50128 148	50128 149
50128... Arm rests	Ident. No.	150 ●	150 ●	150 ●	150 ●	150 ●	150 ●

Anti-slip adhesive tapes

With rough surface

Application:
Versatile use and easy to glue, e.g on stair steps, ladders, ramps, paths, entry areas, loading zones or in front of machines, for use inside and outside.

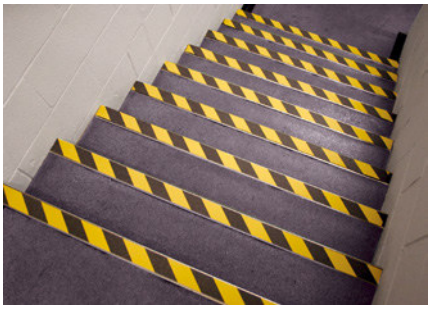
Execution:
- Self-adhesive, anti-slip adhesive tape with rough surface made of aluminium oxides on a polymer backing
- Slip prevention R13 in accordance with EN 13552
- Temperature-resistant from -20 °C to +60 °C and UV-resistant
- 1 roll width 50 mm, length per roll 18.3 m

Advantage:
- Suitable for fast marking of hazardous areas
- Increases slip safety on slippery surfaces

Technical data:
- Material: Aluminium oxide/polymer
- Surface structure: Coarse
- Suitable for wet areas: No
- Antistatic: No
- Non-slip: Yes
- Compliant with REACH: Yes

Length (m)			18.3
Width (mm)			50
Min. temperature resistance (°C)			-20
Max. temperature resistance (°C)			60
	Colour		
50225...	Black	Ident. No.	130 ●
50225...	Black | Yellow	Ident. No.	132 ●
50225...	Red | White	Ident. No.	134 ●
50225...	Yellow	Ident. No.	136 ●
50225...	Transparent	Ident. No.	138 ●

Prod. Gr. 5AD



Example application

Anti-slip mats

With nubbed structure

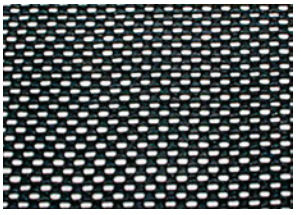
Application:
The mats can be used for numerous purposes, e.g. as drawer inserts or tool trays for workbenches, cabinets, tool boxes and tool trolleys, on machines as tool trays, also suitable in vehicle luggage compartments as loading and transport protection and as a work surface.

Execution:
- Reinforced fabric mat with textured structure made of adhesive plastic
- Lightweight, can be cut to size, highly resistant to tearing and extremely durable
- Washable at 40°C

Advantage:
- The mat remains firmly in place without being glued, even on rough or sloping surfaces

Technical data:
- Material: Rubber
- Surface structure: Open burling
- Suitable for wet areas: Yes
- Antistatic: No
- Non-slip: Yes
- Compliant with REACH: Yes

Ident. No. 050



Nubbed texture

Mat design			Cutting dimensions	Roller
Length (mm)			1200	10000
Width (mm)			600	600
Material thickness (mm)			4	4
Min. temperature resistance (°C)			-10	-10
Max. temperature resistance (°C)			60	60
	Colour			
50225...	Black	Ident. No.	010 ●	050 ●

Prod. Gr. 5AD

Rubber mats

From natural rubber, with fine grooves

Application:
For dry areas of application and normal use such as on workbenches, assembly laboratory areas, packing tables, inspection stands. For use as a floor runner with many applications in production settings, in front of machinery or anywhere that objects may slip, and for cutting to fit drawer inserts, tool trays or work surfaces for workbenches, cabinets, tool trolleys, cases and boxes.

Execution:
- Finely grooved surface profile
- Fine longitudinal grooves
- Base covering with excellent resistance to wear and tears
- Limited resistance to diluted acids and solutions

Technical data:
- Material: Rubber
- Surface structure: Fine notches
- Resistance against: Acid (limited)
- Suitable for wet areas: No
- Antistatic: No
- Non-slip: Yes
- Compliant with REACH: Yes

Mat design			Roller	Roller	Roller
Length (mm)			10000	10000	10000
Width (mm)			1000	1200	1000
Material thickness (mm)			3	3	6
Min. temperature resistance (°C)			-20	-20	-20
Max. temperature resistance (°C)			70	70	70
	Colour				
50225...	Black	Ident. No.	011 ●+	012 ●+	013 ●+

Prod. Gr. 5AD

Rubber mat

Made of nitrile rubber, with fine grooves

Application:
For medium stresses in indoor and outdoor use. Normal application, such as for workbenches, assembly and laboratory areas, pack tables, inspection stands. For use as a floor runner with many applications in production settings, in front of machinery or anywhere that objects may slip, and for cutting to fit drawer inserts, tool trays or work surfaces for workbenches, cabinets, tool trolleys, cases and boxes.

Execution:
- Made from 3 mm thick rubber, resistant against oil
- Surface made of fine-groove profile, grooved in longitudinal direction

Technical data:
- Material: Rubber
- Surface structure: Fine notches
- Resistance against: Oil (limited)
- Suitable for wet areas: Yes
- Antistatic: No
- Non-slip: Yes
- Compliant with REACH: Yes

Mat design			Roller
Length (mm)			10000
Width (mm)			1000
Material thickness (mm)			3
Min. temperature resistance (°C)			-30
Max. temperature resistance (°C)			60
	Colour		
50229...	Black	Ident. No.	015 ●+

Prod. Gr. 5AD

BasicDry workplace mat

Single mat

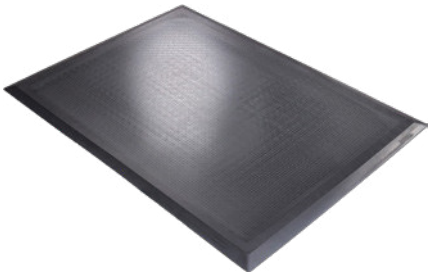
Application:
The multifunctional workplace mat with the AGR (Healthy Back Campaign) seal of approval. Elasticated material: Work ergonomically when stationary. The elastic properties of the high-quality rubber compound and the special product geometry increase productivity. ERGOLASTEC® BASIC increases concentration and promotes health. In addition, the ERGOLASTEC® mat is non-slip on the floor and provides additional safety in the industrial environment. For dry workplaces where high rotational flexibility is required. Typical areas include logistics, assembly and picking workplaces.

Execution:
- Type A: Individual mat

Advantage:
- High position stability
- Modular system, made to measure upon request
- Long service life and high abrasion resistance

Technical data:
- Material: Rubber
- Min. temperature resistance: 5
- Max. temperature resistance: 80
- Suitable for wet areas: Yes
- Antistatic: Yes
- Anti-fatigue: Yes
- Compliant with REACH: Yes
- Type: Type A: Individual mat
- ESD-capable: No
- Length: 1350 mm

NEW



Length (mm)					1350
Width (mm)					1000
	Surface structure	Material thickness (mm)	Colour		
50225...	Burled	16	Black	Ident. No.	733 ●+

Prod. Gr. 5AD

BasicDry workplace mat

Puzzle mat

Application:
The multifunctional workplace mat with the **AGR (Healthy Back Campaign) seal of approval.**
Elasticated material: Work ergonomically when stationary.
The elastic properties of the high-quality rubber compound and the special product geometry increase productivity. ERGOLASTEC® BASIC increases concentration and protects health. In addition, the ERGOLASTEC® mat is non-slip on the floor and provides additional safety in the industrial environment.
For dry workplaces where high rotational flexibility is required. Typical areas are logistics, assembly and picking workplaces.
Puzzle mat, various configurations.

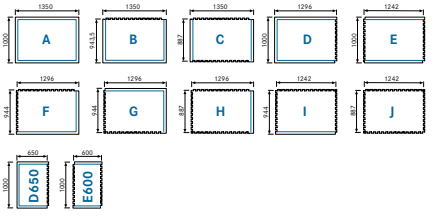
Execution:
- Type B: Start/end piece, 1,350 mm, toothing on 1 long side
- Type C: Centre piece, 1,350 mm, toothing on 2 long sides
- Type D: Start/end piece, 1,000 mm, toothing on 1 short side
- Type E: Centre piece 1,000 mm, toothing on 2 short sides
- Type F: Corner piece type G: Corner piece
- Type H: Toothing on 2 long sides and 1 short side
- Type I: Toothing on 1 long side and 2 short sides
- Type J: Toothing on all sides
- Type E 600: Half centre piece, 1,000 mm, toothing on 2 short sides
- Type D 650: Half start/end piece, 1,000 mm, toothing on 1 short side

Advantage:
- High position stability
- Modular system, made to measure upon request
- Long service life and high abrasion resistance

Technical data:
- Material: Rubber
- Min. temperature resistance: 5
- Max. temperature resistance: 80
- Suitable for wet areas: Yes
- Antistatic: Yes
- Anti-fatigue: Yes
- Compliant with REACH: Yes
- ESD-capable: No

NEW

Ident. No. 734



Ident. No. 734

				Surface structure	Burled
				Material thickness (mm)	16
				Colour	Black
Length (mm)	Width (mm)	Type	Length (mm)	50225... Ident. No.	
1350	943.5	Type B: Start/end piece, 1,350 mm, toothing on 1 long side	1350	734	○+
1350	887	Type C: Centre piece, 1,350 mm, toothing on 2 long sides	1350	735	●+
1296	1000	Type D: Start/end piece, 1,0 mm, toothing on 1 short side	1296	736	●+
1242	1000	Type E: Centre piece 1,0 mm, toothing on 2 short sides	1242	737	●+
1296	944	Type F: Corner piece	1296	738	●+
1296	944	Type G: Corner piece	1296	739	●+
1296	887	Type H: Toothing on 2 long sides and 1 short side	1296	753	●+
1242	944	Type I: Toothing on 1 long side and 2 short sides	1242	754	●+
1242	887	Type J: Toothing on all sides	1242	755	●+
1000	600	Type E 600: Half centre piece, 1,0 mm, toothing on 2 short sides	1000	756	●
1000	650	Type D 650: Half start/end piece, 1,0 mm, toothing on 1 short side	1000	757	●

Prod. Gr. 5AD

Soft PVC protective cover, transparent

Height: 3 mm

Application:
Protects the work surface from soiling and damage.

Execution:
- Free from DOP, cadmium and silicone
- Fire protection class B2 in line with DIN 4102

Notes:
Not suitable for workbench panels in solid beech!

Length (mm)		1500	2000	1500	2000	1500	2000
Depth (mm)		700	700	750	750	800	800
50233...	Ident. No.	905 ●+	910 ●+	915 ●+	920 ●+	928 ●+	930 ●+

Prod. Gr. 504

Kneeling/mechanic's mat

Made of foam

Execution:
- Made from non-absorbent foam material with closed cells
- With carry/hanging handle

Advantage:
- Relieving for knees and back
- Wipeable, easy to clean surface
- Resistant against oil, petrol, brake cleaner as well as practically all liquids used in workshops

Technical data:
- Material: Foam material
- Resistance against: Oil | Fats | Petrol
- Suitable for wet areas: No
- Antistatic: No
- Anti-fatigue: Yes
- Non-slip: Yes
- Compliant with REACH: Yes

Ident. No. 096

Ident. No. 098

Length (mm)					450	975
Width (mm)					210	385
Length (mm)					450	975
	Surface structure	Material thick-ness (mm)	Colour			
50225...	Closed	30	Black | Blue	Ident. No.	096 ●	098 ●

Prod. Gr. 506

Workplace mats made of PVC

Checker plate structure, height 9 mm

Application:
Ideal for dry workstations and light- to medium-duty applications.

Execution:
- Single-layer, ergonomic PVC mat with non-slip diamond plate surface
- Non-slip and impact resistant, insulates against cold and protects the industrial floor
- R10 slip resistance in accordance with EN 13552
- Fire protection class B2 according to DIN 54332/ DIN 4102
- Weight approx. 3.5 kg/m²
- Ref. no. 164-167: with yellow safety marking strips on sides

Advantage:
- Relieves the back and leg muscles and prevents premature fatigue during extended periods of standing
- Increases general safety underfoot
- Easy to cut to the requested dimensions and shape

Delivery:
Mats delivered with bevelled edges, even if cut to size

Notes:
Sold by the metre up to max. length 18.3 m: We will be happy to cut the desired length to size. Mats which have been cut to size cannot be returned.

Technical data:
- Material: PVC - Polyvinyl chloride
- Mat design: Individual mat
- Min. temperature resistance: 0 °C
- Max. temperature resistance: 60 °C
- Suitable for wet areas: No
- Antistatic: No
- Anti-fatigue: Yes
- Non-slip: Yes
- Compliant with REACH: Yes

Ident. No. 160

Ref. no. 160-163 in black

Length (mm)					900	1500
Width (mm)					600	900
Length (mm)					900	1500
	Surface structure	Material thick-ness (mm)	Colour			
50225...	Stud plate / closed	9	Black	Ident. No.	160 ○	161 ○+

Prod. Gr. 5AD

Workplace mats made of PVC

Grooved structure, height 9 mm

Application:
Ideal for dry workstations and light- to medium-duty applications.

Execution:
- Single-layer, ergonomic PVC mat with non-slip ribbed surface
- Non-slip and impact resistant, insulates against cold and protects the industrial floor
- R10 slip resistance in accordance with EN 13552
- Fire protection class B2 according to DIN 54332/ DIN 4102
- Weight approx. 3.5 kg/m²
- Ref. no 182/187/192/197: with yellow safety marking strips on sides

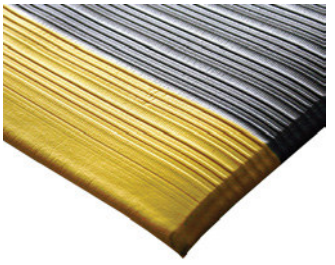
Advantage:
- Relieves the back and leg muscles and prevents premature fatigue during extended phases of standing
- Increases general step safety
- Easy to cut to the requested dimensions and shape

Delivery:
Mats delivered with bevelled edges, even if cut to size

Notes:
Sold by the metre up to max. length 18.3 m: We will be happy to cut the desired length to size. Mats which have been cut to size cannot be returned.

Technical data:
- Material: PVC - Polyvinyl chloride
- Min. temperature resistance: 0 °C
- Max. temperature resistance: 60 °C
- Suitable for wet areas: No
- Antistatic: No
- Anti-fatigue: Yes
- Non-slip: Yes
- Compliant with REACH: Yes

Ident. No. 180



Ident. No. 182

Length (mm)					900	1500	1000	1000
Width (mm)					600	900	900	1200
Mat design					Individual mat	Individual mat	Bulk stock	Bulk stock
Length (mm)					900	1500	1000	1000
	Surface structure	Material thickness (mm)	Colour					
50225...	Grooves / closed	9	Grey	Ident. No.	180 ●	185 ●+	190 ○	195 ○
50225...	Grooves / closed	9	Grey | Yellow	Ident. No.	182 ○	187 ○+	-	-

Prod. Gr. 5AD

Workplace mat made of SBR/nitrile rubber compound, low-wear

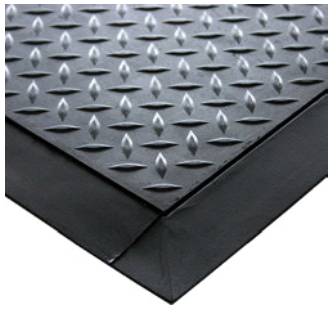
In checker plate look, height 12.5 mm

Application:
Suitable for work areas subject to high temperatures, and also for workbenches, assembly and laboratory areas, packing tables or inspection stands.

Execution:
- Black closed mat, surface in checker plate design allows easy turning on the spot, made of SBR/nitrile rubber mixture
- Temperature-resistant from -30 °C to +70 °C
- Good resistance against oils and greases
- Slip prevention R9 according to EN 13552
- Material: Natural rubber/25% nitrile mixture
- **Ident. No. 300:** With all-round bevelled edges for safe access
- **Ident. No. 310–320:**
  - Dovetail connections mean that any length can be achieved (width of 700 mm)
  - With bevelled edges on 3 sides

Advantage:
- **Ident. No. 310–320:** Effortless design of production lines thanks to dovetail connection

Technical data:
- Material: Nitrile rubber
- Resistance against: Oil | Fats | Petrol | Coolant
- Min. temperature resistance: -30 °C
- Max. temperature resistance: 70 °C
- Suitable for wet areas: Yes
- Antistatic: No
- Anti-fatigue: Yes
- Non-slip: Yes
- Compliant with REACH: Yes
- Length: 800 mm



Ident. No. 310–320
② Two end pieces, left and right Centre pieces ③ can be inserted in between until the required dimension is reached.

Ident. No. 300, 320
Example applications: ① Individual mat ② Two end pieces

Length (mm)					800	800	800
Width (mm)					700	700	700
Mat design					Individual mat	Middle piece	End piece
	Surface structure	Material thickness (mm)	Colour				
50225...	Stud plate / closed	12.5	Black	Ident. No.	300 ●	310 ●	320 ●

Prod. Gr. 5AD

PVC workplace mats, made to measure

Nubbed structure, height 12.7 mm

Application:
For average durability in dry areas.

Execution:
- Microcellular vinyl with Dyna-Shield™ layer, non-slip surface R10 according to DIN 51130 and BG Rule BGR181
- Fire protection class 2 according to NFPA 101
- Mats delivered with four bevelled edges
- Weight: 4 kg per m^2
- Available upon request: Surface with wide transverse or longitudinal grooves, in bulb plate look

Advantage:
- Excellent standing comfort and increased durability thanks to Dyna-Shield™ surface - 50% more compared to conventional microcell vinyl floor covering

Notes:
Sold by the metre up to max. length 18.3 m: We will be happy to cut the desired length to size. Mats which have been cut to size cannot be returned.

Technical data:
- Material: PVC - Polyvinyl chloride
- Mat design: Bulk stock
- Min. temperature resistance: -10 °C
- Max. temperature resistance: 70 °C
- Suitable for wet areas: No
- Antistatic: No
- Anti-fatigue: Yes
- Non-slip: Yes
- Compliant with REACH: Yes

Ident. No. 623–625

Length (m)					-	18.3	-	-
Width (mm)					600	910	1220	910
Length (m)					-	18.3	-	-
	Surface structure	Material thickness (mm)	Colour					
50225...	Burling / closed	12.7	Grey	Ident. No.	620 ○	621 ○	622 ○	-
50225...	Burling / closed	12.7	Black | Yellow	Ident. No.	623 ○	-	625 ○	624 ○

Prod. Gr. 5AD

PVC workplace mats, made to measure

Checker plate structure, height 14 mm

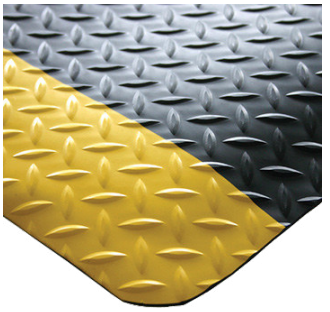
Application:
For high durability in dry industrial environments.

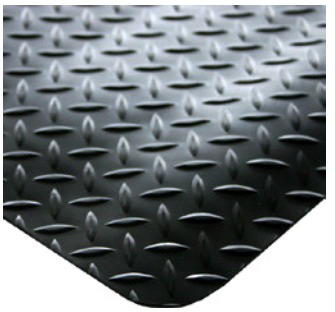
Execution:
- Extremely robust PVC mat, surface with checker plate design
- Dual layer: foamed PVC underside, extremely robust, self-extinguishing PVC upper section
- Moderate resistance to oils and greases
- Meets or exceeds the requirements of the Consumer Product Safety Commission, FF1-70
- Thickness: 14 mm
- Four all-round-chamfered safety edges, thus no risk of tripping

Advantage:
- Checker plate design enables easy turning on the spot
- Premium ergonomic mat for effective and reliable protection against the effects of standing for long periods
- Mat with yellow borders for safety marking

Notes:
Sold by the metre up to max. length of 18.3 m: we will be happy to cut the desired length to size. mats which have been cut to size cannot be returned.

Technical data:
- Material: PVC - Polyvinyl chloride
- Mat design: Bulk stock
- Min. temperature resistance: 0 °C
- Max. temperature resistance: 60 °C
- Suitable for wet areas: No
- Antistatic: No
- Anti-fatigue: Yes
- Non-slip: Yes
- Compliant with REACH: Yes





Width (mm)					600	900	1200	1500
	Surface structure	Material thickness (mm)	Colour					
50225...	Stud plate / closed	14	Black	Ident. No.	630 ○	631 ○	632 ○	633 ○
50225...	Stud plate / closed	14	Black | Yellow	Ident. No.	634 ○	635 ○	636 ○	637 ○

Prod. Gr. 5AD

Workplace mats

With nubbed surface, made of either natural or nitrile rubber

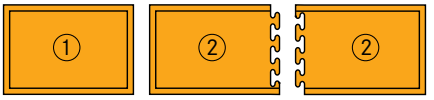
Application:
Ident. No. 400–431: For dry areas of application and normal use such as on workbenches, assembly laboratory areas, packing tables, inspection stands.
Ident. No. 500–530: For high durability in wet, oily and industrial environments.

Execution:
- Black, closed mat with textured surface
- **Ident. No. 400–411, 500–510:**
  - Can be used as an individual mat
  - With all-round bevelled edges for safe access
- **Ident. No. 420–431, 520–530:**
  - Central piece can be combined lengthwise with end piece
  - Dovetail connections mean that any length can be achieved (width of 600 mm)
  - With bevelled edges on 3 sides
- **Ident. No. 500–530:** Material: Natural rubber / 25% nitrile mixture

Advantage:
- Textured surface continuously stimulates the circulation in order to reduce symptoms of fatigue when standing for extended periods
- Effortless design of production lines thanks to dovetail connection

Technical data:
- Min. temperature resistance: -30 °C
- Max. temperature resistance: 50 °C
- Antistatic: No
- Anti-fatigue: Yes
- Non-slip: Yes
- Compliant with REACH: Yes

Ident. No. 420–431, 520–530
② Two end pieces, left and right Centre pieces ③ can be inserted
in between until the required dimension is reached.



Ident. No. 400–411, 430, 500–510, 530
Example applications: ① Individual mat ② Two end pieces

						Surface structure	Burling / closed		Burling / closed	
						Material thickness (mm)	14		14	
						Colour	Black		Black | Yellow	
Length (mm)	Width (mm)	Material	Mat design	Resistance against	Suitable for wet areas	Length (mm)	50225... Ident. No.		50225... Ident. No.	
900	600	Rubber	Individual mat	-	No	900	400	●	401	○
1200	900	Rubber	Individual mat	-	No	1200	410	●	411	●
900	600	Rubber	Middle piece	-	No	900	420	●	421	○
900	600	Rubber	End piece	-	No	900	430	●	431	○

						Surface structure	Burling / closed		Burling / closed	
						Material thickness (mm)	14		14	
						Colour	Black		Black | Yellow	
Length (mm)	Width (mm)	Material	Mat design	Resistance against	Suitable for wet areas	Length (mm)	50225... Ident. No.		50225... Ident. No.	
900	600	Nitrile rubber	Individual mat	Oil | Acid | Fats | Petrol | Coolant	Yes	900	500	●	-	-
1200	900	Nitrile rubber	Individual mat	Oil | Acid | Fats | Petrol | Coolant	Yes	1200	510	●	-	-
900	600	Nitrile rubber	Middle piece	Oil | Acid | Fats | Petrol | Coolant	Yes	900	520	●	-	-
900	600	Nitrile rubber	End piece	Oil | Acid | Fats | Petrol | Coolant	Yes	900	530	●	-	-

Prod. Gr. 5AD

ATORN Polyurethane workplace mats, flame retardant

Nubbed structure, height 13 mm

Application:
For industrial work areas, e. g. welding stations.

Execution:
- Hardness 25 - 30 Shore
- with all-round bevelled edges for safe access
- Fire protection class B1 according to DIN 54332/ DIN 4102

Advantage:
- Relief for back and leg muscles during extended periods of standing

Technical data:
- Material: Polyurethane
- Mat design: Individual mat
- Suitable for wet areas: No
- Antistatic: No
- Anti-fatigue: Yes
- Non-slip: Yes
- Compliant with REACH: Yes

Length (mm)					960	1200
Width (mm)					660	960
	Surface structure	Material thick-ness (mm)	Colour			
50225...	Flat / closed	13	Anthracite grey RAL 7016	Ident. No.	602 ○	612 ○

Prod. Gr. 5AD

Workplace mats Oil & Fire
Nitrile rubber mats (NBR), in three surface textures

Application:
The modern and ergonomic workplace mats protect the joints and spine, prevent slipping and thus ensure optimum sure-footedness in the workplace. The mats are ideal for walking and standing workplaces such as at workbenches, conveyor belts, assembly tables and turning and milling machines. The additional flame retardant effect allows them to easily be used on workstations with weld spatter and flying sparks.

Design:
- 100% nitrile rubber mats (NBR), colour black, with flat surface structure, height 16 mm, with diamond textured surface, height 18 mm, with hemispherical textured surface, height 19 mm

Advantages:
- Thanks to the Puzzle system, any surfaces can be laid out
- The easy solution for more safety, health, comfort and productivity
- Firm stop for secure standing

On request:
Special dimensions and any shapes

The individual interlocking mats can be placed on any surface using the flexible interlocking system.

Resistant against oils, fats and gasoline

Flame protection in accordance with EN 13501-1, fire-protection class Bfl-S1, temperature resistant -35 °C to +95 °C

Very high stability, therefore also suitable as underlay when using transportation equipment (up to approx. 200 kg)

The nitrile rubber mats (NBR), colour black, are delivered in three surface structures:

Flat surface structure, height 16 mm

Type B-N

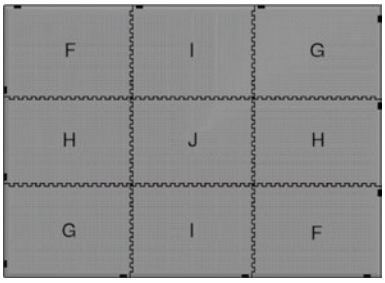
Hemispherical textured surface, height 19 mm

Type B-N

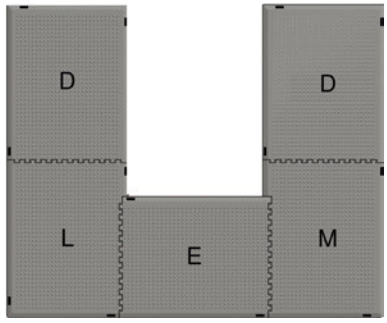
Diamond textured surface, height 18 mm

Type B-N

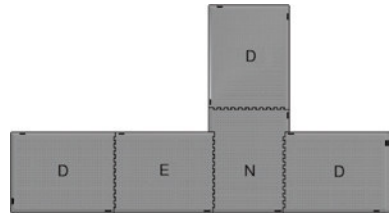
Easy transfer of the ERGOLASTEC workplace mats in the Puzzle system, here some examples:



in surface area

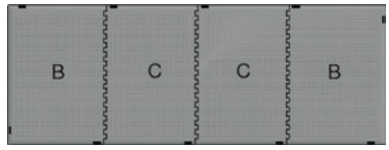


U-arrangement

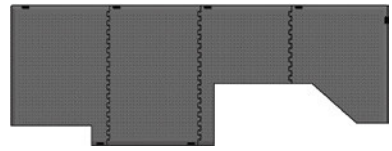


T-arrangement

in length



in width



Special dimensions and a multitude of forms deliverable on request

Workplace mats made of SBR rubber

Perforated structure, height 14 mm

Application:

Ident. No. 150: For dry and wet (but not oily) industrial working areas, e. g. on packing tables, workbenches, assembly/laboratory areas or inspection stands.

Ident. No. 155: For high durability in wet, oily and industrial environments.

Execution:

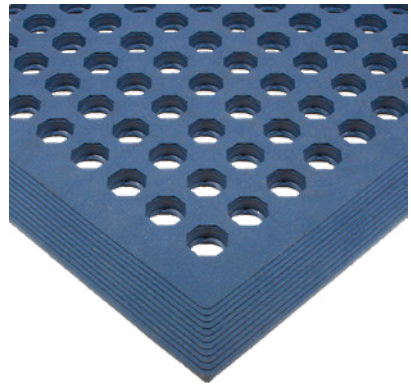
- Raised surface for improved anti-slip feature with chamfered safety edges all around
- Slip prevention R10 in accordance with EN 13552

Advantage:

- Anti-slip - impact resistant - anti-fatigue - insulated against cold
- Easy drainage of liquids using special knobs on the lower side
- **Ident. No. 155:** Highly resistant against oils, greases and chemicals

Technical data:

- Mat design: Individual mat
- Min. temperature resistance: -20 °C
- Antistatic: No
- Anti-fatigue: Yes
- Non-slip: Yes
- Compliant with REACH: Yes
- Length: 1500 mm



Ref. No. 155 made of nitrile rubber

Ref. no. 150 made of SBR rubber

Length (mm)					1500	1500
Width (mm)					900	900
Material					Rubber	Nitrile rubber
Resistance against					-	Oil | Acid | Fats | Petrol | Coolant
Max. temperature resistance (°C)					130	160
Suitable for wet areas					No	Yes
	Surface structure	Material thickness (mm)	Colour			
50225...	Perforated / open	14	Black	Ident. No.	150 O+	-
50225...	Perforated / open	15	Blue	Ident. No.	-	155 O+

Prod. Gr. 5AD

Workplace mats made of nitrile rubber, oil-resistant

Perforated structure, height 22 mm

Application:

For high durability in wet, oily and industrial environments.

Execution:

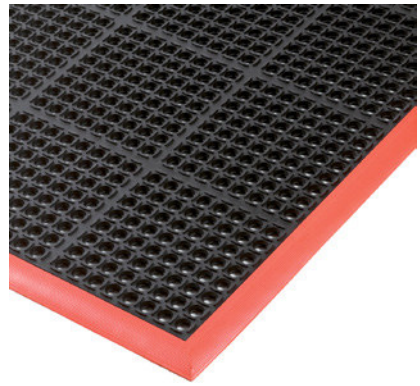
- 100% nitrile rubber, resistant against the majority of industrial oils and chemicals
- Firm grip, non-slip surface R10 in accordance with DIN 51130 and BG Rule BGR 181
- Supplied with three ready-mounted bevelled orange safety edges
- Weight: 13 kg per m^2
- REACH-compliant and silicone-free
- Special models upon request – CAD drawing included with our quotation

Advantage:

- Very comfortable, high-quality anti-fatigue mat with holes for excellent drainage and ventilation
- Ensures a dry, clean workplace in oily industrial areas

Technical data:

- Material: Nitrile rubber
- Mat design: Individual mat
- Resistance against: Oil | Acid | Fats | Petrol | Coolant
- Min. temperature resistance: -20 °C
- Max. temperature resistance: 150 °C
- Suitable for wet areas: Yes
- Antistatic: No
- Anti-fatigue: Yes
- Non-slip: Yes
- Compliant with REACH: Yes



Length (mm)					1020	1630	3150
Width (mm)					660	970	970
Length (mm)					1020	1630	3150
	Surface structure	Material thickness (mm)	Colour				
50225...	Perforated / open	22	Black | Orange	Ident. No.	640 O	642 O+	644 O+

Prod. Gr. 5AD

MATE anti-fatigue mats

Individual mats with HAM-O® anti-fatigue mat, heavy

Application:
For increased comfort when standing at wet workstations by relaxing muscles and joints and providing dry, secure ground.

Execution:
- Combined absorbent and anti-fatigue mat with an ergonomic nitrile tray
- Made from 100% polypropylene
- Can be refilled
- Nitrile base (LxW: 163 x 91 cm)

Delivery:
10 anti-fatigue mats and 1 nitrile tray

Technical data:
- Type: Universal
- Absorptive capacity: High

Length x width			162 x 81 cm	316 x 91 cm
Suction volume (l)			58.5	117.1
Type description			MATE916	MATE917
	Colour			
69746...	Tarn pattern	Ident. No.	960 ○+	-
69746...	Black | Grey	Ident. No.	-	970 ○+

Prod. Gr. 6PA

Accessories for		69746 960	69746 970
69746... Refill pack for All-in-1 mat sets Comprises 10 individual mats	Ident. No.	961 ○+	971 ○+

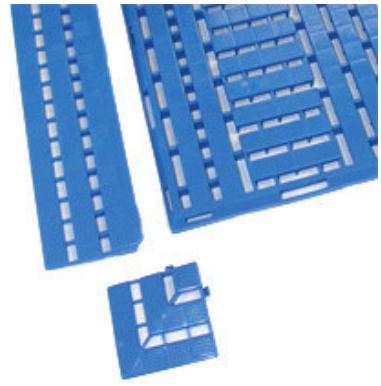
Floor grate

High-pressure polyethylene

Application:
For machine and workbench workstations.

Execution:
- Anti-slip and non-skid, can support loads of up to 40000 kg/m²
- Highly resistant against oils, acids, solvents and alkalis
- Easy to move individually in a longitudinal or transverse direction thanks to hook connections

Technical data:
- Surface structure: Serrated
- Material: PE - Polyethylene
- Resistance against: Oil | Acid | Fats | Petrol | Coolant
- Min. temperature resistance: -10 °C
- Max. temperature resistance: +80 °C
- Suitable for wet areas: Yes
- Anti-fatigue: Yes
- Non-slip: Yes



Length (mm)			1200	1200	1200
Width (mm)			600	600	600
Height (mm)			25	25	25
Colour			Green	Orange	Blue
	With levelling wedge				
50225...	Optional	Ident. No.	101 ●	102 ●	103 ●

Prod. Gr. 5AD

Example application

Safety wooden floor grids in special versions

Any shape is possible: Simply indicate the dimensions and we can produce any shape to meet your specifications. Using special connectors, multi-component wooden floor grids can also be connected to each other. Do not hesitate to get in touch with us. Technical hotline +49 (0)7141 498-5819

ZARGES

MultiMaster 5 aluminium multi-purpose ladders with steps (EN standard 131)

One ladder, five applications

Application:
One ladder, five modes: A stepladder, stepladder for use on stairs, single-section ladder with standoff, single-section ladder and extended single-section ladder all in one.

Execution:
- 80 mm deep steps with ZARGES Safer Step technology for effortless standing
- Increased flexibility and versatility thanks to the specially shaped top, which can also be positioned against inner and outer corners as well as uprights
- Top with magnetic compartment for small parts as well as two clip holders and central recess to accommodate cordless drills or similar tools
- Ladder length as a single-section ladder: 2.88 m
- Ladder length as a stepladder: 1.88 m
- Working height as a single-section ladder: 3.70 m
- Working height as a stepladder: 3.15 m

Advantage:
- Switch between modes quickly and easily using just one hand
- Flexible working and a comfortable grip thanks to anodised struts
- Easy and ergonomic transport thanks to two castors on the climbing section and the handle beneath the top

Technical data:
- Accessibility: One-sided
- Material: Aluminium
- With Safer Step technology: Yes
- With storage tray: Yes
- Folding: Yes
- EN standard: 131
- Max. load capacity: 150 kg
- Type: Combination ladder
- Surface: Anodised
- Mandatory testing according to DGUV (UVV): Yes

Max. height (m)		3.7
Step depth (mm)		80
50260...	Ident. No.	505

Prod. Gr. 5AK

MUNK GÜNZBURGER STEIGTECHNIK **Aluminium free-standing ladders with steps** (EN standard 131)

Access from both sides, nivello® ladder end caps

MADE IN

Execution:
- Stable rectangular tube side-rails
- 80 mm deep, grooved steps
- 4-fold flanged step/side-rail connection
- Conical side-rail guide for a secure footing
- nivello® ladder shoes with patented 2-axis inclination technology
- ergo-pad® grip area with clamping mechanism
- 4-way bolted, solid aluminium ladder joint
- Two high-strength polyester straps to prevent spreading
- Step spacing: 235 mm
- Ladder inclination: 70°

Technical data:
- Max. load capacity: 150 kg
- Material: Aluminium
- EN standard: 131
- Beam height: 73 mm
- Beam width: 25 mm
- Mandatory testing according to DGUV (UVV): Yes

Ident. No. 549

Ident. No. 550

Ident. No. 551

Ident. No. 553

Ident. No. 554

Ident. No. 555

Ident. No. 557

Ident. No. 558

Number of steps	Working height (m)	Pedestal width (m)	Weight (kg)	Width (bottom) (m)	Transport width (m)	Transport length (m)	Transport depth (m)	59002... Ident. No.	
2 x 3	2.2	0.44	5	0.44	0.432	0.74	0.212	549	○+
2 x 4	2.45	0.46	6.5	0.46	0.46	0.99	0.212	550	○+
2 x 5	2.65	0.49	8	0.49	0.49	1.24	0.212	551	●+
2 x 6	2.9	0.52	9	0.52	0.52	1.488	0.213	552	○+
2 x 7	3.15	0.55	10.5	0.55	0.55	1.74	0.213	553	○+
2 x 8	3.4	0.58	12	0.58	0.575	1.99	0.213	554	○+
2 x 9	3.6	0.61	13.5	0.61	0.605	2.24	0.213	555	○+
2 x 10	3.85	0.64	15.5	0.64	0.635	2.495	0.213	556	○+
2 x 12	4.3	0.7	18.5	0.7	0.692	2.99	0.213	557	○+
2 x 14	4.8	0.76	22.5	0.76	0.75	3.488	0.213	558	○+

Prod. Gr. 5AP

ATORN **Aluminium standing ladder with steps** (EN standard 131)

Double-sided access - wide steps

Application:
For ensuring all work at height is reached and completed safely

Execution:
- High-strength extruded aluminium strut profiles in C-profile shape = light weight and maximum torsional rigidity
- Particularly deep aluminium treads allow safe, fatigue-free standing
- The joints between the stiles and the rungs use highly shear-resistant steel rivets to guarantee the highest possible level of safety and maximum durability for the aluminium ladder
- 12 sturdy aluminium cross struts ensure optimum stability of the stepladder
- Special soft plastic shoes guarantee superb resistance to displacement when standing

Advantage:
- steps with 85 mm deep outlet areas

Technical data:
- Max. load capacity: 150
- Material: Aluminium
- EN standard: 131

Ident. No. 581

Ident. No. 582

Ident. No. 584

Number of steps		2 x 3	2 x 4	2 x 5	2 x 7	2 x 9
Working height (m)		1.71	1.92	2.13	2.55	2.97
Length (m)		0.73	0.96	1.19	1.65	2.11
Platform height (m)		0.64	0.85	1.07	1.49	1.91
Height, vertical (m)		0.73	0.96	1.19	1.65	2.11
Pedestal width (m)		0.43	0.45	0.47	0.52	0.57
Weight (kg)		4.7	6	7.3	10.1	14.2
50259...	Ident. No.	**580** ●	**581** ●	**582** ●	**583** ●	**584** ●

Prod. Gr. 5AF

ATORN **Aluminium standing ladder with steps** (EN standard 131)

Single-sided access - wide steps

Execution:
- comfortable and secure footing on non-slip safety platform
- 85 mm deep steps
- High non-bendable safety bar
- Slip-proof ribbing of steps
- High level of stability with low weight
- GS-tested

Advantage:
- With practical aluminium tray for storing tools and other materials

Technical data:
- Max. load capacity: 150 kg
- Material: Aluminium
- With storage tray: Yes
- EN standard: 131

Ident. No. 570

Ident. No. 571

Number of steps (including platform)		1 x 3	1 x 4	1 x 5	1 x 7	1 x 9
Working height (m)		2.75	3	3.25	3.75	4.25
Length (m)		1.52	1.79	2.06	2.6	3.14
Platform height (m)		0.75	1	1.25	1.75	2.25
Pedestal width (m)		0.51	0.54	0.57	0.63	0.66
Weight (kg)		8	9	10.1	12.6	15
50259...	Ident. No.	**570** ○	**571** ○	**572** ○	**573** ○	**574** ○

Prod. Gr. 5AF

Rolling stool (EN standard 14183)

Shatterproof plastic

Application:
mobile, secure and non-slip ‘mini ladder’

Execution:
- 2-step platform, round, without corner guards
- Mobile, secure and non-slip ‘mini ladder’
- TÜV and GS-tested in accordance with EN 14183-F
- Runs smoothly on 3 rollers which retract into the housing when someone stands on the stool

Technical data:
- Surface area diameter: 440 mm
- Standing area diameter: 290 mm
- Height: 430 mm
- Heigh with load: 425 mm
- Load-carrying capacity: 150 kg
- Material: Plastic
- EN standard: 14183
- Colour: Light grey RAL 7035
- Mandatory testing according to DGUV (UVV): Yes

50260...	Ident. No.	005 ●

Prod. Gr. 505

ATORN Step stool (EN standard 14183)

Accessible from both sides; can be folded away

Application:
Access possible on steps and platform.

Execution:
- Extra-large standing platform for safe and comfortable working
- central platform with small gap – for carrying without crushing fingers
- Ribbed steps and standing platform
- Wide and deep aluminium steps
- Steps and struts are made from aluminium extruded sections and have a torsion-resistant connection
- Non-slip plastic feet for secure standing

Notes:
Can be used as a work platform with the ATORN telescopic plank. No other measures required since the platform height is less than 1 m. This type of step is subject to the EN 14183 standard. At present, the standard does not distinguish between commercial and non-commercial use

Technical data:
- Platform dimension: 61 x 39 cm
- Folding: Yes
- Material: Aluminium
- Load capacity: 150 kg
- EN standard: 14183

Ident. No. 533

Number of steps (including platform)		2 x 2	2 x 3	2 x 4	2 x 5
Stand height (m)		0.37	0.56	0.74	0.93
Working height (m)		1.87	2.06	2.24	2.43
Reaching height (m)		2.37	2.56	2.74	2.93
Length (m)		0.52	0.71	0.91	1.11
Stride length (m)		0.71	0.88	1.04	1.20
Width (bottom)/width (top)		0.65/0.61 m	0.67/0.61 m	0.69/0.61 m	0.71/0.61 m
Weight (kg)		7.2	9.2	11.3	13.3
50259...	Ident. No.	532 ●	533 ●	534 ●	535 ●

Prod. Gr. 5AF

ATORN Aluminium service platforms (EN standard 14183)

rigid

Application:
The proven and lightweight aluminium machine step for demanding industrial applications with non-slip steps.

Execution:
- Sturdy, welded tube construction made of sturdy aluminium
- 240 mm deep steps made from aluminium checker plate ensure safe ascent and descent
- Upper base area 520 x 305 mm for a secure stand
- Non-slip foot caps

Technical data:
- Material: Aluminium
- EN standard: 14183

Ident. No. 412

Ident. No. 413

Ident. No. 414

Number of steps (including platform)			1 x 1	1 x 2	1 x 3	1 x 4	1 x 5
Podium height (m)			0.2	0.4	0.6	0.8	1.0
Surface area			0.36 x 0.59 m	0.68 x 0.63 m	0.73 x 0.88 m	0.77 x 1.14 m	0.81 x 1.40 m
Working height (m)			2.2	2.4	2.6	2.8	3.0
Weight (kg)			2.4	5.0	7.0	9.8	12.0
	Accessibility						
50259...	One-sided	Ident. No.	411 ○	412 ○	413 ○	414 ○	415 ○

Prod. Gr. 5AF

MUNK GÜNZBURGER STEIGTECHNIK **Aluminium folding steps** (EN standard 131)

Execution:
- Design with strong double side-rails
- 205 mm deep steps with grooves for a secure footing
- Top tread area: 360 x 205 mm

Advantage:
- Easy to transport, space-saving storage
- Non-slip plastic shoes
- Sturdy and smooth-running folding mechanism

- **Ident. No. 040–042:**
  - Only 125 mm deep when folded
  - Folding retaining bracket with practical storage tray
- **Ident. No. 052–053:**
  - Only 85 mm deep when folded

Technical data:
- Max. load capacity: 150 kg
- Accessibility: One-sided
- Step depth: 0.205 m
- Material: Aluminium
- Step length: 0.36 m
- Anodised: No
- ESD-capable: No
- Delivery: Ready mounted
- Mandatory testing according to DGUV (UVV): Yes

Ident. No. 052

Ident. No. 053

Ident. No. 040

Ident. No. 041

Ident. No. 042

Working height (m)	Number of steps	Weight (kg)	Stride length (m)	Width (bottom) (m)	Transport length (m)	Height (m)	Transport width (m)	Transport depth (m)	With storage tray	59003... Ident. No.	
2.4	2	5	0.54	0.55	0.78	-	0.55	0.095	No	052	○+
2.7	3	8	0.82	0.57	1.105	-	0.565	0.1	No	053	○+
2.7	3	10	0.82	0.55	1.1	1.255	0.57	0.14	Yes	040	○+
2.9	4	12	1.1	0.57	1.415	1.475	0.59	0.13	Yes	041	○+
3.1	5	15	1.39	0.59	1.695	1.715	0.62	0.13	Yes	042	○+

Prod. Gr. 5AP

raaco **Rotary tower for drawer magazine, 150 mm depth**

Empty or equipped with 12 drawer magazines with a depth of 150 mm

Application:
For clearly-arranged and dust-free storage of small parts in transparent drawers

Execution:
- Frame made of steel sheet metal, colour dark blue
- Polypropylene drawers, transparent and shatter-proof with pull-out safety device; resistant to most solvents and oils
- Stable, secure stand on height-adjustable feet
- Smooth-running turntable on maintenance-free roller bearings

- For all cabinets with a height of 554 mm
- Equipped with 12 drawer units, dimensions of each unit HxWxD: 555 x 307 x 150 mm: 4 pieces with no. 50002 092 - (48 drawers per unit), 4 pieces with no. 50002 102 - (24 drawers per unit) and 4 pieces with no. 50002 122 - (8 drawers per unit).

Technical data:
- Suitable for magazine depth: 150 mm
- Material: Sheet steel
- Colour: Dark blue

Equipped		Yes
Number of drawer magazines (PCS)		12
Height (mm)		1760
Ø (mm)		680
Load-carrying capacity (kg)		480
50002...	Ident. No.	305 ●+

Prod. Gr. 500

Drawer magazines, 250 mm depth

Made of sheet steel, with unbreakable drawers

Application:
Order, overview and quick access: the functional storage cabinet provides space-saving, dust-protected storage for small parts. It can be wall-mounted, free-standing or used as part of a system.

Execution:
- The housing of the high-quality cabinet is made of galvanised sheet steel (corrosion-protected), painted in RAACO blue. Rubber feet protect the base material from scratches and ensure secure footing.
- The drawers are made of durable polypropylene and are resistant to most acids, oils and alkali. An stop edge prevents the drawers from falling out. They can be divided and labelled.

Notes:
Drawers can be labelled or divided, see accessories from 50002520-524

Technical data:
- Material: Sheet steel
- Cabinet colour: Dark blue
- Material of drawer: PP - Polypropylene

Ident. No. 504

Number of drawers (PCS)		24	8	6
Height (mm)		435	435	435
Width (mm)		357	357	357
Depth (mm)		250	250	250
Load-carrying capacity (kg)		75	75	75
Type		250/24-1 steel cabinet	250/8-2 steel cabinet	250/6-3 steel cabinet
50002...	Ident. No.	502 ●	504 ●	506 ●

Prod. Gr. 500

Accessories for		50002 502	50002 504	50002 506
50002... Drawers for storage cabinets, depth 250 mm,	Ident. No.	510 ●	512 ●	514 ●
50002... Labels for drawers, depth 250 mm,	Ident. No.	520 ●	522 ●	-
50002... Partitions for drawers, depth 250 mm,	Ident. No.	530 ●	532 ●	-
50002... Revolving tower - empty housing For equipping with drawer units, 250 mm depth,	Ident. No.	550 ●+	550 ●+	550 ●+
59005... -,	Ident. No.	000 ○	000 ○	000 ○
50021... Insert set, 4 A7-1 boxes, 47 x 79 x 109 mm (H x W x D)	Ident. No.	-	-	062 ●
50021... Insert set, accessory for type G drawer 4 pieces, 4 x A8-2 box, 47 x 55 x 157 mm (H x W x D)	Ident. No.	-	-	063 ●
50021... Insert set, 8 x A8-1 box, 47 x 55 x 79 mm (H x W x D)	Ident. No.	-	-	064 ●
50021... Insert set, 8 x boxes A9-2, (H x W x D) 47 x 39 x 109 mm	Ident. No.	-	-	066 ●
50021... Insert set, 16 x boxes A9-1, (H x W x D) 47 x 39 x 55 mm	Ident. No.	-	-	068 ●
59004... Inserts with shelf for ASSORTER 55, BOXXSER 55, CarryLite 55 Compact, drawer and bottom tray 55 of the ToolCase,	Ident. No.	-	-	961 ○ 962 ○ 963 ○

Euronorm stacking containers

Made of polypropylene

Application:
Storage, picking and transport container

Execution:
- Stable plastic containers in Euro dimensions, made of unbreakable polypropylene which is safe for foodstuffs and is 100% recyclable , with smooth base
- High carrying comfort due to ergonomically rounded open grips on the front sides (except for height 120 mm)
- Document holder integrated on all sides
- High stacking safety thanks to surrounding stacking border
- Resistant to many acids and lyes

Advantage:
- Ideal for use on conveying and roller tracks thanks to rounded corners and flat bases, container dimensions tailored to Euro pallet, large internal volume thanks to optimal side wall design, easy cleaning due to closed design with smooth bases and walls

Technical data:
- Material: PP - Polypropylene
- Suitable for use with food products: Yes
- Min. temperature resistance: -20 °C
- Max. temperature resistance: 90 °C
- With handle: Yes

Ident. No. 110

Stackable containers with hinged folding cover

									Colour	Blue		Red		Blue		Red	
									With lid	No		No		Yes		Yes	
External length (mm)	External width (mm)	External height (mm)	Internal length (mm)	Internal width (mm)	Interior height (mm)	Volume (l)	Load-carrying capacity (kg)	Stack load (kg)	50059... Ident. No.				50059... Ident. No.				
300	200	120	268	168	117	3.5	15	250	110	○	112	○	210	○	-	-
400	300	120	368	268	117	9.8	30	250	120	○	122	○	220	○	222	○
400	300	220	368	268	217	19	30	250	130	○	132	○	230	○	232	○
600	400	120	568	368	116	21	15	300	140	○	-	-	240	○	-	-
600	400	220	568	368	216	41	15	300	150	○	152	○	250	○	252	○
600	400	270	568	368	266	51	15	300	160	○	162	○	260	○	262	○
600	400	320	568	368	316	62	20	300	170	○	172	○	270	○	272	○
600	400	420	568	368	416	82	20	300	180	○	182	○	280	○	282	○
800	600	320	762	562	315	128	60	800	190	○	-	-	290	○	-	-

Prod. Gr. 504

fetra Transportgeräte **Transport dolly for Euro-standard crates** (EN standard 1757-3)

Angle steel, load capacity 250 kg

Application:
For transport Euronorm containers, for constant industrial use.

Execution:
- Angle steel, load-bearing capacity 250 kg

Advantage:
- Safe transport of Euronorm containers thanks to precisely dimensioned frame
- Durable thanks to robust design

Technical data:
- Material of loading surface: Angle steel
- Load-carrying capacity: 250 kg
- Loading surface height: 182 mm
- Number of steering rollers: 4
- With wheel lock: Yes
- Total stop optional: No
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Surface: Powder-coated

Loading surface size		605 x 405 mm	810 x 610 mm	605 x 405 mm
Colour		Brilliant blue RAL 5007	Brilliant blue RAL 5007	Anthracite grey RAL 7016
50267...	Ident. No.	135 ●	136 ●	-
50257...	Ident. No.	-	-	135 ○

50267... = Prod. Gr. 5AB
50257... = Prod. Gr. 5AE

Table trolley with 2 wooden load areas (EN standard 1757-3)

Suitable for Euro-standard containers, total load capacity 250 kg

Application:
For transporting Euronorm containers or as a serving trolley for small parts in production and assembly.

Execution:
- Welded angular steel frame
- Suitable for Euro crates 600 x 400 mm
- Loading surfaces made from wooden panel board, edge 10 mm
- Clear floor distance 400 mm
- Thermoplastic rubber tyres, grey, non-chalking
- Plastic rims with precision deep groove ball bearings and thread guards
- Sliding handle with soft hose casing

Advantage:
- EasySTOP central brake
- Smooth-running ball-bearing-mounted castors
- With thread and foot guard
- Non-marking tyres
- Softgrip push handle - soft handle sleeve

Delivery:
Disassembled

Technical data:
- Load-carrying capacity: 250 kg
- Load-carrying capacity of loading surfaces: 80 kg
- Length: 675 mm
- Width: 415 mm
- Height: 635 mm
- Material of loading surface: Wood composite board
- Loading surface length: 605 mm
- Loading surface width: 410 mm
- Number of loading surfaces: 2
- Colour: Anthracite grey RAL 7016
- Number of steering rollers: 4
- Wheel diameter: 125 mm
- Material of wheel: TPE
- With wheel lock: Yes
- Surface: Powder-coated

Ident. No. 139

Ident. No. 138

Type		Without push handle	With push handle
50269...	Ident. No.	138 ○	139 ●

Prod. Gr. 504

Easy-view storage bin

Made of sheet steel

Application:
Storage and transport of heat-treated parts in the production process, can be used as a collection container for metal parts directly from the machine

Execution:
- High capacity, service life and temperature resistance, impact-resistant
- High visibility of material stored due to front-side opening
- Parts can also be added and removed when the bins are stacked
- three-sided stacking border for longitudinal and transverse stacking of different sizes
- With label holder for identification labels
- Temperature resistance for painted bins: -10°C to +90°C, for galvanised bins: -30°C to +150°C

Technical data:
- Material: Sheet steel
- Resistance against: Oil | Acid
- With lid: No
- Suitable for impact work: Yes
- Mandatory testing according to DGUV (UVV): No

Volumetric capacity				1 l	3.8 l	9.4 l	12.5 l	28 l	63 l	88 l
Length (mm)				160/140	230/200	350/300	350/300	500/450	520/450	700/630
Width (mm)				95	140	200	200	300	450	450
Height (mm)				75	130	145	200	200	300	300
	Colour	Surface								
50054...	Grey	Lacquered	Ident. No.	300 ●	310 ●	320 ●	330 ●	340 ●	350 ●	360 ○
50054...	Green	Lacquered	Ident. No.	302 ●	312 ●	322 ●	332 ●	342 ●	352 ○	362 ○
50054...	Silver coloured	Zinc plated	Ident. No.	-	-	324 ●	334 ●	344 ●	354 ○	-

Prod. Gr. 504

Easy-view storage bin

Impact-resistant, fracture-resistant polypropylene

Application:
For ideal storage of small parts, consumables and bulk materials.

Execution:
- Impact-resistant, unbreakable
- With circumferential stack edge
- Reinforcement ribs for excellent stability
- Reinforced recessed handles

Delivery:
Minimum order quantity: 10 pieces

Notes:
Front flaps, lids, dividers and labels available as accessories.

Technical data:
- Material: PP - Polypropylene
- Resistance against: Fats | Oil
- Min. temperature resistance: -20 °C
- Max. temperature resistance: 90 °C
- With lid: Optional
- Suitable for impact work: Yes

Easy-view storage bin with lid

Size			1	2	3	4	5
Length (mm)			489/440	335/303	230/202	161/140	90/68
Width (mm)			305	209	151	106	102
Height (mm)			185	152	130	75	49
	Colour						
50057...	Red	Ident. No.	006 ●	011 ●	016 ●	021 ●	026 ●
50057...	Blue	Ident. No.	106 ●	111 ●	116 ●	121 ●	126 ●
50057...	Green	Ident. No.	206 ●	211 ●	216 ●	221 ●	226 ●
50057...	Yellow	Ident. No.	306 ●	311 ●	316 ●	321 ●	326 ●
50057...	Grey	Ident. No.	406 ●	411 ●	416 ●	421 ●	426 ●

Prod. Gr. 505

®RasterPlan Easy-view storage bin

Made of shatterproof and impact-resistant polyethylene

Execution:
- 8 different box sizes in 5 colours: grey, green, blue, red and yellow, with surrounding stacking border
- Shatterproof and stable in form, highly resilient, environment-friendly, fully recyclable
- Temperature-resistant: -40°C to +80°C, can therefore also be used under extreme climatic conditions , resistant against acids, oils and lyes
- Smooth inside walls, i.e. easy to clean and safe for foodstuffs
- Suitable for use on conveying and roller tracks
- Label holder with special clamps, prevents labels from slipping out

Advantage:
- Length 85 mm, 160 mm, 230 mm and 290 mm, for mounting, suitable for RasterPlan slotted panels

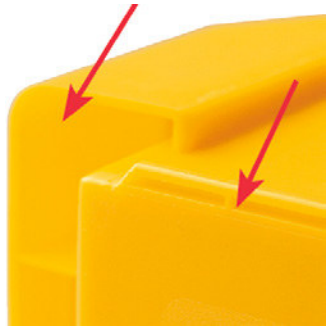
Delivery:
Deliverable without labels, accessories upon request.

Technical data:
- Material: PE - Polyethylene
- Resistance against: Oil | Acid | Lye
- Min. temperature resistance: -40 °C
- Max. temperature resistance: 80 °C
- With lid: Optional
- Suitable for impact work: Yes

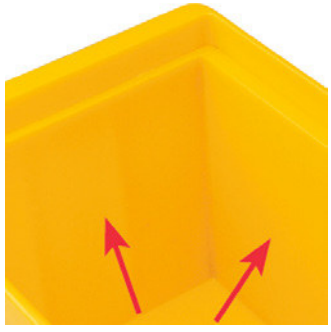
A special hanging strip enables horizontal attachment of the box

Sturdy label holder with clamping action

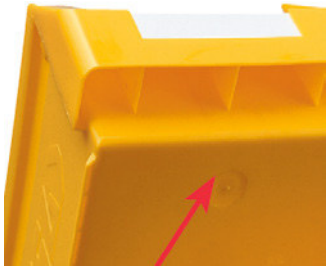
Continuous stacking rim



Reinforced ridges



Smooth inside walls for easy cleaning



Strong handle and push grip with multiple reinforcement on the inspection hole

				Easy-view storage bin						Sub-family: Accessories for easy-view storage bins							
										Identification label		Label cover		Supporting cover		handle	
			Colour	Blue		Grey		Red									
Length (mm)	Width (mm)	Height (mm)	Suitable for slotted plates	50638... Ident. No.		50638... Ident. No.		50638... Ident. No.		50638... Ident. No.		50638... Ident. No.		50638... Ident. No.		50638... Ident. No.	
500	300	250	No	810	●	820	●	830	●	850	●	860	○	870	●	890	●
500	300	200	No	811	●	821	●	831	●	850	●	860	○	870	●	890	●
350	200	200	No	812	●	822	●	832	●	852	●	862	●	872	●	892	●
350	200	150	No	813	●	823	●	833	●	852	●	862	●	872	●	892	●
290	140	130	Yes	814	●	824	●	834	●	854	●	864	●	874	●	-	-
230	140	130	Yes	815	●	825	●	835	●	854	●	864	●	875	●	-	-
160	105	75	Yes	816	●	826	●	836	●	856	●	866	○	876	●	-	-
85	105	45	Yes	817	●	827	●	837	●	858	●	868	○	-	-	-	-

Prod. Gr. 5AC

Wall shelf

Equipped with easy-view storage bins made of polystyrene

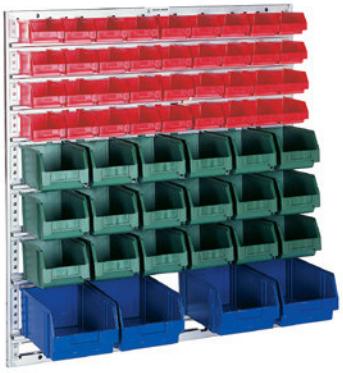
Application:
The shelves are particularly suitable for the storage of small items where space is limited. Rails can be hooked in so that the easy-view storage bins can be mounted in the side profiles (shelf must be attached to the wall).

Execution:
- Stable profile steel construction (sheet steel, galvanised)

Delivery:
Colours of easy-view storage bins as shown

Notes:
To reorder individual HK easy-view storage bins, see no. 50057 005-425 in the Workstation chapter.

Technical data:
- With bins: Yes
- Material: Sheet steel



Ident. No. 555

Ident. No. 560

Ident. No. 565

Height (mm)		1125	1275	1525
Width (mm)		1055	1055	1055
Number of bins (PCS)		58	62	77
Load-carrying capacity (kg)		135	145	165
Number of bins 160 x 105 x 75 mm (PCS)		36	36	45
Number of bins 230 x 140 x 130 mm (PCS)		18	18	24
Number of bins 350 x 200 x 150 mm (PCS)		4	8	8
50057...	Ident. No.	555 ○	560 ○	565 ○+

Prod. Gr. 504

Trolley

Equipped with easy-view storage bins made of polystyrene

Application:
For transporting and providing spare and small parts on the work floor and in the warehouse.

Execution:
- Sheet steel trolley with 2 steering rollers, 2 fixed castors and 2 wheel blocks
- Easy-view storage bins made of polystyrene, impact-resistant and stackable
- Sliding handles on the side profiles make the trolley easier to operate, even when loaded

Delivery:
Colours of easy-view storage bins as shown

Notes:
To reorder individual HK easy-view storage bins, see no. 50057 005-425 in the Workstation chapter.

Technical data:
- With bins: Yes
- Load-carrying capacity: 250 kg
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Number of wheel adjusters: 2 PCS
- Material: Sheet steel
- Colour: Zinc

Ident. No. 570

Ident. No. 575

Ident. No. 580

Height (mm)		1295	1445	1695
Width (mm)		1055	1055	1055
Depth (mm)		700	700	700
Height (mm)		1295	1445	1695
Number of bins 160 x 105 x 75 mm (PCS)		72	72	90
Number of bins 230 x 140 x 130 mm (PCS)		36	36	48
Number of bins 350 x 200 x 150 mm (PCS)		8	16	16
50057...	Ident. No.	570 ○+	575 ○+	580 ○+

Prod. Gr. 504

Hinged door cabinets, height 1028 mm, 1680 mm, 1950 mm

Equipped with easy-view storage bins made of polystyrene

Application:
For clearly-arranged storage of small parts in HK easy-view storage bins.

Execution:
- Doors with multiple edges and reinforced
- All components with safety edgings
- Galvanised and height-adjustable shelves

- **Ident. No. 530–531, 538:** Door load: 20 kg where the load is evenly distributed

Delivery:
Colours of easy-view storage bins as shown

Notes:
To reorder individual HK easy-view storage bins, see no. 50057 005-425 in the Workstation chapter.

Technical data:
- Load-carrying capacity per shelf: 40 kg
- Door design: Full-sheet panel
- Lock type: Twist-grip lock with three-point fastening
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 501

Ident. No. 511

Ident. No. 521

Ident. No. 531

Model				1	2	3	4
Height (mm)				1028	1680	1950	1950
Width (mm)				710	710	710	1200
Depth (mm)				300	300	300	500
Number of shelves (PCS)				6	11	15	11
Number of bins 85 x 105 x 45 mm (PCS)				-	-	-	40
Number of bins 160 x 105 x 75 mm (PCS)				12	36	60	90
Number of bins 230 x 140 x 130 mm (PCS)				20	24	24	28
Number of bins 350 x 200 x 150 mm (PCS)				-	-	-	10
Number of drawers (PCS)				-	-	-	3
Drawer front height				-	-	-	3 x 90 mm
Load-carrying capacity per drawer (kg)				-	-	-	40
Pullout type				-	-	-	Full extension
	Cabinet colour	Colour of front					
50057...	Light grey RAL 7035	Gentian blue RAL 5010	Ident. No.	500 ○+	510 ○+	520 ○+	530 ○+
50057...	Optional	Optional	Ident. No.	532 ○+	534 ○+	536 ○+	538 ○+
50057...	Light grey RAL 7035	Anthracite grey RAL 7016	Ident. No.	501 ○+	511 ○+	521 ○+	531 ○+

Prod. Gr. 504
For colours available without a surcharge, see page 1759

®RasterPlan Perforated plate

With 10 x 10 mm square perforation

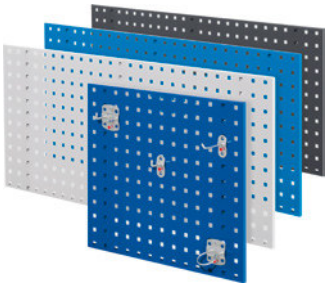
Application:
For attachment to the wall or workbenches.

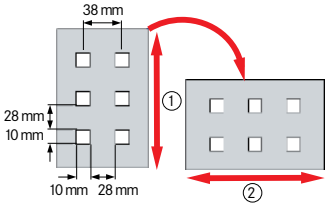
Execution:
- From high-quality processed sheet steel, 1.25 mm thick, 10 x 10 mm square holes, distance between hole centres 38 mm in vertically and horizontally
- Edged all round and stiffened with support members
- For heavy loads, simple wall mounting
- Perforated panels without support elements, plastic-coated

- other colours are deliverable on request: slate grey RAL 7015; traffic yellow RAL 1023; light blue RAL 5012; jet black RAL 9005
- RasterPlan support elements and tool holder for insertion in perforated sheet panels from no. 50638 300, RasterPlan easy-view storage bins see no. 50638 816-837

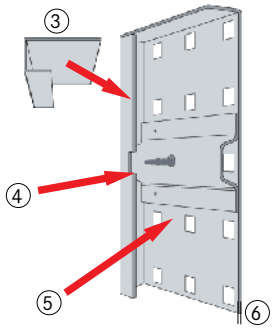
Notes:
workbench bracket: 2 brackets are required for one perforated panel 500-1500 mm wide, 3 brackets are required for one perforated panel 2000 mm wide, see no. 50637 738-739

Technical data:
- Distance between centre of hole and centre of hole: 38 mm
- Overall thickness: 1.25 mm
- Punched-hole: 10 x 10 mm
- Material: Sheet steel





1 = vertical
2 = horizontal flexibility - the perforated plates can be inserted vertically and horizontally



3 = multiple-angled
4 = precise positioning of the underbeams
5 = back side reinforced with specially formed underbeams, spot-welded on both sides
6 = 1.25 mm sheet steel

Width (mm)			500	1000	1500	2000
Height (mm)			450	450	450	450
Width (mm)			500	1000	1500	2000
	Colour					
50637...	Traffic red RAL 3020	Ident. No.	722 ○	723 ○+	724 ○	726 ○
50637...	Gentian blue RAL 5010	Ident. No.	717 ●	718 ●+	719 ●	721 ●
50637...	Sky blue RAL 5015	Ident. No.	713 ●	714 ●+	715 ●	716 ●
50637...	Light grey RAL 7035	Ident. No.	703 ●	705 ●+	707 ●+	709 ●+
50637...	Pure white RAL 9010	Ident. No.	727 ○	728 ○+	729 ○	731 ○

Prod. Gr. 5AC

®RasterPlan Workbench bracket for perforated/slotted panels

Application:

Ident. No. 738: For attaching perforated and slotted panels to workbenches

Ident. No. 739: For attaching perforated or slotted panels to tables and workbenches on a wooden panel

Execution:

- 2 brackets are required for panels 500-1500 mm wide
- 3 brackets are required for panels 2000 mm wide
- **Ident. No. 738:** For 2 stacked panels
- **Ident. No. 739:** For 1 panel

Delivery:

1 holder

Notes:

2 brackets are required for panels 500–1500 mm wide, 3 brackets are required for panels 2000 mm wide

Technical data:

- Material: Sheet steel
- Colour: Aluminium coloured
- Approval mark: GS - EPH Dresden

50637...	For 1 panel	Ident. No.	739 ●
50637...	For 2 stacked panels	Ident. No.	738 ●

Prod. Gr. 5AC

Workbench bracket combined with a panel

®RasterPlan Support elements for perforated plates

50638...	Tool holder, oblique hook end, L=50mm, Ø 6mm	Ident. No.	300 ●
50638...	Tool holder, oblique hook end, L=100mm, Ø 6mm	Ident. No.	301 ●
50638...	Tool holder, oblique hook end, L=150mm, Ø 6mm	Ident. No.	302 ●
50638...	Tool holder, oblique hook end, L=200mm, Ø 6mm	Ident. No.	303 ●
50638...	Tool holder, vertical hook end, L=35mm, Ø 6mm	Ident. No.	304 ●
50638...	Tool holder, vertical hook end, L=75mm, Ø 6mm	Ident. No.	305 ●
50638...	Tool holder, vertical hook end, L=125mm, Ø 6mm	Ident. No.	306 ●
50638...	Double tool holder, vertical hook end, L=35mm, Ø 6mm	Ident. No.	307 ●
50638...	Double tool holder, vertical hook end, L=50mm, Ø 6mm	Ident. No.	308 ●

Ident. No. 300–303

Ident. No. 304–306

50638...	Double tool holder, vertical hook end, L=75mm, Ø 6mm	Ident. No.	309 ●
50638...	Tool clamp Ø 10 mm	Ident. No.	312 ●
50638...	Tool clamp Ø 13 mm	Ident. No.	313 ●
50638...	Tool clamp Ø 16 mm	Ident. No.	314 ●
50638...	Tool clamp Ø 19 mm	Ident. No.	315 ●
50638...	Tool clamp double Ø 6mm	Ident. No.	316 ●
50638...	Tool clamp double Ø 10mm	Ident. No.	317 ●
50638...	Tool clamp double Ø 13mm	Ident. No.	318 ●
50638...	Tool clamp double Ø 16mm	Ident. No.	319 ●
50638...	Tool clamp double Ø 19mm	Ident. No.	320 ●
50638...	Base plate small	Ident. No.	342 ●
50638...	Base plate large	Ident. No.	343 ●
50638...	Tool terminal simple, large base plate, Ø 25mm	Ident. No.	607 ●
50638...	Tool terminal simple, large base plate, Ø 28mm	Ident. No.	608 ●
50638...	Tool terminal simple, large base plate, Ø 32mm	Ident. No.	609 ●
50638...	Tool holder, straight mandrel, L=50mm, Ø 6mm	Ident. No.	635 ●
50638...	Tool holder, straight mandrel, L=100mm, Ø 6mm	Ident. No.	636 ●
50638...	Tool holder, straight mandrel, L=150mm, Ø 6mm	Ident. No.	637 ●
50638...	Double tool holder, straight mandrel, L=50mm, Ø 6mm	Ident. No.	640 ●
50638...	Double tool holder, straight mandrel, L=100mm, Ø 6mm	Ident. No.	641 ●
50638...	Double tool holder, straight mandrel, L=150mm, Ø 6mm	Ident. No.	642 ●

Prod. Gr. 5AC

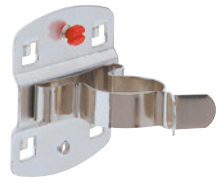
Ident. No. 307–309

Ident. No. 312–315

Ident. No. 316–320

Ident. No. 342

Ident. No. 343



Ident. No. 607–609

Ident. No. 635–637

Ident. No. 640–642

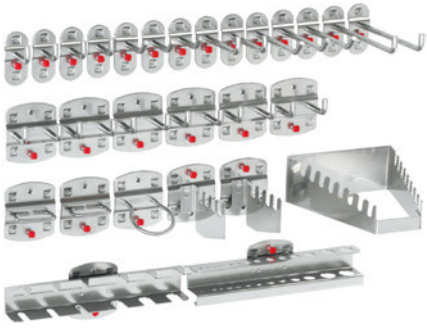
®RasterPlan Hook assortment

Multi-piece compartments, for walls with 10 x 10 mm square perforation

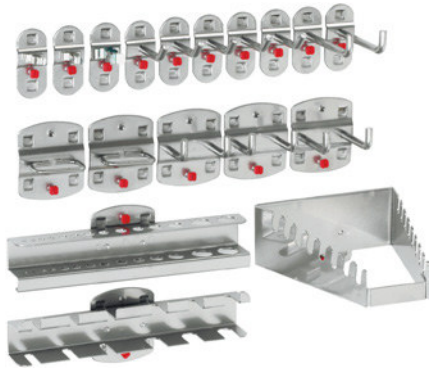
Application:
Individual holder for tools and parts in pegboards with 10 x 10 mm square holes, spacing 38 mm

Execution:
- The hooks are simply inserted into the required hole and fixed in place with the red plastic screw

Delivery:
Screw included in scope of delivery



Ident. No. 344



Ident. No. 345

Ident. No. 649

50638...	Hook assortment, 28 pieces in set	Ident. No.	344 ●
50638...	Hook assortment, 18 pieces in set	Ident. No.	345 ●
50638...	Hook assortment, 10 pieces in set	Ident. No.	649 ●

Prod. Gr. 5AC

TITALIUM™ series 54TI padlocks

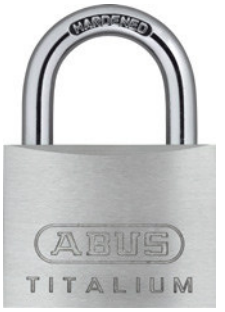
With hardened steel shackle

Application:
Secure storage of items with low risk of theft, e.g. bags, cash boxes, cases, lockers, tool boxes etc.

Execution:
- Lock bodies made of TITALIUM™
- Hardened steel shackle
- Double shackle locking
- Round key head

Delivery:
2 keys per lock

Technical data:
- Lock type: Padlock
- Material of padlock shackle: Steel
- Material of housing: Titalium® aluminium alloy
- Colour: Aluminium coloured
- With corrosion protection: No
- With plastic sleeve: No



Model			54TI/40	54TI/50
Housing width (mm)			38	47.5
Bracket Ø (mm)			6	7
Shackle height clearance (mm)			21	24.5
Shackle width clearance (mm)			20	25
	Type of closure			
50025...	Keyed different	Ident. No.	010 ●	015 ●

Prod. Gr. 5BF

Padlocks, series 45 and 85

Precision cylinder lock with lock cylinder

Execution:
- **Ident. No. 030–050:**
  - Lock made of solid brass, hardened steel shackle, tried-and-tested brass pin cylinder technology
  - Keyed to differ, increased stability thanks to tried-and-tested double locking action
  - Quick operation by snapping in the shackle without putting in key
- **Ident. No. 055–110:**
  - Lock made of solid brass, springs and interior parts made of rust-proof material
  - All nickel-plated steel shackles are case-hardened to protect against attacks, with NANO Protect coating for extremely high corrosion protection
  - Automatic function - shackle can be snapped into place without inserting the key
  - High number of truly keyed to differ locks
  - An off-centre key profile increases the security of the locking mechanism from manipulation
  - Ident. No. 062-064, 086-087, 106-107 with extra-high U-bar

Delivery:
2 keys per lock

Technical data:
- Lock type: Padlock
- Material of padlock shackle: Steel
- Material of housing: Brass
- Colour: Brass coloured
- With corrosion protection: Yes
- With plastic sleeve: No

Ident. No. 040

Ident. No. 060

Ident. No. 064

Model	Housing width (mm)	Bracket Ø (mm)	Shackle height clearance (mm)	Shackle width clearance (mm)	Type of closure: Keyed different 50025... Ident. No.		Keyed alike 50025... Ident. No.		Master keyed 50025... Ident. No.	
45/30	29	5	13	14.5	030	●	-	-	-	-
45/40	39	6.5	21	20.5	040	●	-	-	-	-
45/50	48	7.5	24	25.5	050	●	-	-	-	-
85/30	30	5	16.5	16	055	●	080	○	095	○
85/40	40	6.5	22.5	22	060	●	085	○	105	●
85/40 HB 40	40	6.5	39	22	062	●	086	○	106	●
85/40 HB 63	40	6.5	62	22	064	●	087	○	107	●
85/50	50	8	28.5	28	065	●	090	○	110	●

Prod. Gr. 5BF

Combination locks, series 165

With adjustable numerical code

Application:
The user can quickly and easily set a personalised code and change it again whenever the lock is open. The combination is scrambled by rotating the digits after the lock has been closed.

Execution:
- Lock made of solid brass
- Shackle made of steel
- 3- or 4-digit code

Technical data:
- Lock type: Combination lock
- Material of padlock shackle: Steel
- Material of housing: Brass
- Colour: Brass coloured
- With corrosion protection: Yes
- With plastic sleeve: No

Model			165/30	165/40
Housing width (mm)			30	40
Bracket Ø (mm)			5	6
Shackle height clearance (mm)			25	26
Shackle width clearance (mm)			14	21.5
	Type of closure			
50025...	Keyed different	Ident. No.	230 ●	240 ●

Prod. Gr. 5BF

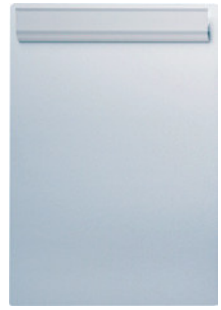
Writing pad with wide clamping strip

Made of anodised aluminium, DIN A4 format

Execution:
- Wide clamping bar with powerful metal springs on the short side
- Non-slip protection on underside also protects against slipping on table tops

Advantage:
- Very robust yet slim panel
- Easy-to-grip edges, milled and rounded off all round
- High-quality and elegant: for design-focussed users

Technical data:
- Height: 340 mm
- Width: 230 mm
- Plate thickness: 1,5 mm
- Grip height: 10 mm
- Depth: 28 mm
- Material: Aluminium
- Colour: Silver coloured



50006...	Ident. No.	435 ●

Prod. Gr. 5AM

Identification labels

Magnetic

Application:
Ideal for attaching labels to metallic surfaces such as storage racks and metal containers.

Execution:
- Label holder with two rear magnetic strips
- Suitable for scanning, document-quality film
- The slot-in labels are quick to replace
- **Ident. No. 260:** Compatible printable slot-in labels: Article number 102202

Delivery:
Ident. No. 260: Does not include slot-in labels

Notes:
Ident. No. 260: Downloadable template for slot-in labels can be found at www.duraprint.de

Technical data:
- Material: PP - Polypropylene
- Colour: Blue
- Number of pieces per packet: 50
- Mandatory testing according to DGUV (UVV): No

Ident. No. 260

Ident. No. 261

Suitable for DIN format		-	-	-	-	1 x DIN A6 (transverse)	1 x DIN A5 (transverse)	1 x DIN A4 (high)	1 x DIN A4 (transverse)
Internal width (mm)		100	150	210	297	148	210	210	297
Interior height (mm)		38	67	74	74	105	148	297	210
External width (mm)		113	163	223	311	163	223	233	311
External height (mm)		53	83	82	82	120	163	313	225
50264...	Ident. No.	260 ●	262 ●	263 ●	264 ●	261 ●	265 ●	266 ●	267 ○

Prod. Gr. 5BD

DURABLE

Information frame

With magnetic closure, self-adhesive and magnetic

Application:

Ident. No. 135–139, 143–168, 176–179: Ideal for alarm plans (red), warning and safety notices (red), machine and operating instructions (blue), hazardous materials ordinances (orange), technical drawings and parts lists. Can be read from both sides on glass surfaces thanks to transparent base film.

Ident. No. 140–142, 170–174: A4 safety and hazard symbols, e.g. green/white: First aid, emergency exit routes. Red/white: Fire protection plans. Yellow/black: operational safety.

Execution:

- **Ident. No. 135–139, 143–146:**
  - Magnetic pocket made of rigid PVC film with magnetic back
  - Adheres to all metallic surfaces
- **Ident. No. 135–139, 143–168, 176–179:**
  - Removable and reusable on smooth surfaces
  - Flexible mounting: Portrait or landscape format
- **Ident. No. 140–142:**
  - Magnetic information frame for info in A4 size
  - Easy to attach to metallic surfaces such as whiteboards, presentation boards and lockers as well as lean cubes and machines in production
- **Ident. No. 140–142, 170–174:**
  - Frame colour according to ISO 3864-4 for safety colours
  - Can be used in portrait or landscape format
- **Ident. No. 160–168, 176–179:**
  - Magnetic pocket made of rigid PVC film with self-adhesive reverse side
  - Adheres to smooth surfaces, e.g. glass, wood or metal
- **Ident. No. 170–174:**
  - Two inserts for visibility from both sides on glass surfaces
  - Frame appears identical from both sides

Advantage:

- **Ident. No. 135–139, 143–168, 176–179:** Quick and easy insertion/removal of documents
- **Ident. No. 140–142:** Magnetic frame for fast insertion and replacement of documents
- **Ident. No. 140–142, 170–174:** Professional, high-quality presentation of information
- **Ident. No. 170–174:**
  - Fold-open magnetic frame for fast insertion and replacement of documents
  - Easy attachment to smooth, load-bearing surfaces without tools. Can be removed from e.g. glass

Technical data:

- Mandatory testing according to DGUV (UVV): No

Ident. No. 140

Ident. No. 164

Width (mm)			238	325	235	320
Suitable for DIN format			A4	A3	A4	A3
Height (mm)			324	445	320	450
Design			Self-adhesive	Self-adhesive	Magnetic	Magnetic
Number of pieces per packet (PCS)			2	2	5	5
	Colour					
50006...	Black	Ident. No.	160 ●	176 ●	135 ●	143 ●
50006...	Red	Ident. No.	162 ●	177 ●	136 ●	144 ●
50006...	Blue	Ident. No.	164 ●	178 ●	137 ●	145 ●
50006...	Silver coloured	Ident. No.	168 ●	179 ●	138 ●	146 ●
50006...	Orange	Ident. No.	166 ●	-	139 ●	-
50006...	Yellow | Black	Ident. No.	170 ●	-	140 ●	-
50006...	Green | White	Ident. No.	172 ●	-	141 ●	-
50006...	Red | White	Ident. No.	174 ●	-	142 ●	-

Prod. Gr. 5BD

Document pouches

Self-adhesive

Application:
For shipping documents and other documents.

Execution:
- Made of environment-friendly polyethylene
- Good adhesion to cardboard, metal and plastic
- Reliable protection for your accompanying documents
- In a practical dispenser box
- Packing unit: 1000 pieces, contains 250-piece packages

Technical data:
- Material: PE - Polyethylene
- Number of pieces per packet: 1000 PCS

Suitable for DIN format		C6	C6	Long	Long	C5	C5
Inscription		-	Delivery slip/invoice	-	Delivery slip/invoice	-	Delivery slip/invoice
Colour		Transparent	Red | Transparent	Transparent	Red | Transparent	Transparent	Red | Transparent
50007...	Ident. No.	364 ●	365 ○	366 ○	367 ●	368 ●	369 ●

Prod. Gr. 504

tarifold Suspended pouches for DIN A4

In landscape format, with metal eyelets

Application:
For the storage of multiple documents and small items.

Execution:
- Double frame
- Stable steel wire frame with plastic surround
- Large capacity, up to 210 DIN A4 sheets
- 2 highly durable metal eyelets
- Can be expanded by up to 80 mm
- Assorted colours: 1 red, 1 blue, 1 yellow, 1 green and 1 black
- Packing unit: 5 pieces

Technical data:
- Suitable for DIN format: A4
- Material: PVC - Polyvinyl chloride
- Colour: Multicolour
- Number of pieces per packet: 5 PCS

50006...	Ident. No.	062 ●

Prod. Gr. 5BE

Order pouches for DIN A4

With hook-and-loop fastener

Application:
The order pockets made of high-strength transparent film with anti-tear protection are robustly manufactured and can be used for the sealed storage of all work documents.

Execution:
- Firmly welded Velcro fastener
- From low-maintenance plastic with stable cardboard insert
- Extra-robust design

Technical data:
- Material: Plastic
- Number of pieces per packet: 10 PCS

Suitable for DIN format		A4	A4	A5
Colour		Blue	Red	Blue
50006...	Ident. No.	200 ●	202 ●	204 ●

Prod. Gr. 5BH

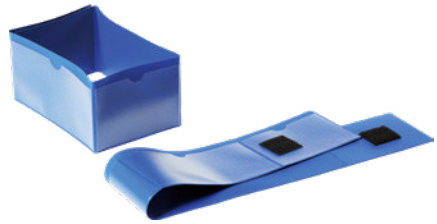
DURABLE Document pouch for pallet base

With 4 pockets

Application:
For labelling pallet bases and affixing bar codes, RFID transponders etc.

Execution:
- Blue back sheet and transparent front sheet made from durable rigid film
- Pockets on all 4 sides
- Mounted using velcro
- Internal dimensions: W x H 140 x 65 mm/90 x 65 mm
- Colour blue
- Packing unit 50 pieces

Advantage:
- With thumb slot for easy insertion of slot-in labels
- Easy and straightforward to affix using velcro
- Efficient labelling of pallets



50006...	Ident. No.	211 ●

Prod. Gr. 5BD

Document pouch with wire hanger
In DIN format

Application:
For labelling transport containers, crates, wooden stacking frames and pallet boxes.

Execution:
- Blue back sheet and transparent front sheet made from durable polypropylene
- With galvanised flexible wire hanger for simple and secure fixing
- Suitable for scanning and document-quality

Advantage:
- Practical rain protection flap protects the documents from dust and moisture
- Rapid replacement of slot-in labels

Technical data:
- Number of pieces per packet: 50 PCS

Ident. No. 221

Ident. No. 223

	Suitable for		
50006...	DIN A5 (transverse)	Ident. No.	221 ●
50006...	DIN A4 (high)	Ident. No.	223 ●
50006...	DIN A4 (transverse)	Ident. No.	225 ●

Prod. Gr. 5BD

Document pouches
With fold

Application:
Ideal for affixing information to boxes or pallet frames. Also ideal for inserting between stacked boxes.

Execution:
- Blue back sheet and transparent front sheet made from durable rigid film
- Document protected by 3 closed sides
- Suitable for scanning and document-quality

Advantage:
- Rapid replacement of slot-in labels

Technical data:
- Colour: Blue
- Number of pieces per packet: 50 PCS
- Mandatory testing according to DGUV (UVV): No

Ident. No. 231

Suitable for DIN format		1 x DIN A5 (transverse)	1 x DIN A6 (transverse)	1 x DIN A4 (transverse)
Internal width (mm)		210	148	297
Interior height (mm)		148	105	210
External width (mm)		230	168	317
External height (mm)		259	216	321
50006...	Ident. No.	231 ●	233 ●	235 ●

Prod. Gr. 5BD

Wall view panel system

Magnetic, including 5 DIN A4 clear view panels

Application:
Metal wall bracket with magnetic back for quick and easy attachment to metal surfaces such as racks and machines

Execution:
- Complete set of display panels for wall mounting
- Practical pivot mechanism for easy replacement of the panels
- Polypropylene display panels with coloured profile frame and low-reflection film suitable for scanners

Advantage:
- Quick and easy insertion/removal of documents
- Clear view panel protects the document

Delivery:
Incl. 5 clear view panels DIN A4

Notes:
For individual clear view panels, see no. 50006 191

Technical data:
- Suitable for DIN format: A4
- Number of clear tables: 5 PCS
- Clear table colour: Black
- Colour of holder: Light grey RAL 7035
- Material of frame: Steel plate
- Surface: Powder-coated

50006...	Ident. No.	190 ●

Prod. Gr. 5BD

Accessories for		50006 190
50006... Clear view panels For wall view panel holders no. 50006 180-190, black/5 pieces	Ident. No.	191 ●

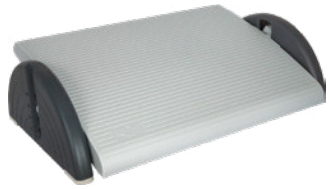
Relax-Plus foot rest

Made of shatterproof polystyrene

Application:
the foot platform can be positioned using the buttons on the rounded side panels. the angle of the footrest can be infinitely adjusted by gently applying pressure with your foot and is supported by a micro-grid.

Execution:
- adjustable to 4 height levels
- foot platform 45 x 35 cm
- floor protectors prevent slipping

Technical data:
- Length x width x height: 52 x 35 x 14 cm
- Material: HIPS - Impact-resistant polystyrene
- Adjustable in height: 4 steps
- Colour: Light grey (bright grey)
- Height adjustment: 5-7-9 and 11 cm
- Surface structure: Ribbed



50130...	Ident. No.	510 ●

Prod. Gr. 505

Trittboy footrest

sturdy steel tube, nickel-plated

Application:
sturdy bright nickel-plated steel pipe design (pipe diameter 19 mm). the shatter-proof plastic foot platform can be adjusted.

Execution:
- adjustable to 4 height levels
- foot platform 29.0 x 8.9 cm
- four rubber feet ensure excellent stability

Technical data:
- Length x width x height: 34.5 x 33.5 x 16.5 cm
- Material: Steel pipe
- Adjustable in height: Yes
- Material of tread: Shatterproof plastic
- Height adjustment: 6-14.5 cm
- Colour tread plate: Black
- Pipe diameter: 19 mm
- Surface: Nickel plated

50130...	Ident. No.	515 ●

Prod. Gr. 505

MAUL Standard flipchart

Application:
Can be used as a whiteboard.

Execution:
- Panel made of melamine resin sheet with special coating on the front, dry-wipe
- Height-adjustable from 1100–1860 mm, lockable with screws
- With plastic storage tray for flipchart accessories, markers, etc., cover cap of shatter-proof plastic
- Cover cap with recessed handle
- Horizontally movable pad holders
- Round-tubed legs, cover panel made of shatter-proof plastic
- Accessories: Flipchart markers ref. no. 326-330, flipchart paper ref. no. 398

Technical data:
- Height: 970 mm
- Width: 660 mm
- Magnetic: No

50006...	Ident. No.	316 ●+

Prod. Gr. 5AM

MAUL Mobile flipchart
Infinitely height-adjustable

Application:
Can be used as a magnetic board and whiteboard.

Execution:
- Panel made from melamine resin sheet and plastic-coated steel sheet, dry-wipe
- Star foot made of shatter-proof plastic
- Infinitely height-adjustable from 1780 to 1960 mm
- 5 locking rollers for ease of movement
- Two magnetic paper holders, can be folded to the side
- With storage tray and protective cap made of unbreakable plastic
- Horizontally movable pad holders
- Accessories: Flipchart markers ref. no. 326-330, flipchart paper ref. no. 398

Technical data:
- Height: 970 mm
- Width: 660 mm
- Magnetic: Yes

50006...	Ident. No.	320 ●+

Prod. Gr. 5AM

MAUL Flipchart marker
Sorted by colour

Execution:
- Luminescent colours
- Quick drying
- Does not bleed through the following pages
- 4-colour assortment: black, green, red and blue

Technical data:
- Colour: Black | Green | Red | Blue
- Number of pieces per packet: 4 PCS

Ident. No. 328–330

Shape of tip		Round tip	Chisel tip	Round tip
Min./max. line thickness		2-2.5 mm	3-6 mm	2.5-3 mm
50006...	Ident. No.	326 ●	328 ●	330 ●

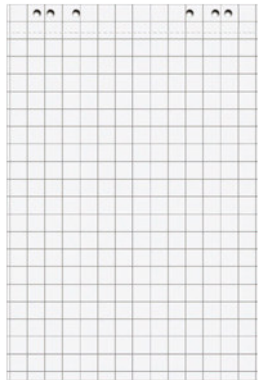
Prod. Gr. 5AM

MAUL Flipchart paper

Execution:
- Flipchart paper
- 80 g paper, 25mm grid

Delivery:
20 sheets per block

Technical data:
- Height: 980 mm
- Width: 675 mm
- Grammage: 80 g/m²
- Colour: White
- Number of pieces per packet: 5 PCS



50006...	Ident. No.	398 ●

Prod. Gr. 5AM

MAUL Whiteboard

Magnetic, dry-wipe

Application:
Can be used as a magnetic board and whiteboard

Execution:
- Work surface made of sheet steel, plastic-coated
- frame made of silver-anodised aluminium, subtle profile in combination with corner connectors in grey
- Sliding storage tray made from aluminium
- Can be used in either portrait or landscape format
- Accessories: For board markers, wipers, magnets, see no. 50006 394, 50006 302, 50006 370-372, 51161 010-190

Delivery:
Incl. fastening materials, also available with cork surface: see ref. no. 356-362

Technical data:
- Magnetic: Yes
- Material of framework: Aluminium
- Surface of the frame: Anodised silver
- Surface: Plastic-coated

Height (mm)		450	600	900	1000
Width (mm)		600	900	1200	1500
50006...	Ident. No.	386 ○	388 ○	390 ○	392 ○+

Prod. Gr. 5AM

MAUL Whiteboard accessories set

Incl. marker pens, magnets and much more

Execution:
- In a practical storage box, 305 x 240 x 60 mm
- Organisation system provided by moulded interior

Delivery:
4 board markers; 1 board wiper; 10 pieces of board wiper fleece; 1 bottle of whiteboard cleaner 250 ml; 5 grey spherical magnets diameter 30 mm

Technical data:
- Length: 305 mm
- Width: 240 mm
- Height: 60 mm

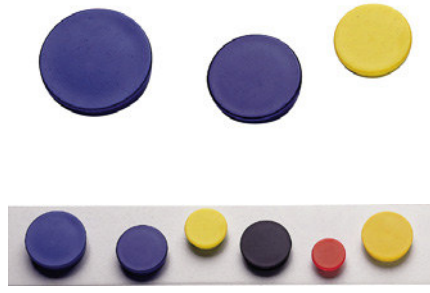
50006...	Ident. No.	394 ●

Prod. Gr. 5AM

ORION® Organising magnets

Application:
For fixing drawings and other paper documents to magnetic surfaces.

Execution:
- Magnetic clamp with coloured plastic cap



Outer Ø (mm)			20	25	30	34
	Colour					
51161...	Blue	Ident. No.	010 ●	060 ●	110 ●	155 ●
51161...	Yellow	Ident. No.	020 ●	070 ●	120 ●	160 ●
51161...	Red	Ident. No.	030 ●	080 ●	130 ●	170 ●
51161...	Black	Ident. No.	040 ●	090 ●	140 ●	180 ●
51161...	White	Ident. No.	050 ●	100 ●	150 ●	190 ●

Prod. Gr. 5LC

Hand dispenser for adhesive tapes

Ideal for permanent use

Application:
For use with packaging adhesive tapes with a length of up to 66 m and width of 50 mm.

Execution:
- With notch trigger
- Two pressure rollers
- Extremely robust

69772...	Ident. No.	601 ●

Prod. Gr. 686

Scotch HE 180 hand roller

For Scotch® PVC adhesive packaging tape 6890

Advantage:
- Adjustable adhesive tape stop mounted on wheel provides tension and feed control

69772...	Ident. No.	650 ●

Prod. Gr. 6RM

Scotch® PVC packaging adhesive tapes 6890

High-quality, low-noise packaging tape

Execution:
- Humidity-resistant and resistant to chemicals
- High adhesive strength and tear resistance

Technical data:
- Type description: 6890
- Width of tape x length of strap: 50 mm x 66 m
- Thickness: 0.051 mm
- Type of adhesive: Natural rubber
- Adhesive tape backing material: PVC
- Breaking elongation: 70 %

Colour		Brown	Transparent
69772...	Ident. No.	485 ●	490 ●

Prod. Gr. 6RM

Ident. No. 485

Ident. No. 490

Fabric adhesive tape 2903

Application:
For bundling, packaging, connecting, sealing, protecting and colour coding products.

Advantage:
- Very good adhesion on different surfaces
- Fabric allows straight, tool-free tearing off in both longitudinal and transverse directions
- Can easily be torn by hand
- Good mouldability of the backing material for use on uneven surfaces

Technical data:
- Type description: 2903
- Width of tape x length of strap: 48 mm x 50 m
- Thickness: 0.15 mm
- Type of adhesive: Rubber/resin
- Adhesive tape backing material: PE-coated fabric
- Breaking elongation: 30 %

Colour		Black	Silver
69771...	Ident. No.	111 ●	121 ●

Prod. Gr. 6RM

Ident. No. 111

Ident. No. 121

UV-resistant premium fabric adhesive tape 8979

Can be removed up to 6 months later without leaving residue

Application:
For reinforcing, bundling, sealing, insulating, splicing, marking.

Advantage:
- Can be removed up to 6 months later without leaving residue
- UV resistant and can be used outdoors for up to 12 months
- Moisture-resistant

Technical data:
- Width of tape x length of strap: 48 mm x 55 m
- Thickness: 0.33 mm
- Colour: Blue
- Type of adhesive: Rubber/resin
- Adhesive tape backing material: PE-coated fabric
- Breaking elongation: 19 %

69771...	Ident. No.	180 ●

Prod. Gr. 6RM

Premium fabric adhesive tapes 389

Temperature-resistant up to 70 °C, watertight, very high long-term adhesive force

Application:
For industrial applications such as marking, strengthening, repairing, sealing joints and air-conditioning ducts, bundling pipes, materials etc.

Execution:
- Close-meshed fabric adhesive tape with matt surface
- Polyethylene coating

Advantage:
- Excellent adhesive strength on a variety of surfaces
- Outstanding moisture resistance
- Adapts easily for use on uneven surfaces
- Good tear resistance and flexibility

Technical data:
- Width of tape x length of strap: 50 mm x 50 m
- Thickness: 0.26 mm
- Type of adhesive: Rubber/resin
- Adhesive tape backing material: PE-coated rayon fabric
- Breaking elongation: 6 %

Ident. No. 220

Ident. No. 230

Colour		Silver grey	Black
69771...	Ident. No.	220 ●	230 ●

Prod. Gr. 6RM

Double-sided adhesive tape 9527

Synthetic rubber adhesive tape with high initial tack

Application:
For gluing sheet material such as foam, rubber or felt.

Execution:
- Synthetic rubber adhesive
- With paper fleece backing

Advantage:
- Excellent immediate adhesion
- Easily soluble protective paper
- Good adhesion on low-energy materials
- Temperature resistant up to 50°C

Technical data:
- Type description: 9527
- Width of tape x length of strap: 50 mm x 50 m
- Colour: White
- Breaking elongation: 0 %

69771...	Ident. No.	310 ●

Prod. Gr. 6RM

Warning marking tape 766i/767i

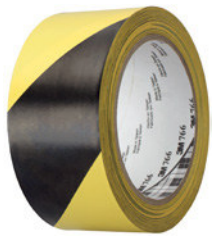
All-purpose soft PVC adhesive tape for use on many surfaces

Application:
For marking, barricading, bundling, protecting and covering. Also suitable for making the floor. Ideal for indicating hazards.

Execution:
- Highly elastic backing material

Advantage:
- Solvent-resistant
- High initial adhesive strength
- Supple even on uneven surfaces

Technical data:
- Width of tape x length of strap: 50 mm x 33 m
- Type of adhesive: Rubber/resin
- Adhesive tape backing material: PVC
- Breaking elongation: 180 %



Ident. No. 505

Ident. No. 515

Type description		766i	767i
Thickness (mm)		0.125	0.129
Colour		Black | Yellow	Red | White
69772...	Ident. No.	505 ●	515 ●

Prod. Gr. 6RM

NT Cutter Safety carton opener

Application:
For opening cardboard boxes, undoing packaging straps and films, and for pulling out packaging staples.

Execution:
- High-quality, ergonomically shaped plastic handle
- Replaceable blade

Advantage:
- Metal bow with internal blade protects the package contents from being damaged

Length (mm)		195
Blade width (mm)		10
53651...	Ident. No.	010 ●

Prod. Gr. 566

Accessories for		53651 010
53651... Spare blades, pack of 10 For safety box cutter art. no. 53651010	Ident. No.	100 ●

Film bag

Made of PE, with press-down closure and labelling field

Application:
For storing small parts.

Execution:
- Resealable and reusable
- Made of polyethylene

Advantage:
- Can be re-used
- High transparency
- Food-grade
- Robust

Technical data:
- Foil thickness: 50 µm
- Colour: Transparent
- Number of pieces per packet: 1000 PCS

Length (mm)		100	150	170	220	300
Width (mm)		70	100	120	160	200
50007...	Ident. No.	500 ●	501 ●	502 ●	503 ●	504 ●

Prod. Gr. 586

Film bag

Made of PE, with press-down closure

Application:
For storing small parts.

Execution:
- Resealable and reusable
- Made of polyethylene
- Packing unit: 1000 pieces

Advantage:
- Can be re-used
- High transparency
- Food-grade
- Robust

Technical data:
- Foil thickness: 50 µm
- Colour: Transparent
- Number of pieces per packet: 1000 PCS

Length (mm)		100	120	150	170	220	220	250	300	310	350	450
Width (mm)		70	80	100	120	150	160	180	200	220	250	350
50007...	Ident. No.	530 ●	531 ●	532 ●	533 ●	534 ●	535 ●	536 ●	537 ●	538 ●	539 ●	540 ●

Prod. Gr. 586

Packing foam film

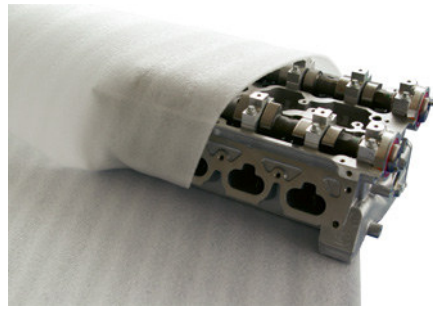
On roll, made of PE

Application:
For protecting edges and surfaces and as insulation and padding. Anti-slip insert layer, insulating and vibration-reducing.

Execution:
- Closed-cell, non-polymerised, foamed white padding material made of LDPE (Low Density Polyethylene)
- Extremely resistant to solvents, fuels, oils and other chemicals
- CFC-free foamed, colour white

Advantage:
- Many different uses, elastic, flexible
- Odour-neutral, water-resistant
- Dirt-resistant, dust-free, lightweight and heat-sealable
- Excellent padding properties

Technical data:
- Width: 1250 mm
- Colour: White



Length (m)		500	350	250	175	100
Material thickness (mm)		1.0	1.5	2.0	3.0	5.0
50007...	Ident. No.	557 ○	558 ○	559 ○	576 ●	577 ○

Prod. Gr. 504

Air bubble film, perforated

On roll, made of PE

Application:
For secure packaging, for use as padding and protection for large, impact- and pressure-sensitive goods and scratch-sensitive areas.

Execution:
- Thickness 75 µ
- Perforated every 400 mm

Technical data:
- Length: 100 m
- Material: PE - Polyethylene

Width (mm)		500	1000
50007...	Ident. No.	590 ●+	591 ●

Prod. Gr. 586

Air bubble film in dispenser box

On roll, made of PE

Application:
For secure packaging, for use as padding and protection for large, impact- and pressure-sensitive goods and scratch-sensitive areas.

Execution:
- Modern two-layered material of high-quality, environmentally friendly plastic
- Many small air bubbles absorb impact and pressure
- Tough, tear-resistant, waterproof, sealable, dust-resistant and watertight
- Insulates against extreme cold and heat

Advantage:
- For simple and versatile use
- Lightweight and safe padding material
- Tough, tear-resistant, waterproof, sealable

Delivery:
2 boxes with 1 roll each

Technical data:
- Number of plies: 2 PCS
- Foil thickness: 0.8 mm
- Length: 0.05 m
- Width: 285 mm
- Bubble diameter: 10 mm
- Material: PE - Polyethylene

50007...	Ident. No.	594 ○

Prod. Gr. 586

Packing foam film in dispenser box

On roll, made of PE

Application:
For protecting edges and surfaces and as insulation and padding. Anti-slip insert layer, insulating and vibration-reducing.

Execution:
- On rollers, perforated at every 300 mm

Advantage:
- Many different uses, elastic, flexible
- Odour-neutral, water-resistant
- Dirt-resistant, dust-free, lightweight and heat-sealable
- Excellent padding properties

Delivery:
2 boxes with 1 roll each

Technical data:
- Length: 0.08 m
- Width: 285 mm
- Material thickness: 2.0 mm
- Colour: White

50007...	Ident. No.	595 ●

Prod. Gr. 586

Bubble wrap

On roll, made of PE

Application:
For secure packaging, for use as padding and protection for large, impact- and pressure-sensitive goods and scratch-sensitive areas.

Execution:
- Modern two-layered material of high-quality, environmentally friendly plastic
- Many small air bubbles absorb impact and pressure
- Tough, tear-resistant, waterproof, sealable, dust-resistant and watertight
- Insulates against extreme cold and heat

Advantage:
- For simple and versatile use
- Lightweight and safe padding material
- Tough, tear-resistant, waterproof, sealable
- Physiologically safe pursuant to Food Safety Act

Technical data:
- Number of plies: 2 PCS
- Bubble diameter: 10 mm
- Material: PE - Polyethylene

Foil thickness (µm)		60	75	75	75	75	125	100	125	75
Length (m)		100	100	100	50	100	50	100	100	50
Width (mm)		1200	1000	1200	1200	1500	1200	1200	1200	500
Number of pieces per packet (PCS)		1	1	1	1	1	1	1	1	3
50007...	Ident. No.	586 ○	588 ●	589 ○	592 ○	593 ○+	596 ○	597 ●	598 ○	587 ○

Prod. Gr. 504

Set of mini rolls of stretch film

30 rolls, pre-stretched, 10 µm thick

Application:
For bundling, fixing, sealing and binding.

Execution:
- Pre-stretched mini hand-stretch film

Advantage:
- For universal use
- Easy to use
- Environmentally friendly due to lack of cardboard core
- Integrated thumb brake for optimum tensioning

Delivery:
Including 2 dispensers and cardboard box with 30 rolls each

Technical data:
- Foil thickness: 10 µm
- Length: 300 m
- Width: 85 mm
- Colour: Transparent

50007...	Ident. No.	641 ●

Prod. Gr. 504

Stretch film, mini roll set

40 rolls, 20 µm thick

Application:
For bundling, fixing, sealing and binding.

Execution:
- Traditional mini hand-stretched film

Advantage:
- For universal use
- Easy to use
- Integrated thumb brake for optimum tensioning

Delivery:
Including 1 dispenser and cardboard box with 40 rolls each

Technical data:
- Foil thickness: 20 µm
- Length: 150 m
- Width: 100 mm
- Colour: Transparent

50007...	Ident. No.	642 ●

Prod. Gr. 504

Hand dispenser for stretch films

Application:
For manual stretching over pallets.

Execution:
- Easily adjustable resistance brake
- Chrome-plated
- For a roll of up to 500 mm width

Advantage:
- Rapid, simple and safe handling of stretch films
- Avoid “hot hands”

Hand roller (without film)

50007...	Ident. No.	676 ●

Prod. Gr. 504

Stretch film for unrolling by hand

On roll, pre-stretched, 500 mm wide

Application:
For the securing of loads on pallets, protection against damp, dirt and dust. Can be used as a wrapping or banding foil.

Execution:
- Stretch film optimally pre-stretched by machine
- Turned film edges to increase resistance
- Slippery outer side available in order to avoid pallets sticking to each other in trucks
- Must be wound with only minimal tension
- Reset forces are released after unwrapping (memory effect)
- Increased puncture resistance combined with reduced film thickness
- Good adhesion properties, high transparency, good tear propagation strength

Advantage:
- Easier to use since rolls are extremely light
- Avoids fatigue-inducing bending
- Higher working speed and less effort required
- Improved load unit securing thanks to higher retention forces
- Prevents pallets from sticking to each other

Technical data:
- Foil thickness: 8 µm
- Length: 600 m
- Width: 430 mm
- Colour: Transparent
- Number of pieces per packet: 6 PCS

50007...	Ident. No.	639 ●

Prod. Gr. 504

OLFA CUTTERS & KNIVES Plastic film cutter

Application:
For cutting close-fitting film without damaging the material underneath.

Execution:
- Safety knife with concealed blade
- Ergonomically shaped plastic handle

Advantage:
- Blade is easy to replace using snap-open mechanism

Length (mm)		160
Blade width (mm)		10
53651...	Ident. No.	200 ●

Prod. Gr. 566

Accessories for		53651 200
53651... Spare blades, pack of 10 For film cutters no. 53651 200	Ident. No.	210 ●

Stretch film for mechanical dispensing

On roll, made of LLDPE, 500 mm wide

Application:
For wrapping goods on pallets on all semi- and fully-automated stretch systems. Protection from damp, dirt, dust or theft.

Execution:
- Machine stretch film made of LLDPE (Linear Low Density Polyethylene) with good adhesion (one-sided)
- High transparency, good tear propagation strength and good stretchability
- Thin but with good puncture resistance
- Environmentally compatible and recyclable

Advantage:
- Economical way of securing pallets
- Excellent mechanical properties
- Secures pallets reliably

Technical data:
- Width: 500 mm
- Colour: Transparent
- Number of pieces per packet: 30 PCS

Foil thickness (µm)		17	20	23
Length (m)		2100	1800	1550
50007...	Ident. No.	645 ○+	649 ○+	653 ○+

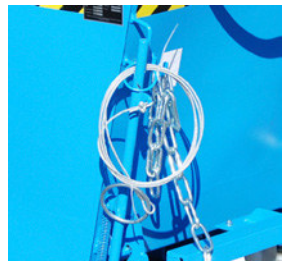
Prod. Gr. 504

Information and overview for tilting containers

Tilting containers are available in many designs. A key consideration when ordering is whether the process of emptying is to performed exclusively manually or using a forklift.

manual tipping:
if no forklift is available for emptying, the tipping process must be performed manually. for manual tipping procedures, the selection of a mobile version or alternatively rollers as accessories is therefore recommended.
Tilting containers for manual emptying are designed such that ground-level emptying is possible. This option should only be selected if no heavy material is collected and tipping out at high altitude is not required.

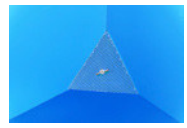
tipping from the forklift operator's seat:
this container variant features a special device that facilitates ergonomic yet safe emptying of the container. Container is released via a steel rope.
All containers with this function are protected against sliding via a link chain and are also protected against unintentional tipping.

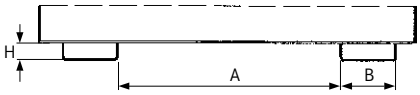


Self-tipping containers:
Exhibit a favourable centre of gravity that allows the tipping procedure to be performed automatically on unlatching when the container is loaded.

Dispenser systems:
Containers with a dispenser system are tilted more slowly, making the procedure gentler for the forklift. Furthermore, the container automatically "rolls" back into its actual position after emptying.

Chip containers:
A chip collection version must be selected for chip collection and fluid and solid separation. Our chip containers are equipped with a perforated plate and drain valve as standard and are welded so that they are oil-tight and watertight.





Dimensions of fork pockets:
Spacing of fork pockets (A)
Width of fork pockets (B)
Height of fork pockets (H)

Choose your preferred colour (no extra charge) for products with this logo:

RAL

RAL 2000	RAL 3000	RAL 6011	RAL 7005	RAL 5012
yellow orange	flame red	reseda green	mouse grey	light blue

Swarf containers, manual tipping - mobile

With floor-level emptying option

Application:
An indispensable aid for collecting and separating liquids from solids and for transporting waste, bulk materials, chips and mass produced parts of all types.

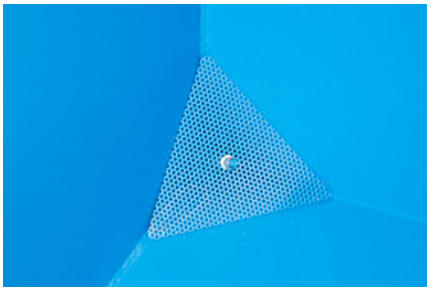
Execution:
- Skip with sliding handle
- Stable sheet steel structure with edge reinforcement, base frame made of section steel
- With perforated sheet insert for chip collection, hole diameter 3 mm, division 6 mm and drain valve 1"
- Fork pockets with protection against accidental slipping and tipping
- Easily movable with two wheels and one steering wheel (from content of 600 litres with two steering wheels) made of solid rubber, diameter 250 x 60 mm, one steering wheel with wheel brake

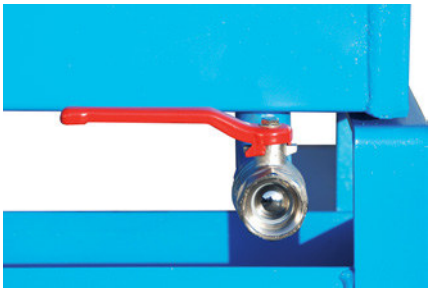
Advantage:
- With floor-level emptying option
- Portable thanks to the integrated wheels, meaning they can be used anywhere
- Manual tilting of the trough ensures that it can be emptied without leaving any material behind, with locking protection that prevents it tipping over

Delivery:
Goods supplied without packaging as standard.
Packaging on request.

Technical data:
- Load-carrying capacity: 300 kg
- Surface: Lacquered
- Fork pocket clearance: 465 mm
- Fork pocket width: 170 mm
- Fork pocket height: 55 mm
- With drain valve: Yes
- With perforated sheet: Yes
- With stacker seat tilt function: No
- Oil and watertight: Yes
- Made in: Germany
- Mandatory testing according to DGUV (UVV): No

Ident. No. 142





Drain valve 1" for draining off liquids

							Colour	Light blue RAL 5012	
Volume (m^3)	Length (mm)	Width (mm)	Height (mm)	Tipper edge height (mm)	Number of wheels (PCS)	Weight (kg)		50266... Ident. No.	
0.25	1115	820	990	680	3	85		140	○+
0.4	1320	900	1090	740	3	101		142	○+
0.6	1395	1070	1220	830	4	145		144	○+
1.0	1420	1340	1290	870	4	173		146	○+

Prod. Gr. 5AI

For technical drawing of fork pockets and colours available at no extra charge, see page 1960
Upon request: galvanised lid, opening on two sides

Swarf containers, manual tipping - mobile with total stop brake system

With floor-level emptying option

Application:
An indispensable aid for collecting and separating liquids from solids and for transporting waste, bulk materials, swarf and mass produced parts of all types.

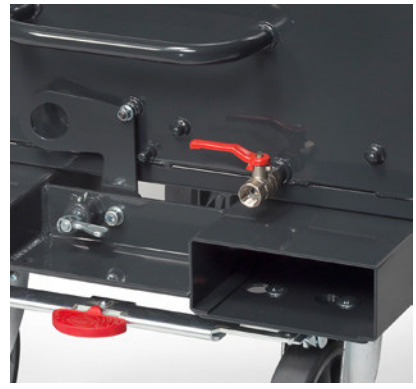
Execution:
- skip with sliding handle
- robust sheet steel construction, double-folded top rim, double-folded dumping edge
- with filter for separating liquids and solids
- 2 steering and 2 fixed castors, 200 x 40 mm TPE wheels, hubs with grooved ball bearings, Totalstop braking system
- no link chain as slide guard (see no. 50266034)

Advantage:
- Totalstop brake system for ideal locking of container for tipping
- with floor-level emptying option

Technical data:
- Surface: Powder-coated
- Fork pocket width: 194 mm
- Fork pocket height: 72 mm
- With drain valve: Yes
- With perforated sheet: Yes
- With stacker seat tilt function: No
- Oil and watertight: Yes
- With wheel lock: Totalstop
- Number of wheels: 4
- Made in: Germany

Ident. No. 108

Ident. No. 112



											Colour	Anthracite grey RAL 7016		Brilliant blue RAL 5007	
Volume (m^3)	Load-carrying capacity (kg)	Length (mm)	Width (mm)	Height (mm)	Internal length (mm)	Internal width (mm)	Interior height (mm)	Fork pocket clearance (mm)	Tipper edge height (mm)	Form		50266... Ident. No.		50266... Ident. No.	
0.25	750	1359	713	780	1200	652	413	203	780	Low		108	○+	098	○+
0.45	750	1374	730	1072	1214	669	708	203	733	Box-shaped		112	○+	102	●+
0.6	750	1458	855	1099	1321	794	735	327	843	Box-shaped		114	○+	104	●+
0.8	800	1458	1105	1099	1321	1044	735	577	843	Box-shaped		116	○+	106	●+

Prod. Gr. 5AE

for technical drawing of fork pockets, see page 1960

Link chain as a slide guard for FETRA tilting container

Delivery:
Goods supplied without packaging as standard.
Packaging available for an additional charge.

Technical data:
- Made in: Germany
- Mandatory testing according to DGUV (UVV): No

50266...	Ident. No.	034 ●

Prod. Gr. 5AE

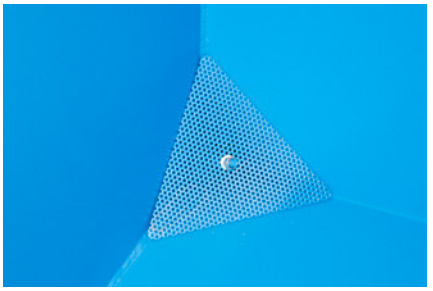
Miniature swarf container

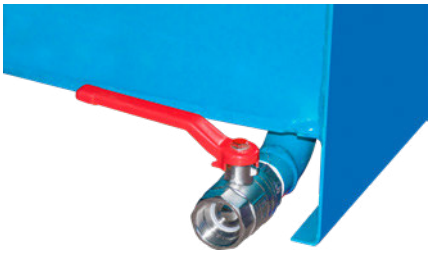
Extremely low height. The ideal swarf container under chip-producing machines

NEW

Technical data:
- Surface: Lacquered
- Length: 1385 mm
- Height: 450 mm
- Fork pocket width: 200 mm
- Fork pocket height: 60 mm
- With drain valve: Yes
- With perforated sheet: Yes
- With stacker seat tilt function: Yes
- Oil and watertight: Yes
- Tipper edge height: 350 mm
- Made in: Germany
- Mandatory testing according to DGUV (UVV): No

Ident. No. 663





					Miniature swarf container		Wheels for cabinet trolleys and tilting containers		Product family: Covers for tilting containers	
				Colour	Light blue RAL 5012					
Volume (m^3)	Load-carrying capacity (kg)	Width (mm)	Fork pocket clearance (mm)	Weight (kg)	50265... Ident. No.		50265... Ident. No.		50265... Ident. No.	
0.23	750	680	10	85	653	○+	594	○	696	○
0.27	1000	780	150	97	663	○+	594	○	697	○
0.46	1000	1280	495	121	673	○+	594	○	698	○
0.61	1000	1680	495	135	683	○+	594	○	699	○+

Prod. Gr. 5AI

For technical drawing of fork pockets and colours available at no extra charge, see page 1960

Suitable castor set

Wheel Ø (mm)	Material of wheel	Construction height (mm)	Number of steering rollers (PCS)	Number of fixed rollers (PCS)	Number of wheel adjusters (PCS)	50265... Ident. No.	
100	PA - Polyamide	125	2	2	1	594	○

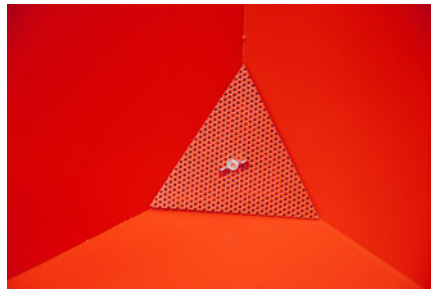
Prod. Gr. 5AI

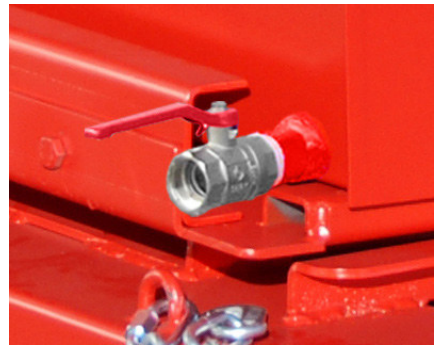
Swarf container with 3 release points

The automatic solution with dispenser system

NEW

Technical data:
- Load-carrying capacity: 1000 kg
- Surface: Lacquered
- Length: 1485 mm
- Height: 865 mm
- Fork pocket clearance: 640 mm
- Fork pocket width: 200 mm
- Fork pocket height: 91 mm
- With drain valve: Yes
- With perforated sheet: Yes
- With stacker seat tilt function: Yes
- Oil and watertight: Yes
- Made in: Germany
- Mandatory testing according to DGUV (UVV): No





Volume (m^3)				0.60	0.90
Width (mm)				1095	1570
Weight (kg)				163	206
		Colour			
Swarf container with 3 release points	50265...	Light blue RAL 5012	Ident. No.	043 ○	053 ○
Product family: Covers for tilting containers	50265...		Ident. No.	094 ○	095 ○

Prod. Gr. 5AI

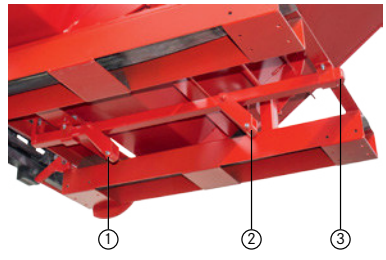
For technical drawing of fork pockets and colours available at no extra charge, see page 1960

Product details

For time-saving and safe handling of the container and to offset tilting over the container. The driver can stay in the cab to attach the safety chain for picking up and dropping.

Automatic locking of the fork pockets prevents the fork prongs from slipping.

The lock closes as soon as the container is lifted.



Release for tilting at three points on the underside of the tipper possible.

Tilting with release point 1

Tilting with release point 2

Tilting with release point 3

Product video: YouTube ID: m5wCJL5P_Is

Swarf container, tipping from the seat of a forklift truck - mobile

Load capacity 1,000 kg, can be emptied from the ground

Application:
For the collection and separation of liquids from solids and for the transport or disposal of all types of waste, bulk materials, chips and mass-produced parts.

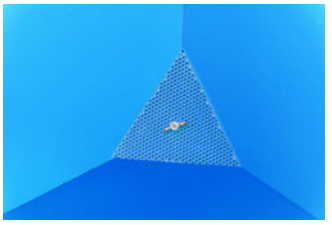
Execution:
- High flexibility for the transport and unloading of bulk materials
- Wheelset and pushing handle for easy manual transport
- Fork pockets for transport with forklift truck
- Ground-level emptying or with fork-lift truck in the case of large containers
- Robust steel sheet structure, base frame with fork pockets
- Tiltable trough
- Protections against accidental slipping and tipping
- 2 steering and 2 fixed castors made of polyamide, diameter 180 mm, of which one steering castor with locking device—design height 225 mm, max. carrying capacity 1000 kg

Advantage:
- Particularly suitable for collecting chips

Delivery:
Goods supplied without packaging as standard. Packaging available for an additional charge.

Technical data:
- Load-carrying capacity: 1000 kg
- Surface: Lacquered
- Fork pocket width: 200 mm
- Fork pocket height: 80 mm
- With drain valve: Yes
- With perforated sheet: Yes
- With stacker seat tilt function: Yes
- Oil and watertight: Yes
- Number of wheels: 4 PCS
- Made in: Germany

Ident. No. 884



Ref. no. 878

							Colour	Light blue RAL 5012
Volume (m^3)	Length (mm)	Width (mm)	Height (mm)	Fork pocket clearance (mm)	Tipper edge height (mm)	Weight (kg)	50266... Ident. No.	
0.4	1220	1050	1115	100	1020	109	884	○+
0.55	1250	1200	1170	180	1055	122	886	○+
0.7	1345	1200	1275	180	1175	134	888	○+

Prod. Gr. 5AI

For technical drawing of fork pockets and colours available at no extra charge, see page 1960

Swarf container, tipping from the seat of a forklift truck

Load capacity of up to 1,250 kg, mobile with unwinding system

Application:
For the collection and separation of liquids from solids and for the transport or disposal of all types of waste, bulk materials, chips and mass-produced parts.

Execution:
- Stable base frame with rollers, sliding handle and fork pockets
- Sheet metal tray with surrounding edge profile, welded oil-resistant and watertight
- Screen plate, hole diameter 3 mm, partition 6 mm, drain valve 1" for draining off liquids
- Protection against accidental slipping and tipping
- Mobile with wheels made of polyamide

Advantage:
- Particularly suitable for collecting chippings
- Favourable load centre, tilting at any height using a wire rope, anti-roll-off mechanism ensures convenient forwards and backwards tipping from the forklift seat
- Mobile thanks to wheels which mean it can be used everywhere

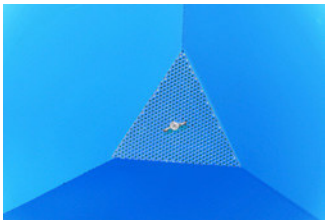
Delivery:
Goods supplied without packaging as standard. Packaging available for an additional charge.

Notes:
Upon request: galvanised lid, opening on two sides

Technical data:
- Surface: Lacquered
- Fork pocket width: 200 mm
- Fork pocket height: 70 mm
- With drain valve: Yes
- With perforated sheet: Yes
- With stacker seat tilt function: Yes
- Oil and watertight: Yes
- Made in: Germany
- Mandatory testing according to DGUV (UVV): No

Ident. No. 203

Drain valve 1" for draining off liquids



Ident. No. 203, tilting at any height using a wire rope from the seat of the fork-lift truck

Product video: YouTube ID: IOzg4Hw2_ko

									Colour	Light blue RAL 5012
Volume (m^3)	Load-carrying capacity (kg)	Length (mm)	Width (mm)	Height (mm)	Fork pocket clearance (mm)	Tipper edge height (mm)	Number of wheels (PCS)	Weight (kg)	50266... Ident. No.	
0.3	1000	1275	820	820	280	690	3	115	203	○+
0.5	1000	1275	1280	820	30	690	4	145	205	○+
0.75	1250	1620	1180	1060	30	950	4	180	207	○+

Prod. Gr. 5AI

For technical drawing of fork pockets and colours available at no extra charge, see page 1960

Swarf container, tipping from the seat of a forklift truck - perforated metal plate over the entire base

Load capacity up to 1,500 kg

Application:

For the collection and separation of liquids from solids and for the transport or disposal of all types of waste, bulk materials, chips and mass-produced parts.

Execution:

- Perforated metal plate screwed across the entire base, 100 mm above the base, hole diameter 3 mm, spacing 6 mm
- Drain valve 1" for draining off liquids
- Tilting at any height using a wire rope from the stacker seat
- Sheet metal tray with surrounding edge profile
- Sturdy base frame with fork pockets
- Protection against accidental slipping and tipping

Delivery:

Goods supplied without packaging as standard. Packaging available for an additional charge.

Notes:

On request: galvanised lid, openable on two sides

Technical data:

- Surface: Lacquered
- Fork pocket width: 200 mm
- Fork pocket height: 60 mm
- With drain valve: Yes
- With perforated sheet: Yes
- With stacker seat tilt function: Yes
- Oil and watertight: Yes
- Made in: Germany
- Mandatory testing according to DGUV (UVV): No

Ident. No. 340

Ident. No. 342

Product video: YouTube ID: btjeruye96M

								Colour	Light blue RAL 5012
Volume (m^3)	Load-carrying capacity (kg)	Length (mm)	Width (mm)	Height (mm)	Fork pocket clearance (mm)	Tipper edge height (mm)	Weight (kg)	50266... Ident. No.	
0.3	750	1440	680	580	10	395	125	340	○+
0.5	1000	1440	780	680	150	495	137	341	○+
0.75	1000	1440	1280	680	495	495	182	342	○+
1	1500	1640	1280	780	495	565	211	343	○+
1.5	1500	1640	1280	1090	495	890	247	344	○+

Prod. Gr. 5AI

For technical drawing of fork pockets and colours available at no extra charge, see page 1960

Suitable castor set

Load-carrying capacity (kg)	Wheel Ø (mm)	Material of wheel	Construction height (mm)	Number of steering rollers (PCS)	Number of fixed rollers (PCS)	Number of wheel adjusters (PCS)	50266... Ident. No.	
1500	180	PA - Polyamide	225	2	2	1	370	○

Prod. Gr. 5AI

Tilting container, manual tilting

Load capacity 300 kg

Application:
For the collection and disposal of all types of bulk goods and solid materials with floor-level emptying option.

Execution:
- Robust sheet steel structure with edge reinforcement
- Tiltable trough with handle
- Base frame with fork pockets
- Easily mobile using stacker
- Oil-resistant and watertight
- Protection against accidental slipping and tipping
- Optionally box-shaped or low trough
- All dimensions without wheels

Advantage:
- With floor-level emptying option

Delivery:
Goods supplied without packaging as standard. Packaging available for an additional charge.

Notes:
Upon request: galvanised lid, opening on two sides

Technical data:
- Load-carrying capacity: 300 kg
- Fork pocket width: 170 mm
- Fork pocket height: 55 mm
- With drain valve: No
- With perforated sheet: No
- With stacker seat tilt function: No
- Oil and watertight: Yes
- Made in: Germany
- Mandatory testing according to DGUV (UVV): No

Ident. No. 250

								Surface	Lacquered
								Colour	Light blue RAL 5012
Volume (m^3)	Length (mm)	Width (mm)	Height (mm)	Fork pocket clearance (mm)	Tipper edge height (mm)	Weight (kg)	Form	50266... Ident. No.	
0.25	1115	590	740	205	430	70	Box-shaped	250	○+
0.4	1320	670	840	285	485	77	Box-shaped	251	○+
0.6	1395	840	905	455	520	125	Box-shaped	252	○+
0.8	1420	910	975	525	560	133	Box-shaped	253	○+
1	1420	1110	975	725	560	145	Box-shaped	254	○+
0.25	1375	670	530	285	530	70	Low	255	○+
0.4	1430	840	605	455	605	77	Low	256	○+

Prod. Gr. 5AI

For technical drawing of fork pockets and colours available at no extra charge, see page 1960

Tilting container, manual tilting - mobile

Load capacity 300 kg

Application:
For the collection and disposal of all types of bulk goods and solid materials with floor-level emptying option.

Execution:
- Sturdy sheet steel structure with edge reinforcement, base frame made of section steel, oil- and waterproof
- Anti-tilt securing device
- 2 wheels + 1 steering wheel (from content 600 l = + 2 steering wheels) from solid rubber diameter 250 x 60 mm, among which one steering wheel with a locking device, with a push handle
- With fork pockets with protection against accidental slipping and tipping

Advantage:
- With floor-level emptying option
- Wheels mean that it is mobile and can therefore be used anywhere

Delivery:
Goods supplied without packaging as standard. Packaging available for an additional charge.

Notes:
Upon request: galvanised lid, opening on two sides

Technical data:
- Load-carrying capacity: 300 kg
- Surface: Lacquered
- Fork pocket clearance: 465 mm
- Fork pocket width: 170 mm
- Fork pocket height: 55 mm
- With drain valve: No
- With perforated sheet: No
- With stacker seat tilt function: No
- Oil and watertight: Yes
- Made in: Germany

Ident. No. 161

							Colour	Light blue RAL 5012
Volume (m^3)	Length (mm)	Width (mm)	Height (mm)	Tipper edge height (mm)	Number of wheels (PCS)	Weight (kg)	50266... Ident. No.	
0.25	1115	820	990	680	3	80	160	○+
0.4	1320	900	1090	740	3	96	161	○+
0.6	1395	1070	1220	830	4	140	162	○+
1.0	1420	1340	1290	870	4	168	163	○+

Prod. Gr. 5AI

For technical drawing of fork pockets and colours available at no extra charge, see page 1960

Tilting container, manual tilting - mobile with total stop feature

Load capacity up to 800 kg

Application:
For the collection and disposal of all types of bulk goods and solid materials with floor-level emptying option.

Execution:
- Skip with sliding handle
- Robust sheet steel construction, double-folded top rim, double-folded dumping edge
- 2 steering and 2 fixed castors, 200 x 40 mm TPE wheels, hubs with grooved ball bearings, Totalstop braking system
- No link chain slide guard (see no. 50266034)

Advantage:
- Totalstop brake system for ideal locking of container for tipping
- With floor-level emptying option

Technical data:
- Surface: Powder-coated
- Fork pocket width: 194 mm
- Fork pocket height: 72 mm
- With drain valve: No
- With perforated sheet: No
- With stacker seat tilt function: No
- Oil and watertight: Yes
- With wheel lock: Totalstop
- Number of wheels: 4
- Made in: Germany

Ident. No. 012

										Colour	Brilliant blue RAL 5007		Anthracite grey RAL 7016	
Volume (m^3)	Load-carrying capacity (kg)	Length (mm)	Width (mm)	Height (mm)	Internal length (mm)	Internal width (mm)	Interior height (mm)	Fork pocket clearance (mm)	Tipper edge height (mm)	Form	50266... Ident. No.		50266... Ident. No.	
0.25	750	1359	713	780	1200	652	413	203	780	Low	088	●+	008	○+
0.45	750	1374	730	1072	1214	669	708	203	733	Box-shaped	089	●+	012	○+
0.6	750	1458	855	1099	1321	794	735	327	843	Box-shaped	090	●+	014	○+
0.8	800	1458	1105	1099	1321	1044	735	577	843	Box-shaped	091	●+	016	○+

Prod. Gr. 5AE

For technical drawing of fork pockets, see page 1960

Link chain as a slide guard for FETRA tilting container

Delivery:
Goods supplied without packaging as standard.
Packaging available for an additional charge.

Technical data:
- Made in: Germany
- Mandatory testing according to DGUV (UVV): No

50266...	Ident. No.	034 ●

Prod. Gr. 5AE

Tilting container for tipping from the seat of a forklift truck

Extremely low height. The ideal tilting container beneath machines

Application:
To collect and dispose of bulk materials and solids of any kind. Wherever there is little space.

Execution:
- Sheet metal tray with surrounding edge profile
- Stable base frame with fork pockets for fork prongs
- Fork pockets with protection against accidental slipping and tipping
- Favourable tilting angle

Technical data:
- Length: 1385 mm
- Height: 450 mm
- Fork pocket width: 200 mm
- Fork pocket height: 60 mm
- With drain valve: No
- With perforated sheet: No
- With stacker seat tilt function: Yes
- Oil and watertight: No
- Tipper edge height: 350 mm
- Made in: Germany
- Mandatory testing according to DGUV (UVV): No

Ident. No. 613

					Tilting container for tipping from the seat of a forklift truck		Wheels for cabinet trolleys and tilting containers		Product family: Covers for tilting containers	
				Surface	Lacquered					
				Colour	Light blue RAL 5012					
Volume (m^3)	Load-carrying capacity (kg)	Width (mm)	Fork pocket clearance (mm)	Weight (kg)	50265... Ident. No.		50265... Ident. No.		50265... Ident. No.	
0.23	750	680	10	84	613	○+	594	○	691	○
0.27	1000	780	150	96	623	○+	594	○	692	○

					Tilting container for tipping from the seat of a forklift truck		Wheels for cabinet trolleys and tilting containers		Product family: Covers for tilting containers	
				Surface	Lacquered					
				Colour	Light blue RAL 5012					
Volume (m^3)	Load-carrying capacity (kg)	Width (mm)	Fork pocket clearance (mm)	Weight (kg)	50265... Ident. No.		50265... Ident. No.		50265... Ident. No.	
0.46	1000	1280	495	120	633	○+	594	○	693	○
0.61	1000	1680	495	134	643	○+	594	○	694	○+

Prod. Gr. 5AI

For technical drawing of fork pockets and colours available at no extra charge, see page 1960

BAUER SÜDLOHN "Automatic" tilting container with 3 release points

Application:
For time-savings when picking up and depositing containers and to offset tipping over the container

Version:
- 3 automatic release points
- automatically closing protection against accidental slipping
- Protection against accidental tipping
- Favourable centre of gravity
- Sheet metal tray with surrounding edge profile
- Sturdy base frame with fork pockets

Technical data:
- Fork pocket clearance: 640 mm
- Fork pocket width: 200 mm
- Fork pocket height: 91 mm
- With drain valve: No
- With perforated sheet: No
- With stacker seat tilt function: Yes
- Oil and watertight: No
- Made in: Germany
- Mandatory testing according to DGUV (UVV): No

Ident. No. 013

Volume (m^3)				0.6	0.9	1.2
Load-carrying capacity (kg)				1000	1000	1500
Length (mm)				1485	1490	1920
Width (mm)				1095	1570	1095
Height (mm)				865	865	1125
	Surface	Colour				
50265...	Lacquered	Light blue RAL 5012	Ident. No.	013 ○+	023 ○+	033 ○+

Prod. Gr. 5AI

For technical drawing of fork pockets and colours available at no extra charge, see page 1960

DURABLE SAFE waste baskets

Application:
Round waste basket with flame-extinguishing lid for preventive fire protection

Execution:
- Self-extinguishing lid cuts off the oxygen supply and suffocates the flames

- TÜV-certified
- Made of steel with scratch-resistant epoxy resin coating

Technical data:
- Material: Sheet steel

NEW

- Surface: Epoxy coating
- Mandatory testing according to DGUV (UVV)

Ident. No. 151

Ident. No. 152

Ident. No. 153

Ident. No. 154

Ident. No. 155

Ident. No. 156

Ident. No. 157

Volumetric capacity		15 l	15 l	15 l	30 l	30 l	60 l	60 l
External height (mm)		357	357	357	492	492	662	662
Outer Ø (mm)		260	260	260	315	315	375	375
Colour		Black	Grey	Silver	Black	Grey	Black	Grey
50007...	Ident. No.	151 ○	152 ○	153 ○	154 ○	155 ○	156 ○	157 ○

Prod. Gr. 5BD

SAFE waste baskets with ashtray

With 2 litre waste basket and flame-extinguishing lid

Application:
Ideal for use in smoking areas or entrances

Execution:
- 17 litre waste basket made of metal with 2 litre ashtray and flame-extinguishing lid
- Round waste basket with removable container and ashtray for easy emptying and cleaning
- The self-extinguishing aluminium lid cuts off the oxygen supply in the ashtray and suffocates the flames.
- Dimensions of flame-extinguishing lid: 60 x 240 mm (H x diameter)
- Dimensions of opening: 150 x 125 mm (W x H)
- Dimensions of container interior: 380 x 220 mm (H x diameter)

Technical data:
- Type: Removable aluminium flame-extinguishing lid
- Volume: 17 l
- External height: 630 mm
- Outer diameter: 250 mm
- Material: Sheet steel
- Surface: Epoxy coating
- Volume of insert: 2 l
- Mandatory testing according to DGUV (UVV)

NEW

Ident. No. 161

Ident. No. 162

Ident. No. 163

Colour		Black	Silver	Anthracite
50007...	Ident. No.	161 ○	162 ○	163 ○

Prod. Gr. 5BD

Durable waste container DURABIN with lid

Application:
Can also be used for storing and transporting raw materials in trade and industry applications

Execution:
- Rectangular plastic waste and recycling bin
- With carry handles for easy transport
-
- Recesses on the underside of the base for safe emptying
- With clamping slots for refuse bags

Notes:
Food safe in all colours (in accordance with EU regulation 1935/2004/EC) except black.

Technical data:
- Volumetric capacity: 60 l
- External width: 590 mm
- External height: 600 mm
- Type: Slip lid
- Material: Polyphenylene
- Mandatory testing according to DGUV (UVV)
- Design: With lid

NEW

Ident. No. 181

Ident. No. 182

Ident. No. 183

Ident. No. 184

External length (mm)		282	-	-	-
Self-extinguishing		No	-	-	-
Colour		Grey | Yellow	Grey | Blue	Grey | Green	Grey | Black
Form		Rectangular	-	-	-
Suitable for use with food products		Yes	-	-	-
50007...	Ident. No.	181 ○+	182 ○+	183 ○+	184 ○+

Prod. Gr. 5BD

DURABIN® ECO 60L waste container with lid

Application:
Can also be used for storing and transporting raw materials in trade and industry applications

Execution:
- Rectangular plastic waste and recycling bin
- With carry handles for easy transport
- Recesses on the underside of the base for safe emptying
- With clamping slots for refuse bags

Advantage:
- Use of recycled plastics in Blue Angel quality

Technical data:
- Volumetric capacity: 60 l
- External width: 590 mm
- External length: 282 mm
- External height: 600 mm
- Type: Slip lid
- Material: Polyphenylene
- Mandatory testing according to DGUV (UVV)
- Design: With lid

NEW

Colour		Grey	Black
50007...	Ident. No.	189 ○+	190 ○+

Prod. Gr. 5BD

Ident. No. 189

Ident. No. 190

DURABIN waste container with hinged lid

Application:
Can also be used for storing and transporting raw materials in trade and industry applications

Execution:
- Rectangular plastic waste and recycling bin
- With carry handles for easy transport
- Recesses on the underside of the base for safe emptying
- With clamping slots for refuse bags

Technical data:
- Volumetric capacity: 60 l
- External width: 590 mm
- External length: 282 mm
- External height: 600 mm
- Type: Hinged lid
- Material: Polyphenylene
- Mandatory testing according to DGUV (UVV)
- Design: With lid

NEW

Ident. No. 185

Ident. No. 186

Ident. No. 187

Ident. No. 188

Self-extinguishing		No	-	-	-
Colour		Grey | Yellow	Grey | Green	Grey | Blue	Grey
Form		Rectangular	-	-	-
50007...	Ident. No.	185 ○+	186 ○+	187 ○+	188 ○+

Prod. Gr. 5BD

DURABIN Flip 40 waste container

Application:
Ideal for collecting and separating waste and recyclable materials.

Execution:
- With rear recessed handle

Technical data:
- Volumetric capacity: 40 l
- External width: 320 mm
- External length: 360 mm
- External height: 592 mm
- Type: Without refuse bag attachment
- Material: PE - Polyethylene
- Self-extinguishing: No
- Mandatory testing according to DGUV (UVV)
- Form: Rectangular
- Suitable for use with food products: No

NEW

Ident. No. 191

Ident. No. 192

Ident. No. 193

Ident. No. 194

Ident. No. 195

Ident. No. 196

Colour		White | Green	White | Yellow	White | Blue	White | Red	White	White | Grey
50007...	Ident. No.	191 ○	192 ○	193 ○	194 ○	195 ○	196 ○

Prod. Gr. 5BD

Steel collection container for cotton waste, self-extinguishing

Filling volume 73 litres

Application:
the classic Feuertrotz - also known as robust universal collector for industry and workshop

Execution:
- with a swing lid - very easy deposit
- recessed side handles for easy handling
- made of galvanised quality sheet steel or stainless steel
- self-extinguishing, non-flammable, TÜV/GS-tested

Technical data:
- Material: Sheet steel
- Self-extinguishing: Yes
- Surface: Powder-coated
- With internal container: No
- Foot-operated: No
- Building material class: A1 - Non-flammable

						Steel collection container for cotton waste, self-extinguishing		Sub-family: refuse bags	
Volumetric capacity	Width (mm)	Height (mm)	Depth (mm)	Feed damper colour	Colour	50072... Ident. No.		50072... Ident. No.	
45 l	300	558	320	Gentian blue RAL 5010	Light grey RAL 7035	101	○	560	●
45 l	300	558	320	Anthracite grey RAL 7016	Light grey RAL 7035	107	○	560	●
45 l	300	558	320	Flame red RAL 3000	Flame red RAL 3000	103	○	560	●
73 l	400	680	400	Gentian blue RAL 5010	Light grey RAL 7035	100	○	501	●
73 l	400	680	400	Anthracite grey RAL 7016	Light grey RAL 7035	106	○	501	●
73 l	400	680	400	Flame red RAL 3000	Flame red RAL 3000	102	○	501	●

Prod. Gr. 504

Recyclable materials collector made of zinc-plated sheet steel or stainless steel

Capacity 45 litres, odour-inhibiting and fire-resistant, self-extinguishing

Execution:
- **Ident. No. 110–118:**
  - Removable head element for attaching the waste bag
  - Non-flammable according to DIN 4102 A1
  - Self-extinguishing, TÜV/GS-tested
- **Ident. No. 122–130:**
  - made of galvanised quality sheet steel or stainless steel
  - detachable head element for fixing the waste bag
  - non-flammable as per DIN 4102 A1
  - self-extinguishing, TÜV/GS-tested

Technical data:
- Volumetric capacity: 45 l
- Width: 330 mm
- Height: 640 mm
- Depth: 310 mm
- Material: Sheet steel
- Self-extinguishing: Yes
- Surface: Powder-coated
- With internal container: No
- Foot-operated: No
- Building material class: A1 - Non-flammable

			Recyclable materials collector made of zinc-plated sheet steel or stainless steel		Sticker set		Sub-family: refuse bags	
Feed damper colour	Colour	Design	50072... Ident. No.		50072... Ident. No.		50072... Ident. No.	
Flame red RAL 3000	Flame red RAL 3000	On castors	122	○	186	○	560	●
Light grey RAL 7035	Light grey RAL 7035	On castors	124	○	186	○	560	●
Traffic green RAL 6024	Traffic green RAL 6024	On castors	126	○	186	○	560	●
Gentian blue RAL 5010	Gentian blue RAL 5010	On castors	128	○	186	○	560	●
Signal yellow RAL 1003	Signal yellow RAL 1003	On castors	130	○	186	○	560	●
Flame red RAL 3000	Flame red RAL 3000	Stationary	110	○	186	○	560	●
Light grey RAL 7035	Light grey RAL 7035	Stationary	112	○	186	○	560	●
Traffic green RAL 6024	Traffic green RAL 6024	Stationary	114	○	186	○	560	●
Gentian blue RAL 5010	Gentian blue RAL 5010	Stationary	116	○	186	○	560	●
Signal yellow RAL 1003	Signal yellow RAL 1003	Stationary	118	○	186	○	560	●

Prod. Gr. 504

Recyclable materials collector

Capacity 65 litres, odour-inhibiting and fire-resistant, self-extinguishing

Execution:
- powerful solid colours for high sorting security
- extremely robust from zinc-coated quality metal sheet
- upper part is detachable
- self-closing lids, odour-inhibiting
- non-flammable as per DIN 4102 A1
- self-extinguishing, TÜV/GS-tested

Technical data:
- Volumetric capacity: 65 l
- Width: 400 mm
- Height: 970 mm
- Depth: 380 mm
- Material: Sheet steel
- Self-extinguishing: Yes
- With internal container: Yes
- Foot-operated: No
- Building material class: A1 - Non-flammable

		Recyclable materials collector		Sticker set		Sub-family: refuse bags	
Feed damper colour	Colour	50072... Ident. No.		50072... Ident. No.		50072... Ident. No.	
Flame red RAL 3000	Flame red RAL 3000	132	○	186	○	501	●
Light grey RAL 7035	Light grey RAL 7035	134	○	186	○	501	●
Traffic green RAL 6024	Traffic green RAL 6024	136	○	186	○	501	●
Gentian blue RAL 5010	Gentian blue RAL 5010	138	○	186	○	501	●
Signal yellow RAL 1003	Signal yellow RAL 1003	140	○	186	○	501	●

Prod. Gr. 504

Recyclable materials collector made of zinc-plated sheet steel

Filling volume of 45-120 litres, with waste bag holder or galvanised inner container

Execution:
- **Ident. No. 151–165:** Bag holder with ball-bearing telescopic rails to pull out (ProSlide System) – this makes changing waste bags much simpler
- **Ident. No. 151–173:**
  - Made of galvanised quality sheet steel
  - Self-closing lids dampened and silent closing
  - Ergonomic handle and foot pedal made of stainless steel
  - Hinged doors locked with square socket key
  - Adjustable feet to compensate for uneven surfaces
  - Can be retrofitted to the mobile version using the roller kit
- **Ident. No. 167–181:** With galvanised inner container – self-extinguishing
- **Ident. No. 175–181:**
  - made of galvanised quality sheet steel
  - self-closing lids dampened and silent closing
  - ergonomic handle and foot pedal made of stainless steel
  - hinged doors locked with square socket key
  - adjustable feet to compensate for uneven surfaces
  - can be retrofitted to the mobile version using the roller kit

Advantage:
- **Ident. No. 151–173:**
  - For every need – the most comprehensive program on the market
  - Silent closing due to lid damping
  - Door colour selectable
- **Ident. No. 175–181:**
  - for every need - the most comprehensive program on the market
  - silent closing due to lid damping
  - door colour selectable

Delivery:

Ident. No. 151–173: Incl. Pro-Pads glue set (in anthracite, blue, yellow and green) for individual colour coding of the self-closing lids

Ident. No. 175–181: incl. Pro-Pads glue set (in anthracite, blue, yellow and green) for individual colour coding of the self-closing lids

Technical data:
- Material: Sheet steel
- Surface: Powder-coated
- Feed damper colour: Optional
- Colour: Aluminium grey
- Building material class: A1 - Non-flammable

							Recyclable materials collector made of zinc-plated sheet steel		Sticker set		Roller set		Sub-family: refuse bags	
Volumetric capacity	Width (mm)	Height (mm)	Depth (mm)	Self-extinguishing	With internal container	Foot-operated	50072... Ident. No.		50072... Ident. No.		50072... Ident. No.		50072... Ident. No.	
45 l	400	800	380	Not self-extinguishing	Without internal container	Foot-operated	159	○	186	○	200	○	528	●
45 l	400	800	380	Not self-extinguishing	Without internal container	Not food-operated	151	○	186	○	200	○	528	●
60 l	400	900	380	Not self-extinguishing	Without internal container	Not food-operated	153	○	186	○	200	○	529	●
75 l	400	1000	380	Not self-extinguishing	Without internal container	Not food-operated	155	○	186	○	200	○	501	●
120 l	450	1100	450	Not self-extinguishing	Without internal container	Not food-operated	157	○	186	○	200	○	501	●
60 l	400	900	380	Not self-extinguishing	Without internal container	Foot-operated	161	○	186	○	200	○	529	●
75 l	400	1000	380	Not self-extinguishing	Without internal container	Foot-operated	163	○	186	○	200	○	501	●
120 l	450	1100	450	Not self-extinguishing	Without internal container	Foot-operated	165	○	186	○	200	○	501	●
45 l	400	800	380	Self-extinguishing	With internal container	Not food-operated	167	○	186	○	200	○	528	●
60 l	400	900	380	Self-extinguishing	With internal container	Not food-operated	169	○	186	○	200	○	529	●
75 l	400	1000	380	Self-extinguishing	With internal container	Not food-operated	171	○	186	○	200	○	501	●
120 l	450	1100	450	Self-extinguishing	With internal container	Not food-operated	173	○	186	○	200	○	501	●
45 l	400	800	380	Self-extinguishing	With internal container	Foot-operated	175	○	186	○	200	○	528	●
60 l	400	900	380	Self-extinguishing	With internal container	Foot-operated	177	○	186	○	200	○	529	●
75 l	400	1000	380	Self-extinguishing	With internal container	Foot-operated	179	○	186	○	200	○	501	●
120 l	450	1100	450	Self-extinguishing	With internal container	Foot-operated	181	○+	186	○	200	○	501	●

Prod. Gr. 559

Systematic waste separation

Recyclable materials collector made of sheet steel

Execution:

- From galvanised quality sheet steel
- High-quality textured powder coating
- With holder for waste bags or zinc plated inner container
- 3 ProPads©/container for marking the self-closing lid
- available in anthracite, yellow and blue
- Hinged doors on the front for easy removal of bags/inner containers

Technical data:

- Volumetric capacity: 70 l
- Width: 400 mm
- Height: 1000 mm
- Depth: 380 mm
- Material: Sheet steel
- Self-extinguishing: No
- Surface: Powder-coated
- Foot-operated: No
- Colour: Light grey RAL 7035
- Building material class: A1 - Non-flammable

Ident. No. 001

Ident. No. 003

With internal container	50072... Ident. No.	
With rubbish bag holder	001	○
With internal container	003	○

Prod. Gr. 559

Accessories for		50072 001	50072 003
50072... Pictogram sticker set For identifying recyclable materials collectors	Ident. No.	186 ○	186 ○
50072... roller set for retrofitting for Vario recyclable materials collector system module	Ident. No.	200 ○	200 ○
50072... Universal refuse bag for 120 litres Flat bag 800 x 1000 mm	Ident. No.	501 ●	501 ●

Recyclable materials collector, 3-way station

Technical data:
- Volumetric capacity: 3 x 70 l
- Width: 1210 mm
- Height: 1000 mm
- Depth: 380 mm
- Material: Sheet steel
- Self-extinguishing: No
- Surface: Powder-coated
- Foot-operated: No
- Colour: Light grey RAL 7035
- Building material class: A1 - Non-flammable

Ident. No. 008

With internal container	Design	50072... Ident. No.	
With rubbish bag holder	Stationary	007	○+
With internal container	Stationary	008	○+
With rubbish bag holder	On castors	011	○+
With internal container	On castors	012	○+

Prod. Gr. 559

Accessories for		50072 007	50072 008
50072... Pictogram sticker set For identifying recyclable materials collectors	Ident. No.	186 ○	186 ○
50072... roller set for retrofitting for Vario recyclable materials collector system module	Ident. No.	200 ○	200 ○
50072... Universal refuse bag for 120 litres Flat bag 800 x 1000 mm	Ident. No.	501 ●	501 ●

Large volume recyclable materials collector

Suitable for side-folding bags with a capacity of 1,000 l or 2,500 l

Application:
Suitable for industry and trade, especially where large volumes of waste such as polystyrene or cardboard is generated.

Execution:
- Plug-in square sheet steel tube frame
- Stationary, or available with roller set no. 50072615 as an option to turn it into a mobile collector

Delivery:
Includes 4x secure retaining clips and 1x side-folding bags

Technical data:
- Material: Steel
- Surface: Powder-coated
- With internal container
- Colour: Anthracite grey RAL 7016

Ref. no. 610 with optional roller set

					Large volume recyclable materials collector		Sub-family: refuse bags		Roller set	
Volumetric capacity	Width (mm)	Height (mm)	Height (front) (mm)	Depth (mm)	50072... Ident. No.		50072... Ident. No.		50072... Ident. No.	
1000 l	730	1230	950	695	610	○	515	●	615	○
2500 l	1200	1500	1210	760	612	○	517	●	615	○

Prod. Gr. 559

Waste collector for 120 l bags

fetra Transportgeräte

Execution:
- Tubular steel structure
- PVC lid
- Diameter of opening: 340 mm
- Stand construction made of steel tube bracket

Delivery:
Delivered disassembled, easy self-assembly

Waste collector for 120 l bags	50072...	Ident. No.	190 ○
Sub-family: refuse bags	50072...	Ident. No.	550 ●

Prod. Gr. 5AB

Pictogram sticker set

For marking recyclable materials collectors

Application:
For labelling recyclable materials collectors with pictograms to aid waste sorting

Execution:
- Self-adhesive symbol stickers, colour-coded for residual waste, paper, plastic, metal, glass and bio-waste

Technical data:
- Height: 180 mm
- Width: 160 mm

50072...	Ident. No.	186 ○

Prod. Gr. 504

Large refuse bag for 45-l bin

Side gusseted bags for optimum hold in the bin

Application:
Gusseted bags fit perfectly in the container and allow easy removal of waste.

Technical data:
- Volumetric capacity: approx. 60 l
- Number of pieces per packet: 250 PCS
- Height: 700 mm
- Material: LDPE - Low density polyethylene
- Material thickness: 40 µm
- Suitable for rubbish bin: 45 l

Ident. No. 560

Width (mm)		350	370
Depth (mm)		300	350
Colour		Grey	Transparent
50072...	Ident. No.	560 ●	528 ●

Prod. Gr. 504

Universal large refuse bag

Flat bag

Execution:
- **Ident. No. 501–529:** made from production reclaims for consistently high quality

Technical data:
- Number of pieces per packet: 250 PCS
- Material: LDPE - Low density polyethylene
- Colour: Blue

Ident. No. 529–550

Volumetric capacity		70 l	120 l	120 l
Number of pieces per roll (PCS)		25	25	-
Type		Type 60	-	-
Width (mm)		575	700	800
Height (mm)		1000	1100	1000
Material thickness (µm)		40	34	40
Suitable for rubbish bin (l)		70	120	120
50072...	Ident. No.	529 ●	550 ●	501 ●

Prod. Gr. 504

LDPE refuse sack for 120 and 240-litre bins

Side gussetted bag for optimum hold in the bin

Application:
Gusseted bags fit perfectly in the waste bin, allow easy removal of waste and protect against soiling of the bin.

Technical data:
- Number of pieces per packet: 100 PCS
- Material: LDPE - Low density polyethylene

Ident. No. 513

Volumetric capacity		approx. 160 l	approx. 160 l	approx. 280 l	approx. 280 l
Number of pieces per roll (PCS)		10	-	-	-
Type		Type 100	-	-	-
Width (mm)		480	500	650	650
Height (mm)		1250	1250	1350	1350
Depth (mm)		470	450	550	550
Colour		Blue	Transparent	Blue	Transparent
Material thickness (µm)		75	60	60	80
Suitable for rubbish bin (l)		120	120	240	240
50072...	Ident. No.	503 ●	504 ●	513 ●	514 ●

Prod. Gr. 504

Large refuse bag for large containers

Gusseted bag made of LDPE

Application:
Ideal for collecting large packaging materials and suitable for use in HK large containers.

Technical data:
- Number of pieces per packet: 20 PCS
- Material: LDPE - Low density polyethylene
- Colour: Transparent

Ident. No. 515

Volumetric capacity		1000 l	2500 l
Width (mm)		900	1240
Height (mm)		1800	2500
Depth (mm)		600	1240
Material thickness (µm)		60	100
50072...	Ident. No.	515 ●	517 ●

Prod. Gr. 504

ORION® Mobile floor stand

For attachment of rubbish bags and paper towels

Execution:
- For cleaning cloth rolls up to 40 cm in width
- Metal
- Mobile

69726...	Ident. No.	011 ●

Prod. Gr. 650

ORION® Wet wipe and cleaning cloths

Robust, lint-free and food-safe

Application:
Ident. No. 111–112: Suitable for cleaning or degreasing a wide range of surfaces
Ident. No. 121–122: Suitable for wet and dry cleaning. Particularly suitable for sensitive work areas such as precision engineering, the electrical and vehicle industry and in paint shops.
Ident. No. 131–132: Especially good for cost-effective polishing of large porous surfaces

Execution:
- **Ident. No. 111, 121:** 20x 25 wipes, 30 x 38 cm in size
- **Ident. No. 111–112:** For wet-cleaning smooth surfaces (sponge effect)
- **Ident. No. 112, 122, 132:** 500 perforated wipes, 30 x 38 cm in size
- **Ident. No. 121, 131:** Z fold
- **Ident. No. 121–122:**
  - For wet and dry cleaning
  - High-quality textile-like non-woven material
- **Ident. No. 131:** 10x 50 wipes, 40 x 38 cm in size
- **Ident. No. 131–132:**
  - For sensitive surfaces
  - Viscose non-woven material, soft as cotton

Advantage:
- **Ident. No. 111–112:** Can be wrung out, solvent-resistant, anti-static, low-lint, durable, tear-resistant when wet, washable, absorbent, abrasion-resistant, silicone and chloride-free
- **Ident. No. 121:** Very absorbent, extremely tear-resistant when wet, solvent-resistant, extremely low-lint, silicone-free, can be used without chemical cleaning agents, soft
- **Ident. No. 121–122:** Solvent-resistant, soft, virtually lint-free - making it suitable for sensitive areas, above-average absorption speed,
- fluid absorption up to 7.8 times its own weight, tear-resistant, tear-resistant when wet, can be sterilised, abrasion-resistant
- **Ident. No. 122:** Very absorbent, extremely tear-resistant, solvent-resistant, extremely low-lint, silicone-free, can be used without chemical cleaning agents, soft
- **Ident. No. 131–132:** Solvent-resistant, soft, low-lint - suitable for sensitive areas, above-average absorption speed, fluid absorption up to 10 times its own weight, tear-resistant, tear-resistant when wet, can be sterilised, abrasion-resistant

Ident. No. 111

Ident. No. 112

Ident. No. 121

Ident. No. 122

Ident. No. 131

Ident. No. 132

Type		Single wipes	Rolls	Single wipes	Rolls	Single wipes	Rolls
Length x width		380 x 300 mm	380 x 300 mm	380 x 400 mm	380 x 300 mm	380 x 300 mm	380 x 300 mm
Colour		Blue	Blue	White	White	White	White
Resistance against		Solvent	Solvent	Solvent	Solvent	Solvent	Solvent
Number of cloths (PCS)		500	500	500	500	500	500
Material		PP - Polypropylene	PP - Polypropylene	-	-	Polyester/viscose	Polyester/viscose
69729...	Ident. No.	111 ●	112 ●	131 ●	132 ●	121 ●	122 ●

Prod. Gr. 650

Cleaning station, equipped

With paper dispenser and two recyclable materials

Application:
The multifunctional waste and cleaning station for central and mobile provisioning and storage of cleaning equipment can be moved around to where it is needed, meaning staff no longer have to cover long distances to stationary cleaning points.

Execution:
- sturdy sheet steel construction, fully welded
- with accent roof, RAL 5010 gentian blue
- outer walls and divider with 10x10 mm square perforation, grid spacing 38 mm, and slotted perforation for attaching additional equipment elements and accessories, see from no. 50240 124-138
- easy to move with four integrated handles in outer walls
- centre divider – useful depth 300 mm each
- mobile thanks to 4 steering rollers Ø 125 mm, with trackless light-grey solid rubber tread and thread protection, 2 rollers with wheel blocks
- other colours (at no extra charge) and special equipment requirements deliverable on request

Advantage:
- mobile for quick transfer to where it is needed
- square and slotted perforations in walls enable the trolley to be custom-equipped with additional accessories as per requirements
- versatile and comprehensive range of further trolley accessories
- rapid retooling and conversion of accessories
- ensures order and cleanliness in the workplace

Technical data:
- Design: Divider centric
- Load-carrying capacity: 600 kg
- Number of steering rollers: 4 PCS
- Wheel diameter: 125 mm
- With wheel lock: Yes
- Equipped: Yes
- Material: Sheet steel
- Surface: Powder-coated

Ident. No. 312

Height (mm)		1880	1880	1880
Width (mm)		745	745	745
Depth (mm)		650	650	650
Colour		Light grey RAL 7035	Optional	Light grey RAL 7035
Colour of roof		Gentian blue RAL 5010	Selectable	Anthracite grey RAL 7016
50240...	Ident. No.	310 ○+	311 ○+	312 ○+

Prod. Gr. 559
Empty station and accessories for filling can be found in the Workplace chapter, page 1906

Broom set with silhouette film for pegboards

Practical set with broom, hook and magnetic silhouette film

Application:
Ideal combination set for keeping any workshop clean. Shadow image foil makes it more likely that the broom will be returned properly to its place after use.

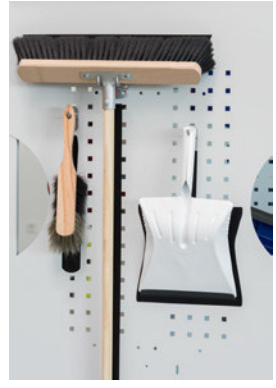
Execution:
- Metal dustpan with rubber lip
- Hand brush made of horsehair
- Broom with fine natural bristle mixture and 1400 mm long wooden broom handle
- 3 sturdy metal hooks for attaching to a perforated metal plate wall
- Shadow image foil, black with good magnetic adhesion

Notes:
Perforated metal plate wall not included in the scope of delivery.

50072...	Ident. No.	700 ●

Prod. Gr. 598

Accessories for		50072 700
50240... system trolley for individual fitting	Ident. No.	301 ○+ 302 ○+


Perforated wall not included in scope of delivery

Universal absorbent roll - in light-, medium- and heavy-duty versions

Absorbs oils, water, coolants and solvents

Application:
For daily use for leaks and drips around the machine, on floors and at workstations.

Execution:
- Made from 100% polypropylene and 25% recycled material
- Medium durability

Advantage:
- Conceals dirt
- 8-ply for outstanding tear resistance
- Perforated – tears off easily

Technical data:
- Type: Universal
- Number of pieces per packet: 1 PCS
- Delivery unit: Mat roll in bag

Ident. No. 230

					Colour	Grey
Type description	Absorptive capacity	Length x width	Perforation width x perforation length	Suction volume (l)	69746... Ident. No.	
MAT 202-01	High	4600 x 61 cm	25.5 x 30.5 cm	123.0	202	●
MAT 230	High	4600 x 76 cm	25.5 x 38.0 cm	152.0	230	●
MAT 185	Middle	6100 x 61 cm	25.5 x 30.5 cm	128.0	185	●
MAT 225	Low	9100 x 76 cm	25.5 x 38.0 cm	152.0	225	●

Prod. Gr. 6PA

Accessories for		69746 185	69746 202	69746 225	69746 230
69746... Free-standing roll holder GEN 182 Width-adjustable from 41 to 84 cm	Ident. No.	182 ○	182 ○	182 ○	182 ○
69746... Wall-mounted roll holder, MAT 293 For rolls up to 91 cm in width	Ident. No.	293 ○	293 ○	293 ○	293 ○

Universal absorbent mats - individual mats, either loose or in a dispenser box

Absorbs oils, water, coolants and solvents

Application:
For daily use for minor leaks around the machine, in drawers, on shelving or on workbenches.

Execution:
- Made from 100% polypropylene and 25% recycled material
- Medium durability

Advantage:
- Conceals dirt
- 8-ply for outstanding tear resistance
- Perforated – tears off easily
- Dispenser box allows easy access and stores the mats in perfect condition

Ident. No. 240

Ident. No. 261

Before

After

								Colour	Grey
Type	Type description	Absorptive capacity	Length x width	Perforation width x perforation length	Suction volume (l)	Number of pieces per packet (PCS)	Delivery unit	69746... Ident. No.	
Universal	MAT 240	High	51 x 38 cm	25.5 x 38.0 cm	84.0	100	Mat pad in dispenser box	240	●
Universal	MAT 139	Middle	51 x 38 cm	25.5 x 38.0 cm	82.0	125	Mat pad in dispenser box	139	●
Universal	MAT 135	Low	51 x 38 cm	25.5 x 38.0 cm	84.0	200	Mat pad in dispenser box	135	●
-	MAT 261	High	38 x 38 cm	19 x 38 cm	62.3	100	Mat pad in dispenser box	261	●

Prod. Gr. 6PA

Rip & Fit® universal absorbent roll - multiple perforations for improved portioning

Absorbs oils, water, coolants and solvents

Application:
For daily use for minor leaks around the machine, in drawers, on shelving or on workbenches.

Execution:
- Made from 100% polypropylene and 25% recycled material
- Medium durability

Advantage:
- Conceals dirt
- 8-ply for outstanding tear resistance
- Dispenser box allows easy access and stores the mats in perfect condition
- Horizontal and vertical perforations – obtain the perfect size without cutters

Technical data:
- Type: Universal
- Type description: MAT 242
- Absorptive capacity: High
- Length x width: 1800 x 38 cm
- Perforation width x perforation length: 25.5 x 9.5 cm
- Suction volume: 30.0 l
- Water-repellent: No
- Antistatic: No
- Number of pieces per packet: 1 PCS
- Delivery unit: Mat roll in dispenser box

	Colour		
69746...	Grey	Ident. No.	242 ●

Prod. Gr. 6PA

Universal 4-IN-1® absorbent mat - individual mats in a dispenser box

Absorbs oils, water, coolants and solvents

Application:
1 product for 4 applications: absorbent mat, absorbent roll, absorbent sock or towel.

Execution:
- Made from 100% polypropylene and 25% recycled material
- Excellent durability

Advantage:
- Conceals dirt
- 8-ply for outstanding tear resistance
- Dispenser box allows easy access and stores the mats in perfect condition
- Multiple perforations for improved portioning

Technical data:
- Type: Universal
- Type description: MAT 284
- Absorptive capacity: High
- Length x width: 2400 x 41 cm
- Perforation width x perforation length: 25.0 x 41.0 cm
- Suction volume: 35.0 l
- Number of pieces per packet: 1 PCS
- Delivery unit: Mat roll in dispenser box

	Colour		
69746...	Grey	Ident. No.	284 ●

Prod. Gr. 6PA

Absorbent mats Oil-Only - in brown or white

Absorbs oils, hydrocarbons and lubricants, water-repellent

Application:
Suitable for any applications requiring absorption of oil only, but not of water, e.g. for soaking up oil leaks in water tanks.

Execution:
- Made from 100% polypropylene
- Medium durability

Advantage:
- 8-ply for outstanding tear resistance
- Will not leave any fluid or fibre residue behind
- White mat indicates directly where the machine is dripping
- **Ident. No. 440:** Dispenser box allows easy access and stores the mats in perfect condition

Technical data:
- Type: Oil-only
- Absorptive capacity: High
- Water-repellent: Yes
- Antistatic: No

Ident. No. 440

Type description			MAT 401	MAT 440
Length x width			4600 x 76 cm	51 x 38 cm
Perforation width x perforation length			25.5 x 38.0 cm	-
Suction volume (l)			153.0	84.0
Number of pieces per packet (PCS)			1	100
Delivery unit			Mat roll in bag	Mat roll in dispenser box
	Colour			
69746...	White	Ident. No.	401 ○	440 ●

Prod. Gr. 6PA

HAZ-MAT absorbent mat

Absorbs acids, caustics, corrosive substances, chemicals and unidentified liquids

Application:
Specially treated mat, withstands even highly concentrated chemicals like 98% sulphuric acid and 30% sodium hydroxide solutions.

Execution:
- Made from 100% polypropylene
- Medium durability
- Flame-retardant (will not ignite immediately)

Advantage:
- Lights up pink to indicate hazard
- 8-ply for outstanding tear resistance
- Dispenser box allows easy access and stores the mats in perfect condition

Notes:
To ensure the effectiveness of the product and for your own safety, we recommend that you check your chemicals for compatibility with the PIG Haz-Mat prior to purchase.

Technical data:
- Type: HAZ-MAT
- Type description: MAT 351
- Absorptive capacity: High
- Length x width: 33 x 25 cm
- Suction volume: 37.0 l
- Number of pieces per packet: 100 PCS
- Delivery unit: Mat pad in dispenser box

69746...	Ident. No.	351 ●

Prod. Gr. 6PA

Individual mats: handy cut-to-size mats for small areas

BLUE® absorbent mat - as a roll or individual mats in a box

Absorbs large quantities of oil, water, coolant and solvent

75

Application:
Extra-absorbent mat for absorbing large quantities of liquids

Execution:
- Made of 75% natural and recycled fibres

Advantage:
- Higher absorbency means longer replacement intervals
- Reliably retains liquids

Delivery:
Ident. No. 101: In dispenser box

Technical data:
- Absorptive capacity: High

Ident. No. 102

Type description			BLU 101	BLU 102	BLU 103
Length x width			48 x 38 cm	4600 x 76 cm	4600 x 38 cm
Perforation width x perforation length			48 x 19 cm	48 x 38 cm	48 x 38 cm
Suction volume (l)			129.0	242.5	121.3
Number of pieces per packet (PCS)			100	1	1
Delivery unit			Mat pad in box	Mat roll in bag	Mat roll in bag
	Colour				
69746...	Blue	Ident. No.	101 ●	102 ●	103 ●

Prod. Gr. 6PA

Ident. No. 101

Accessories for		69746 102	69746 103
69746... Free-standing roll holder GEN 182 Width-adjustable from 41 to 84 cm	Ident. No.	182 ○	182 ○
69746... Wall-mounted roll holder, MAT 293 For rolls up to 91 cm in width	Ident. No.	293 ○	293 ○

HAM-O® absorbent mat - in UNIVERSAL and OIL-ONLY versions

Drops, leaks and dirt disappear in the unique camouflage pattern

40

Application:
Unique camouflage pattern hides drips, leaks and dirt. Ideal for covering large areas and for soaking up leaks.

Execution:
- Made from 100% polypropylene
- Extremely durable

Advantage:
- Dirt blends into the pattern, so the mat does not need to be replaced as frequently
- Extremely durable and absorbent

Notes:
Solvents and aggressive chemicals may affect the print.

Technical data:
- Type: Universal
- Type description: MAT 116
- Absorptive capacity: High
- Length x width: 4600 x 81 cm
- Perforation width x perforation length: 25 x 40.5 cm
- Suction volume: 179.5 l
- Water-repellent: No
- Number of pieces per packet: 1 PCS
- Delivery unit: Mat roll in bag

After

Before

	Colour		
69746...	Grey | Black	Ident. No.	116 ●

Prod. Gr. 6PA

All-in-one mat - absorbency and anti-fatigue protection in one!

Absorbs oils, water, coolants and solvents

Application:
For increased comfort when standing at wet workstations by relaxing muscles and joints and providing dry, secure ground.

Execution:
- Combined absorbent and anti-fatigue mat with an ergonomic nitrile tray
- Made from 100% polypropylene
- Can be refilled
- Nitrile base (LxW: 163 x 91 cm)

Delivery:
10 anti-fatigue mats and 1 nitrile tray

Technical data:
- Type: Universal
- Absorptive capacity: High

		Colour	Tarn pattern		Black | Grey	
Length x width	Suction volume (l)	Type description	69746... Ident. No.		69746... Ident. No.	
162 x 81 cm	58.5	MATE916	960	○+	-	-
316 x 91 cm	117.1	MATE917	-	-	970	○+

Prod. Gr. 6PA

Accessories for		69746 960	69746 970
69746... Refill pack for All-in-1 mat sets Comprises 10 individual mats	Ident. No.	961 ○+	971 ○+

Elephant absorbent floor mat - with zig-zag seams for greater stability and durability

Absorbs oils, water, coolants and solvents

Application:
Keeps highly frequented corridors clean and slip-proof

Execution:
- 100% polypropylene and 25% recycled material
- Excellent durability

Advantage:
- Extremely hard-wearing and resistant

Technical data:
- Type: Universal Elephant
- Absorptive capacity: High
- Length x width: 4600 x 84 cm
- Suction volume: 87.0 l
- Number of pieces per packet: 1 PCS
- Delivery unit: Mat roll in bag
- Type description: MAT 234

	Colour		
69746...	Grey	Ident. No.	234 ●

Prod. Gr. 6PA

Grippy® absorbent mat - with self-adhesive coating

Absorbs oils, water, coolants and solvents

Application:
Suitable for passageways and routes used by pedestrians and vehicles - even areas with heavy forklift traffic!

Execution:
- made of polypropylene with polyester seams
- with self-adhesive back (proprietary adhesive)
- outstanding durability

Advantage:
- Full-coverage adhesive backing holds the mat in place so that it cannot bunch up, slip or be blown away
- Sticks without leaving any residue
- Zigzag seams increase stability and durability
- Polyethylene coating prevents absorbed liquid escaping
- Tested and certified by the National Floor Safety Institute (NFSI)

Technical data:
- Type: Universal GRIPPY®
- Absorptive capacity: Middle
- Number of pieces per packet: 1 PCS
- Delivery unit: Mat roll in bag

Ident. No. 325

The GRIPPY® MAT always sits securely! Does not roll or slip, even under heavy load.

			Colour	Blue	
Length x width	Suction volume (l)	Type description	69746... Ident. No.		
3000 x 81 cm	39.7	MAT 32100	321	●	
1500 x 81 cm	19.9	MAT 3250	325	●	

Prod. Gr. 6PA

GRIPPY FLOOR MAT® floor mats from polypropylene fibres

Absorbs oils, water, coolants and solvents

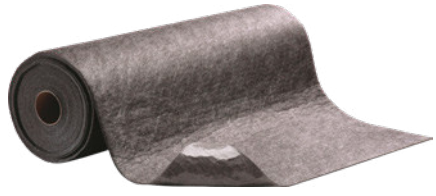
Execution:
- Absorbent layer takes up liquids and draws them away from the centre of the mat
- Interwoven fibres catch dirt and fine particles, preventing their spread
- Tested and certified (by NFSI)
- Classified as slip-resistant R13 as per DIN51130 - suitable for use in work rooms and work areas with an increased risk of slipping due to grease, oil, food, debris, dust, flour, paint residues etc
- Tested in accordance with BS 7976-2:2002+A1:2013, with proven low slip potential, both in wet and dry conditions
- Complies with fire protection class Bfl-s1 in accordance with the requirements of BS EN 13501-1
- Adheres to the most common commercial floor surfaces, including: Concrete, vinyl and ceramic tiles, natural stone slabs and linoleum
- Easy cleaning: Simply sweep, wipe, vacuum or clean with wet vacuum cleaner or floor cleaner - the mat will not slide

Advantage:
- Absorbs moisture, catches dirt and prevents slips, trips and falls
- The adhesive developed by New PIG keeps the mat fully fixed to the floor but enables it to be removed easily
- No overnight floor cleaning necessary
- Very easy to lay

Notes:
The extreme durability withstands the toughest traffic - even forklift trucks - and allows up to 12 weeks of use; the environmental impact is 91% LOWER than with rental floor mats.

Technical data:
- Type: Universal Grippy
- Absorptive capacity: Middle
- Number of pieces per packet: 1 PCS

Ident. No. 364



Ident. No. 374

				Colour	Black		Grey	
Length x width	Sections per roll	Suction volume (l)	Type description	69746... Ident. No.			69746... Ident. No.	
3000 x 91 cm	-	30.0	GRP36200	362	●		364	○
1530 x 91 cm	-	15.0	GRP36201	372	○		374	○
1520 x 91 cm	10	15.0	GRP36202	382	○		-	-

Prod. Gr. 6PA

TRAFFIC MAT® runner - ideal for absorbing liquids in heavily used areas

Absorbs oils, water, coolants and solvents

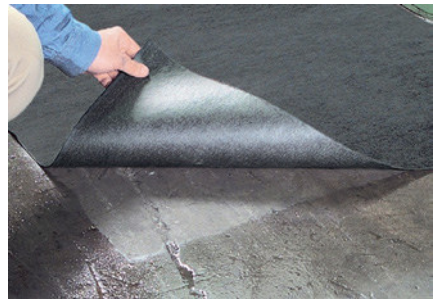
Application:
Suitable for large workstations, passageways and routes used by pedestrians and vehicles – even areas with heavy forklift traffic!

Execution:
- Made from 100% polypropylene
- Outstanding durability
- Roll in bag
- **Ident. No. 223:** With poly coating on bottom of mat

Advantage:
- Easy to cut to size
- **Ident. No. 223:**
  - Poly coating keeps the mat flat on the application surface, thereby reducing trip hazards and the risk of accidents
  - Poly coating enhances the absorption performance to ensure that floors are always kept dry

Technical data:
- Type: Universal TRAFFIC
- Absorptive capacity: Middle
- Number of pieces per packet: 1 PCS
- Delivery unit: Mat roll in bag

Ident. No. 218



Poly coating prevents the penetration of liquids

			Colour	Black
Length x width	Suction volume (l)	Type description	69746... Ident. No.	
9100 x 91 cm	148.0	MAT 218	218	○
3000 x 91 cm	49.0	MAT 223	223	●

Prod. Gr. 6PA

Drum cover mat for 210-litre drums - for absorbing small or large quantities of liquid

Absorbs oils, water, coolants and solvents

Application:
Absorbs liquids from dripping pumps and keeps drum covers clean

Execution:
- Suitable for covers with 3/4" and 2" bung holes
- **Ident. No. 244:** Made from 100% polypropylene and 25% recycled material
- **Ident. No. 255:**
  - Made from synthetic fibres and 75 % recycled material
- Extra-absorbent for soaking up large quantities of liquids

Advantage:
- Flame-retardant for added protection

Technical data:
- Absorptive capacity: Low
- Diameter: 56 cm
- Antistatic: No
- Delivery unit: Mat pad in box
- Number of pieces per packet: 25 PCS

		Colour	Blue		Grey	
Type description	Suction volume per mat (l)		69746... Ident. No.		69746... Ident. No.	
BLU 255	1.8		255	●	-	-
MAT 244	0.5		-	-	244	●

Prod. Gr. 6PA

Ident. No. 255

GRIP-DRI binder - specially for outdoors

Absorbs oils, water, coolants and solvents as well as chemicals

Application:
Granules absorb all kinds of liquids, even in areas with heavy traffic.

Execution:
- Made of kieselguhr
- Fire-retardant, so also suitable for high-temperature applications
- With road approval, MPA-certified type III R

Advantage:
- Harmless and safe to use
- Dust-free and easy to sweep up

Technical data:
- Suction volume per bag: 20 l
- Weight of content: 15 kg
- Type description: PLPE 260

69746...	Ident. No.	260 ●

Prod. Gr. 6PA

Absorbent socks - for absorbing large and very large quantities of liquid

Absorbs oils, water, coolants and solvents

Application:
For clearing up leaks in tight spaces and for containing leaks

Execution:
- **Ident. No. 010–020:**
  - With fast-acting vermiculite filler
  - High absorption volume
- **Ident. No. 110:**
  - made from 85 % recycled cellulose filler
  - Very high absorption volume, so ideal for major leaks

Advantage:
- Can be placed flexibly around machines, corners and in tight spaces
- Adapt to the floor and form a solid dyke

Ident. No. 110

Ident. No. 020

			Colour	Light grey		Blue	
			Type	SUPER		BLUE	
Ø x length	Suction volume per hose (l)	Number of pieces per packet (PCS)	Type description	69746... Ident. No.		69746... Ident. No.	
8.25 x 107 cm	3.8	24	PIG 210	110	●	-	-
8 x 122 cm	2.8	20	BLUE 2048	-	-	010	●
8 x 122 cm	2.8	40	BLUE 4048	-	-	020	●+

Prod. Gr. 6PA

Oil-Only absorbent socks - water-repellent and highly absorbent

Absorb oils, hydrocarbons and lubricants

Application:
Ident. No. 070: For everyday maintenance applications such as skimming oil-based contamination from water treatment systems, for absorbing oil from drainage channels and rivers, and for separating oil in refining processes
Ident. No. 080: For use inside buildings or outdoors, for car parks, bodies of water, waste water tanks and drains

Execution:
- **Ident. No. 070:**
  - Resistant to chemicals and therefore suitable for acid baths and phosphating tanks
  - With polypropylene filling
- **Ident. No. 080:**
  - Made from 100% recycled material
  - With cellulose filling

Advantage:
- Float on the water surface – even when saturated
- **Ident. No. 070:**
  - UV resistant for up to 12 months
  - Meets NFPA 99 requirements for static degradation
- **Ident. No. 080:** White colour for clear visual indication of absorption

Notes:
Ident. No. 080: Not suitable for use with aggressive liquids.

Technical data:
- Diameter x length: 8 x 122 cm
- Suction volume per hose: 3.8 l
- Water-repellent: Yes
- Antistatic: No

Ident. No. 070

Ident. No. 080

		Colour	Light grey		White	
Number of pieces per packet (PCS)	Type description		69746... Ident. No.		69746... Ident. No.	
10	104 PS		070	○	-	-
12	SKM210		-	-	080	●

Prod. Gr. 6PA

Emergency kit bag - for leaks up to 38 litres

In OIL-ONLY and UNIVERSAL versions

Application:
Emergency bag with various absorbent materials for smaller emergencies and for during transport.

Execution:
- **Ident. No. 895:** Absorbs oil, water, cooling agents and solvents
- **Ident. No. 898:** Absorbs oils, hydrocarbons and lubricants, but NOT water.

Delivery:
4 absorbent socks, 28 absorbent mats, 5 disposable disposal bags, in carry bag

Type description	Suction volume (l)	69746... Ident. No.	
KIT 220	35	895	○
KIT 420	38	898	○

Prod. Gr. 6PA

Ident. No. 898

Parts cleaners - Your benefits

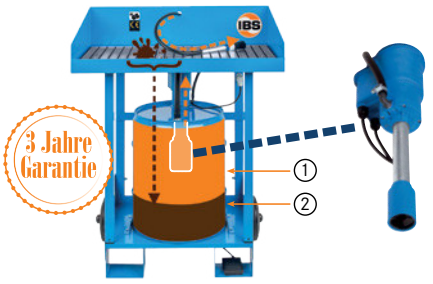
For cleaning metallic and plastic components contaminated by grease. Industrial parts cleaning and surface degreasing through manual brush cleaning.

Advantages:
- Save time and operating costs because heating of the cleaning agents is not necessary
- Enormous cost saving and environmental protection due to the multiple uses of the cleaner

Free service:
Contaminated cleaning fluids are collected free of charge when a new drum is delivered. A certified waste disposal company will be responsible for collection.

Here's how it works:
- The pump extracts fresh cleaner from the drum centre and delivers it to the hollow brush of the device.
- The used cleaner settles: It sinks to the bottom of the drum
- The cleaning fluid is replaced by a simple drum change. And the cycle starts again from the beginning!

You have full control over your costs with an effective, efficient and user-friendly system solution!



1. The upper part contains the cleaner
2. The lower part collects dirt and particles

A recirculation principle that helps the environment and your wallet.

Product video: YouTube ID: Hsl4-8Ys6yc

IBS Scherer GmbH

Part cleaning device with closed base

For 50 litre drums with head plug connection

Execution:
- Closed, compact design
- **Ident. No. 044, 047:** Industrial version device
- **Ident. No. 045:**
  - Industrial-version device
  - 150 kg carrying capacity
- **Ident. No. 045–047:**
  - including cleaner
  - GS-tested in this combination

Delivery:
Ident. No. 044: part cleaning device, pump, brush.
Ident. No. 045–047: Part cleaning device, pump, brush and cleaner.

Notes:
FREE SERVICE: Contaminated cleaning fluids are collected free of charge when a new drum is delivered. A certified waste disposal company will be responsible for collection.

Technical data:
- Width x depth x height (external dimension): 800 x 500 x 1100 mm
- Working height: 895 mm
- Working surface: 790 x 490 mm
- Load-carrying capacity: 150 kg
- Suitable for container: 50 litres
- Container connection: Top plug
- Operating voltage: 230 V/AC/DC
- Colour: Blue

Ident. No. 045

Design			Solo device	With Purgasol	With EL/Extra
Part cleaning device with closed base	50058...	Ident. No.	044 ●	045 ●	047 ●
Parts cleaning, cleaners	50058...	Ident. No.	060 ●	055 ●	060 ●

Prod. Gr. 559

IBS Scherer GmbH

Part cleaning device, mobile

For 50 litre drums with head plug connection

Application:
for mobile cleaning at varying locations – with a large work surface.

Execution:
- device can be moved on wheels like a sack truck
- connection of a 50-l cleaning agent drum by means of a head tap connection
- **Ident. No. 036–037:**
  - including cleaner
  - GS-tested in this combination

Advantage:
- Portable and manoeuvrable
- the leverage of a sack truck makes it user-friendly and easy to operate

Delivery:
Ident. No. 035: Part cleaning device, pump, brush.
Ident. No. 036–037: part cleaning device, pump, brush and cleaner.

Notes:
Ident. No. 035, 037: FREE SERVICE: Contaminated cleaning fluids are collected free of charge when a new drum is delivered. A certified waste disposal company will be responsible for collection.
Ident. No. 036: FREE SERVICE: contaminated cleaning fluids are collected free of charge when a new drum is delivered. a certified waste disposal company will be responsible for collection.

Technical data:
- Width x depth x height (external dimension): 800 x 615 x 1020 mm
- Working height: 920 mm
- Working surface: 790 x 490 mm
- Load-carrying capacity: 100 kg
- Suitable for container: 50 litres
- Container connection: Top plug
- Operating voltage: 230 V/AC/DC
- Colour: Blue

Ident. No. 036

Design			Solo device	With Purgasol	With EL/Extra
Part cleaning device, mobile	50058...	Ident. No.	035 ●+	036 ●+	037 ●+
Parts cleaning, cleaners	50058...	Ident. No.	060 ●+	055 ●+	060 ●+

Prod. Gr. 559

IBS Scherer GmbH

Part cleaning device with large work surface and high load capacity

For 200 litre drums with jacket plug connection

Application:
ideal for cleaning, especially large and heavy parts.

Execution:
- Connection of a 200 l cleaning agent drum by means of a mantle tap connection
- at workbench height with very large work surface.
- **Ident. No. 025:** Collection tray not included in scope of delivery.
- **Ident. No. 026–027:**
  - including cleaner
  - GS-tested in this combination

Advantage:
- strong, solid construction for durability.

Delivery:
Ident. No. 025: Part cleaning device, pump and brush.
Ident. No. 026–027: part cleaning device, pump, brush, collection tray and cleaner.

Notes:
FREE SERVICE: Contaminated cleaning fluids are collected free of charge when a new drum is delivered. A certified waste disposal company will be responsible for collection.

Technical data:
- Width x depth x height (external dimension): 1145 x 670 x 1050 mm
- Working height: 870 mm
- Working surface: 1135 x 660 mm
- Load-carrying capacity: 250 kg
- Suitable for container: 200 litres
- Container connection: Sheath plug
- Operating voltage: 230 V/AC/DC
- Colour: Blue

Ident. No. 026

Design			Solo device	With Purgasol	With EL/Extra
Part cleaning device with large work surface and high load capacity	50058...	Ident. No.	025 ●+	026 ●+	027 ●+
Parts cleaning, cleaners	50058...	Ident. No.	062 ●+	057 ●+	062 ●+

Prod. Gr. 559

IBS Scherer GmbH

Cleaning brush for part cleaning devices

In coarse or fine version, for repurchasing

Application:
For manual cleaning using a part cleaning device.

Execution:
- Special plastic hollow brush, with plastic bristles
- Resistant to special cleaning agents

50058...	Ident. No.	073 ●

Prod. Gr. 559

IBS Scherer GmbH

PURGASOL special cleaner

Easy re-lubrication, typical odour

Application:
Special cleaner for heavy oil and grease contamination, can be used in all kinds of workshops, slightly relubricating for temporary rust protection.

Execution:
- Properties: scent-free hydrocarbon mixture
- colourless liquid, with light mineral oil or solvent smell
- Cannot be mixed with water
- Evaporates quickly and evenly, light relubrication
- No classification as per Industrial Safety Regulation

Notes:
A FREE SERVICE is available on request: Contaminated cleaning fluids are collected free of charge when a new drum is delivered. A certified waste disposal company will be responsible for collection.

Contents (l)		50	200
50058...	Ident. No.	055 ●+	057 ●+

Prod. Gr. 559

IBS Scherer GmbH

EL/Extra special cleaner

Evaporates without residue, very low odour

Application:
Special industrial cleaner (including the food industry, NSF K1 rating), also suitable for manufacturing, precision engineering and electrotechnical operations for rapid and residue-free cleaning and immediate use of the cleaned product.

Execution:
- Properties: scent-free hydrocarbon mixture
- Colourless liquid, almost odourless (very mild)
- Cannot be mixed with water
- Evaporates quickly without residues
- No classification as per Industrial Safety Regulation

Delivery:
FREE SERVICE: Contaminated cleaning fluids are collected free of charge when a new drum is delivered. A certified waste disposal company will be responsible for collection.

Contents (l)		50	200
50058...	Ident. No.	060 ●+	062 ●+

Prod. Gr. 559

Absorber cabinet with pneumatic extraction system

For cleanliness and air pollution control at the workplace

Application:
Chips and droplets are vacuumed from the interior of the container. this way, the absorber cabinet ensures clean floors and air. ideal for any workplace where workpieces and tools must be kept clean.

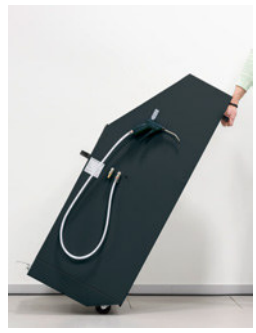
Execution:
- Stable and sturdy sheet steel housing with built-in injection system (operated with compressed air) and collection container
- The compressed-air gun and the injection system are actuated with a foot valve attached on the front side, so that only as much compressed air as required for the cleaning is consumed.
- The parts to be cleaned are simply blown off on the grating with the compressed-air gun
- portable like a sack truck with two wheels on the rear side
- The injector system extracts all contamination downwards into a collection container which must be emptied on a regular basis

Advantage:
- Swarf, oil and coolant residues are no longer simply blown out into the premises, but are purposely sucked into the collecting container provided.
- No emulsion or oil vapour in the air—no dust and no chips flying around—no contamination of the workplace
- Rapid connection to existing compressed-air system
- can be installed directly in or near machines so that the processed workpieces and parts can be immediately blown off

Delivery:
Fully ready for use with connection for compressed-air quick-release coupling (plug-in nipple DN 7.2), incl. compressed-air gun and hose

Technical data:
- Height: 1300 mm
- Depth: 500 mm
- Working height: 850 mm
- Clear opening depth: 480 mm
- Min./max. operating pressure: 5-10 bar
- Min./max. sound-pressure-level: 60-70 dB
- Surface: Powder-coated

Ident. No. 003



Can be easily moved like a sack truck

Width (mm)				500	1000
Load-carrying capacity of grating (kg)				50	100
Clear opening width (mm)				425	920
		Colour			
Absorber cabinet with pneumatic extraction system	50058...	Light grey RAL 7035	Ident. No.	002 ●+	004 ●+
	50058...	Anthracite grey RAL 7016	Ident. No.	003 ●+	005 ○+
Accessories for part cleaning devices	50058...		Ident. No.	008 ●	008 ●

Prod. Gr. 559

Other helpful equipment elements for absorber cabinets

EXACTLY AS YOU NEED. Not yet 100% suitable for you? We can supply you with absorber cabinets tailored exactly to your needs. The following options have been made many times. Ask us!

Design with wash basin.
The work surface is divided into 2 parts. On the left-hand side, blowing-off/suction is possible as with the standard designs. On the right-hand side there is also a container for washing small parts. This container is closed with a flap for blowing-off/suction.

Design with turntable.
The design with turntable is ideal for blowing off heavy workpieces. This allows these materials to be blown off gently from all sides.

A **Makrolon cover plate** also protects the user from flying chips and other particles.

Design with activated carbon filter.
It is possible to equip the absorber cabinet with an activated carbon container. This post-filtering ensures that volatile aromatics that cause unpleasant odours are retained. Also a connection to the existing ventilation system on site is no problem!

Mobile welding fume extractor

With filter and flexible extractor arm, hose version, > 99% filtration efficiency

Application:

Ident. No. 011: For extracting fumes, dust and also gases that are released during welding processes for cutting and joining when machining unalloyed steels, including high-alloy chromium/nickel steels.

Ident. No. 020: For extracting fumes during welding work with unalloyed steels and precious metals.

Execution:

- With flexible suction arm in hose version
- With filter
- Suction arms can be swivelled through 360° and can be moved into any desired position, which is self-supporting
- **Ident. No. 011:**
  - When the filter is saturated, an indicator lamp shows that a filter change is necessary
  - The particles and gases are filtered out of the air stream in a multi-stage filtering process and the clean air is fed back to the working area
  - Filter elements are accessible via a maintenance hatch and therefore can be easily and quickly removed
- **Ident. No. 020:**
  - Monitoring of the volume flow and filter indicates when a filter change is necessary
  - Thanks to effective air guidance in the unit, the operator cannot come into contact with the harmful substances
  - Air discharge on the rear of the unit is via an outlet grille facing upwards, rendering undetectable disruptive air flow at a distance of 1 m
  - With operating hours counter
  - With powerful fan using high negative pressure, which guarantees a high volume flow even when the filter is saturated

Advantage:

- **Ident. No. 011:** Tested based on DIN EN ISO 15012-1 (2005) and IFA (previously BGIA) certified (IFA no. 1102002) for welding fume class W3
- **Ident. No. 020:**
  - Complies with the safety requirements for equipment in welding fume class W3 (highly alloyed steels)
  - When used as intended, the system can be used for air circulation, as the prerequisites for exemption clauses in accordance with the new statutory German Hazardous Materials Ordinance (GefstoffV) are satisfied
  - Seal seat raising unit guarantees complete seal integrity and thus the filtration efficiency of the filter equipment

Ident. No. 011

Ident. No. 020

Nominal voltage (V/AC)		230	400
Max. idle speed (rpm)		2800	2800
Motor output (kW)		1.1	1.1
Extraction arm (PCS)		1	1
Nominal width of extraction arm (mm)		150	150
Max. suction capacity (m^3/h)		1000	1250
Overhang (mm)		3000	3000
Air supply quantity (m^3/h)		2500	2500
Roll Ø (mm)		75	125
Number of fixed rollers (PCS)		2	2
Number of steering rollers (PCS)		2	2
Energy efficiency (%)		99	99
Length x width x height		580 x 580 x 900 mm	665 x 681 x 995 mm
Weight (kg)		80	130
Mandatory testing according to DGUV (UVV)		Yes	Yes
75736...	Ident. No.	011 ○+	020 ○+

Prod. Gr. 759

Accessories for			75736 011	75736 020
75736...	Coarse filter set	Ident. No.	290 ○+	300 ○+
75736...	Pre-filter	Ident. No.	320 ○+	-
75736...	Activated carbon filter	Ident. No.	340 ○+	-
75736...	Main filter	Ident. No.	400 ○+	410 ○+
HKI00001...	HK-INSPECT Management made easy - our maintenance and service offers	Ident. No. Price/unit, €	001 (-)	001 (-)

storing hazardous materials properly

The German regulations concerning the storage of substances hazardous to water are:
- The WHG (Wasserhaushaltsgesetz - German Water Resources Act) sections 62 and 63
- The AwSV (Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen - German ordinance on installations for the handling of substances hazardous to waters)

Explanation of relevant hazardous material symbols according to GHS/Reach:

classification	hazard symbol	H set	hazard category
acute		H 400	GHS category 1
chronic		H 410	GHS category 1
chronic		H 411	GHS category 2
chronic		H 412	GHS category 3
chronic		H 413	GHS category 4

classification	hazard symbol	H set	hazard category
corrosive action on metals		H 290	GHS category 5
caustic effect on the skin/skin irritation		H 314	GHS category 5
serious eye damage		H 318	GHS category 5

classification	hazard symbol	criteria	H set	hazard category
extremely flammable		flash point < 23°C boiling point < 35°C	H 400	GHS category 1
easily flammable		flash point < 23°C boiling point < 35°C	H 412	GHS category 3
flammable		flash point >23°C <60°C	H 413	GHS category 4

GHS – Globally Harmonised System of Classification and Labelling of Chemicals.
the GHS is a globally harmonised system for the classification of chemicals as well as their labelling on packaging and safety data sheets.

REACH
regulates the registration, evaluation, authorisation and restriction of chemical substances.

Which collection tray for which substances?

steel collecting trays

ÜBER-EINSTIMMUNGS-ERKLÄRUNG (ÜHP) gemäß Bauregelliste A Teil 1, DIBt, Berlin

for flammable liquids of GHS categories 1-3

for water-hazardous liquids of GHS categories 1-4

PE collection tray

Allgemeine bauaufsichtliche Zulassung DIBt, Berlin

for corrosive liquids

how much must be collected?
- size of largest container
- at least 10 % of the total stored quantity
- 100 % in water protection areas

All data for Germany. Non-binding and not intended to be exhaustive. Observe the laws and regulations of your country.

choose your preferred colour (no extra charge) for products with this logo:

RAL 2000 yellow orange | RAL 3000 flame red | RAL 6011 reseda green | RAL 7005 mouse grey | RAL 5012 light blue

Collection tray for small containers

Steel, galvanised

Application:
For the proper and safe storage of small cask trays, approved for inflammable liquids of GHS categories 1–3 as well as water-hazardous liquids of GHS categories 1–4.

Execution:
- Galvanised 3 mm sheet steel design

Design		Without perforated sheet grate		With perforated sheet grate	
Surface		Zinc plated		Zinc plated	
Collection volume (l)	Length x width x height	50060... Ident. No.		50060... Ident. No.	
20	940 x 370 x 60 mm	022	○	024	○+
25	940 x 470 x 60 mm	026	○+	028	○+
30	1000 x 600 x 70 mm	030	○+	032	○+
40	1390 x 600 x 60 mm	034	○+	036	○+
60	1850 x 600 x 60 mm	038	○+	040	○+

Prod. Gr. 5AI

Ident. No. 026
(Without containers)

Ident. No. 032
(Without cans, canisters, containers)

Collection tray for small containers

Galvanised steel, suitable for use with Euro pallets

Application:
For the proper and safe storage of small containers, approved for inflammable liquids of GHS categories 1–3 as well as water-hazardous liquids of GHS categories 1–4. Ideal for storing small containers on pallets.

Execution:
- Galvanised 3-mm sheet steel design

Surface		Zinc plated	
Collection volume (l)	Length x width x height	50060... Ident. No.	
20	600 x 400 x 120 mm	311	○
40	800 x 600 x 120 mm	313	○
60	1200 x 800 x 100 mm	315	○+

Prod. Gr. 5AI

➥ Perforated metal plate on request

Combination of: 2 x ref. no. 311, 1 x ref. no. 313 + perforated metal plate

Ref. no. 315

Collection tray for 60-litre drums

Made of steel, with grating

Application:
For the proper and safe storage of drums, approved for inflammable liquids of GHS categories 1–3 as well as water-hazardous liquids of GHS categories 1–4.

Execution:
- 3 mm thick welded sheet steel structure
- With galvanised grating (carrying capacity 1000 kg/m²)
- With support feet, 100 mm ground clearance

Technical data:
- Declaration of conformity in acc. with StawaR: Yes
- Material: Sheet steel
- For flammable liquids GHS 1-3: Yes
- For liquids hazardous to water GHS 1-4: Yes
- Made in: Germany
- With grating: Yes

Ident. No. 065 (without drums and casks)

Surface				Lacquered		Lacquered		Zinc plated	
Colour				Flame red RAL 3000		Optional			
With grating	Collection volume (l)	Max. number of 60-litre containers (PCS)	Length x width x height	50060... Ident. No.		50060... Ident. No.		50060... Ident. No.	
Yes	61	2	800 x 500 x 290 mm	061	○+	067	○+	062	○+

			Surface	Lacquered		Lacquered		Zinc plated	
			Colour	Flame red RAL 3000		Optional			
With grating	Collection volume (l)	Max. number of 60-litre containers (PCS)	Length x width x height	50060... Ident. No.		50060... Ident. No.		50060... Ident. No.	
Yes	61	4	900 x 800 x 220 mm	063	○+	068	○+	064	○+
Yes	74	6	1300 x 800 x 205 mm	065	○+	069	○+	066	○+

Prod. Gr. 5AI

For colours deliverable without a surcharge, see page 1991

Steel collection trays, galvanised

Option of with or without grating, for 60 l and 200 l drums (max. 4 200 l drums)

Application:
Regulation-compliant storage of drums, also combinable with small casks, for flammable liquids in GHS categories 1–3 and for liquids presenting a water contamination risk in GHS categories 1–4.

Execution:
- Design made of 3 mm steel sheet
- 100 mm ground clearance
- Transportable using forklift trucks
- optionally with or without galvanised grating (carrying capacity 1000 kg/m²)

Ident. No. 042 (without drums)

				Surface	Zinc plated	
Collection volume (l)	Length x width x height	Max. number of 200-litre containers (PCS)	With grating	50060... Ident. No.		
224	1200 x 800 x 365 mm	-	No	041	○+	
230	1200 x 1200 x 290 mm	-	No	042	○+	
414	1200 x 1200 x 415 mm	-	No	043	○+	
215	1200 x 800 x 360 mm	2	Yes	044	○+	
216	1200 x 1200 x 285 mm	4	Yes	045	○+	
400	1200 x 1200 x 415 mm	4	Yes	046	○+	

Prod. Gr. 5AI

Collection tray for 200-l drums

Made of steel, with grating

Application:
For the proper and safe storage of drums, approved for inflammable liquids of GHS categories 1–3 as well as water-hazardous liquids of GHS categories 1–4.

Execution:
- 3-mm thick welded sheet steel structure
- With galvanised grating (carrying capacity 1000 kg/m²)
- With support feet, 100 mm ground clearance

Technical data:
- Declaration of conformity in acc. with StawaR: Yes
- Material: Sheet steel
- For flammable liquids GHS 1-3: Yes
- For liquids hazardous to water GHS 1-4: Yes
- Made in: Germany
- With grating: Yes

Ident. No. 222

				Surface	Lacquered		Zinc plated	
				Colour	Flame red RAL 3000			
With grating	Collection volume (l)	Max. number of 200-litre containers (PCS)	Length x width x height	50060... Ident. No.			50060... Ident. No.	
Yes	215	2	1200 x 800 x 360 mm	221	○+		222	○+
Yes	216	4	1200 x 1200 x 285 mm	223	○+		224	○+
Yes	222	4	2400 x 800 x 250 mm	225	○+		226	○+

Prod. Gr. 5AI

For colours deliverable without a surcharge, see page 1991

Collection tray for 200-litre drums

Steel, conical design, stackable

Ident. No. 255

Application:
Regulation-compliant storage of drums and small casks, combinable for flammable liquids in GHS categories 1-3 and for liquids presenting a water contamination risk in GHS categories 1-4 in drums.

Execution:
- 3-mm thick welded sheet steel structure
- 100 mm ground clearance
- Conical design, can be stacked inside each other (without grating)
- Reinforcing edge profiles on both sides
- Transportable using forklift trucks
- Optionally with or without galvanised grating (carrying capacity 1000 kg/m²)

Technical data:
- Declaration of conformity in acc. with StawaR: Yes
- Material: Sheet steel
- For flammable liquids GHS 1-3: Yes
- For liquids hazardous to water GHS 1-4: Yes
- Made in: Germany

				Surface	Lacquered		Zinc plated	
				Colour	Light blue RAL 5012			
With grating	Collection volume (l)	Max. number of 200-litre containers (PCS)	Length x width x height	With grating	50060... Ident. No.		50060... Ident. No.	
Yes	215	1	800 x 800 x 545 mm	Yes	252	○	272	○⁺
Yes	225	2	1200 x 800 x 415 mm	Yes	253	○⁺	273	○⁺
Yes	245	4	1200 x 1200 x 335 mm	Yes	254	○⁺	274	○⁺
Yes	233	4	2400 x 800 x 285 mm	Yes	255	○⁺	275	○⁺
No	229	1	800 x 800 x 545 mm	No	256	○⁺	276	○⁺
No	246	2	1200 x 800 x 415 mm	No	257	○⁺	277	○⁺
No	280	4	1200 x 1200 x 335 mm	No	258	○⁺	278	○⁺
No	280	4	2400 x 800 x 285 mm	No	259	○⁺	279	○⁺

Prod. Gr. 5AI

For colours deliverable without a surcharge, see page 1991
For accessories such as drum supports etc., see page 1996

Collection tray for 200 l drums

Steel, with grating, high storage capacity

Application:
Storage of drums and small containers in line with regulations. Approved for flammable liquids in GHS categories 1–3, for liquids which pose a hazard to water in GHS categories 1–4.

Execution:
- 3-mm thick welded sheet steel structure
- 100 mm ground clearance
- With galvanised grating (carrying capacity 1000 kg/²)

Technical data:
- Declaration of conformity in acc. with StawaR: Yes
- Material: Sheet steel
- For flammable liquids GHS 1-3: Yes
- For liquids hazardous to water GHS 1-4: Yes
- Made in: Germany
- With grating: Yes

				Surface	Lacquered		Zinc plated	
				Colour	Light blue RAL 5012			
With grating	Collection volume (l)	Max. number of 200-litre containers (PCS)	Length x width x height		50060... Ident. No.		50060... Ident. No.	
Yes	240	8	2650 x 1300 x 210 mm		230	○⁺	232	○⁺
Yes	240	10	3250 x 1300 x 190 mm		233	○⁺	235	○⁺
Yes	335	12	3850 x 1300 x 200 mm		236	○⁺	238	○⁺

Prod. Gr. 5AI

For colours deliverable without a surcharge, see page 1991
For accessories such as drum supports etc., see page 1996

Collection tray for IBC containers

Steel, with grating

Application:
Prescribed storage of IBC containers and drums, for flammable liquids in GHS categories 1-3 and liquids which pose a hazard to water in GHS categories 1-4.

Execution:
- 3-mm thick welded sheet steel structure
- 100 mm ground clearance
- With galvanised grating (carrying capacity 1000 kg/m²)
- declaration of compliance (ÜHP) pursuant to StawaR

Technical data:
- Collection volume: 1000 l
- With grating: Yes

Ident. No. 283 (without containers)

			Surface	Lacquered		Zinc plated	
			Colour	Light blue RAL 5012			
Length x width x height	Max. number of 200-litre containers (PCS)	Max. number of 1000-litre containers (IBC) (PCS)		50060... Ident. No.		50060... Ident. No.	
1460 x 1460 x 620 mm	-	1		280	o+	288	o+
2650 x 1300 x 435 mm	-	2		281	o+	289	o+
2690 x 1650 x 375 mm	10	2		282	o+	290	o+
3850 x 1300 x 340 mm	-	3		283	o+	291	o+

Prod. Gr. 5AI

For colours deliverable without a surcharge, see page 1991

Collection tray for shelving system

Steel

Application:
For adjusting in common pallet shelving systems. For the proper and safe storage of barrels for flammable liquids in GHS categories 1–3 and liquids which pose a hazard to water in GHS categories 1–4.

Execution:
- 3-mm thick welded sheet steel structure
- **Ident. No. 450–452, 456–458, 462–464, 468–470, 474–476, 480–482:** 100 mm ground clearance
- **Ident. No. 453–455, 459–461, 465–467, 471–473, 477–479, 483–485:** 100 mm ground clearance

Example application

Ident. No. 465

			Surface	Lacquered		Zinc plated	
			Colour	Light blue RAL 5012			
Collection volume (l)	Length x width x height	With grating		50060... Ident. No.		50060... Ident. No.	
240	1750 x 1300 x 250 mm	Yes		453	o+	455	o+
240	2150 x 1300 x 225 mm	Yes		459	o+	461	o+
1000	2150 x 1300 x 505 mm	Yes		465	o+	467	o+
240	2650 x 1300 x 210 mm	Yes		471	o+	473	o+
540	2650 x 1300 x 300 mm	Yes		477	o+	479	o+
1000	2650 x 1300 x 435 mm	Yes		483	o+	485	o+
240	1750 x 1300 x 250 mm	No		450	o+	452	o+
240	2150 x 1300 x 225 mm	No		456	o+	458	o+
1000	2150 x 1300 x 505 mm	No		462	o+	464	o+
240	2650 x 1300 x 210 mm	No		468	o+	470	o+
540	2650 x 1300 x 300 mm	No		474	o+	476	o+
1000	2650 x 1300 x 435 mm	No		480	o+	482	o+

Prod. Gr. 5AI

For colours deliverable without a surcharge, see page 1991

Mobile collection trays for 60-litre and 200-litre drums

made of steel

Application:
For safe storage and filling and for mobile applications. Approved for flammable liquids in GHS categories 1–3 and liquids which pose a hazard to water in GHS categories 1–4.

Execution:
- 3-mm thick welded sheet steel structure
- With removable, galvanised grating
- Optional drum support for horizontal storage of drums and for filling
- 2 steering rollers and 2 fixed castors made from polyamide, 1 steering roller with locking device
- **Ident. No. 611–616:** Roller Ø 100 mm, structural height 125 mm
- **Ident. No. 621–646:** Roller Ø 180 mm, structural height 225 mm
- **Ident. No. 671–686:**
  - Roller Ø 180 mm, structural height 220 mm
  - With profiled edges on both sides - therefore particularly robust

Notes:
Dimensions including sliding handle

Technical data:
- With container rest: No
- With sliding handle: Yes
- Declaration of conformity in acc. with StawaR: Yes
- With grating: Yes

Ident. No. 671

Ident. No. 681

				Surface	Lacquered		Zinc plated		Lacquered		Zinc plated	
				Colour	Flame red RAL 3000				Light blue RAL 5012		Silver coloured	
Collection volume (l)	Length x width x height	Max. number of 60-litre containers (PCS)	Max. number of 200-litre containers (PCS)	50060... Ident. No.		50060... Ident. No.		50060... Ident. No.		50060... Ident. No.	
61	800 x 500 x 415 mm	2	-	611	○+	616	○+	-	-	-	-
203	800 x 800 x 1115 mm	-	1	621	○+	626	○+	-	-	-	-
211	1200 x 800 x 1015 mm	-	2	631	○+	636	○+	-	-	-	-
202	1920 x 800 x 1115 mm	-	3	641	○+	646	○+	-	-	-	-
215	870 x 800 x 1110 mm	-	1	-	-	-	-	671	○+	676	○+
225	1200 x 800 x 1110 mm	-	2	-	-	-	-	681	○+	686	○+

Prod. Gr. 5AI

For colours deliverable without a surcharge, see page 1991

Accessories for		50060 631
50060... Drum support made of sheet steel For the horizontal storage and filling of drums on collection trays	Ident. No.	245 ○+

Coolant mixing trolley

Ideal for transporting a 200-litre drum

Application:
Easy filling directly at the machine.

Execution:
- Perforated plate bracket on the lower level for fixing cable and hose drums
- Perforated plate on the upper level for fixing other accessories
- with practical holes for grommet
- Includes tether
- Roller dia. 100 mm, structural height 125 mm

Advantage:
- Certified collection tray integrated
- numerous customisation options

Technical data:
- With wheel lock: Yes
- With sliding handle: Yes
- Max. number of 200-litre containers: 1 PCS
- Declaration of conformity in acc. with StawaR: Yes
- Load-carrying capacity: 760 kg
- With grating: Yes

Collection volume (l)				215
Length x width x height				1450 x 800 x 1195 mm
	Surface	Colour		
50060...	Lacquered	Anthracite grey RAL 7016	Ident. No.	000 O+

Prod. Gr. 559

Find more!

You can find all coolant-related solutions and products in the ‘Coolants and lubricants’ section of our machining catalogue. Fully equip your cart to be able to mix coolants directly at the machine

Collection tray for small containers

Made of PE, suitable for Euro pallets

Ident. No. 702

Application:
Storage of small containers in line with regulations. Resistant to acids, alkaline solutions and oils and other non-flammable media.

Execution:
- Constructed from robust polyethylene

- Collection trays are combinable and matched to pallet dimensions

Technical data:
- With grating: No

		Colour	Blue
Collection volume (l)	Length x width x height	50060... Ident. No.	
20	600 x 400 x 170 mm	702	O
30	800 x 400 x 170 mm	703	O
40	800 x 600 x 170 mm	704	O
60	1000 x 600 x 175 mm	706	O+
100	1200 x 800 x 175 mm	710	O

Prod. Gr. 5AI

(Without container or perforated grating)

Perforated grating for PE small container trays

Technical data:

- Material: PE - Polyethylene

50060...	suitable for dimensions: 600 x 400 mm	Ident. No.	712 ○
50060...	suitable for dimensions: 800 x 400 mm	Ident. No.	713 ○
50060...	suitable for dimensions: 800 x 600 mm	Ident. No.	714 ○
50060...	suitable for dimensions: 1000 x 600 mm	Ident. No.	716 ○
50060...	suitable for dimensions: 1200 x 800 mm	Ident. No.	711 ○

Prod. Gr. 5AI

Collection tray for 200-l drums

Made of PE

Application:
Storage of 200-l drums in line with regulations. Resistant to acids, alkaline solutions and oils and other non-flammable media.

Execution:
- Constructed from robust polyethylene
- Collection trays are combinable and matched to pallet dimensions
- With PE pallet
- **Ident. No. 721–723:**
  - Fork pockets for forklift trucks and pallet trucks
  - Clearance on two sides
- **Ident. No. 724–725:**
  - Fork pockets for fork lift trucks and pallet trucks
  - Fork lift clearance on all sides

Technical data:
- Material: PE - Polyethylene
- Colour: Blue
- For liquids hazardous to water GHS 1-4: Yes
- For corrosive liquids according to GHS: Yes
- Approval: DIBt

Width (mm)	Height (mm)	Length (mm)	Max. number of 200-litre containers (PCS)	Collection volume (l)	Load-carrying capacity (kg)	50060... Ident. No.	
830	330	1230	2	200	650	721	○
1280	275	1280	4	230	1250	722	○+
1310	370	1310	4	410	1250	723	○+
820	450	1220	2	230	650	724	○
1220	390	1220	4	250	800	725	○+

Prod. Gr. 5AI

Ident. No. 723

Collection tray for 1,000 litre IBC containers

Made of PE

Application:
Storage of IBC containers in line with regulations. Resistant to acids, alkaline solutions and oils and other non-flammable media.

Execution:
- Constructed from robust polyethylene
- Collection trays are combinable and matched to pallet dimensions
- **Ident. No. 731–732:** Fork pockets for forklifts
- **Ident. No. 741–743:**
  - Fork pockets for forklift to pick up
  - With PE pallet

Notes:
Ident. No. 741–743: Collection tray is not accessible

Technical data:
- Colour: Blue
- Material: PE - Polyethylene
- For liquids hazardous to water GHS 1-4: Yes
- For corrosive liquids according to GHS: Yes
- Approval: DIBt

Ident. No. 732

Ident. No. 741

								Colour	Blue
Collection volume (l)	Length x width x height	Collection volume (l)	Max. number of 1000-litre containers (IBC) (PCS)	Load-carrying capacity (kg)	Length (mm)	Width (mm)	Height (mm)	Length x width x height	50060... Ident. No.	
1000	1590 x 1455 x 715 mm	1000	1	1000	1590	1455	715	1590 x 1455 x 715 mm	731	O+
1150	2340 x 1360 x 510 mm	1150	2	2000	2340	1360	510	2340 x 1360 x 510 mm	732	O+
1000	1760 x 1350 x 710 mm	1000	1	1000	1760	1350	710	1760 x 1350 x 710 mm	741	O+
1000	2560 x 1350 x 500 mm	1000	2	2000	2560	1350	500	2560 x 1350 x 500 mm	743	O+

Prod. Gr. 5AI

Hazardous material roller shutter cabinets for the storage of drums and small containers

Made of sheet steel, with collection tray, locking

MADE IN

Application:
For the storage of flammable liquids in GHS categories 1–3 in line with regulations, for indoor and outdoor use or in attic space

Execution:
- robust sheet steel construction
- aluminium roller shutter, lockable with cylinder lock
- natural ventilation
- with general technical approval
- collection tray/intermediate shelf galvanised, unit painted
- **Ident. No. 071:** with one collection tray
- **Ident. No. 072:** with one collection tray and one grating floor
- **Ident. No. 073:** with one collection tray and one small cask tray
- **Ident. No. 074:** With 4 small container trays of 45 litres

Technical data:
- Depth: 870 mm
- Cabinet colour: Yellow orange RAL 2000
- Height: 1610 mm
- Width: 1300 mm
- Material: Steel
- For flammable liquids GHS 1-3: Yes
- For liquids hazardous to water GHS 1-4: Yes
- Surface of the cabinet: Laquer
- Mandatory testing according to DGUV (UVV): No

Ident. No. 072

Max. number of 200-litre containers		2	-	-	-
Max. number of 60-litre containers		-	6	6	-
Collection volume (l)		215	73	73	180
Design		With collection tray	With collection tray | With grating	With collection tray | With unit tray	With 4 unit trays
50061...	Ident. No.	071 O+	072 O+	073 O+	074 O+

Prod. Gr. 5AI

For colours deliverable without a surcharge, see page 1991

Gas cylinder depots

Application:
For storing gas cylinders inside and outside in accordance with TRG 280.

Execution:
- Galvanised sheet steel
- With back wall, floor, intermediate shelves and cylinder lock, lockable
- **Ident. No. 230–231:** Closed design with solid sheet metal doors
- **Ident. No. 232–233:** Natural ventilation thanks to perforated doors and sidewalls

Delivery:
Delivered disassembled, easy assembly

Technical data:
- Material: Sheet steel
- Surface: Zinc plated

Ident. No. 233 (without cylinder)

Ident. No. 230 (without cylinder)

With roof			Yes	Yes
Max. number of gas bottles with 220-mm Ø (PCS)			10	20
Length (mm)			840	1680
Width (mm)			690	690
Height (mm)			1475	1475
	Door design			
50061...	Closed	Ident. No.	230 O+	231 O+
50061...	Perforated	Ident. No.	232 O+	233 O+

Prod. Gr. 5AI

Canister

Food-safe polyethylene (HD-PE)

Application:
For the storage and filling of liquids

Execution:
- Acid- and chemical-resistant
- Temperature-resistant up to 73°C
- With UV protection for a longer service life
- Large filling opening diameter 88 mm
- User-friendly drain valve with wide thread 22 mm
- Locks can be sealed
- Filling level control by means of transparent design

Technical data:
- Material: PE - Polyethylene

With volume of 10 litres with additional discharge pipe Ø 18 mm

Width (mm)		154	180
Height (mm)		397	475
50062...	Ident. No.	250 O	252 O

Prod. Gr. 5BG

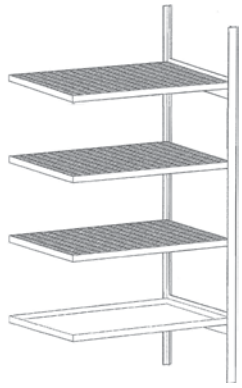
Small cask rack with shelves

Steel, galvanised

Application:
For the proper and safe storage of small casks, approved for inflammable liquids of GHS categories 1–3 as well as water-hazardous liquids of GHS categories 1–4.

Execution:
- Collection trays made from 3 mm sheet steel
- Easy mounting with the bolt-free plug-in connector system

Technical data:
- Height: 2000 mm
- Width: 1000 mm
- Depth: 600 mm
- Collection volume: 30 l
- Number of shelving unit: 1 PCS
- Load-carrying capacity per level: 150 kg
- Declaration of conformity in acc. with StawaR: Yes
- Material: Sheet steel
- Surface: Zinc plated



Ident. No. 101

Ref. no. 100

Number of grating bases (PCS)			3	-
Number of 30-litre collection trays (PCS)			1	4
	Design			
50061...	Shelving unit	Ident. No.	100 O+	102 O+
50061...	Add-on shelving	Ident. No.	101 O+	103 O+

Prod. Gr. 5AI

Floor protection tray

With galvanised grating

Application:
Traversable floor protection trays for the storage and filling of flammable liquids in GHS categories 1-3 and liquids presenting a water contamination risk in GHS categories 1-4.

Execution:
- Surface carrying capacity 5000 kg/m²
- permissible wheel load over an area of 100 x 100 mm (forklift truck wheel load capacity) = 500 kg
- Traversable by forklift trucks
- With galvanised grating

Notes:
Deliverable in a stainless steel version or with special dimensions according to your requirements

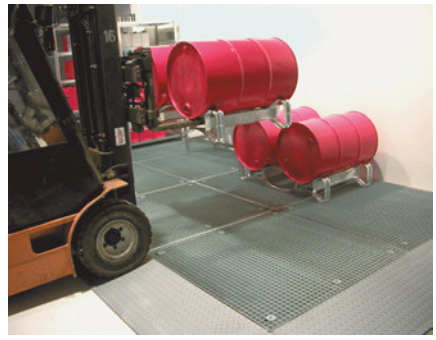
Technical data:
- Height: 78 mm
- Declaration of conformity in acc. with StawaR: Yes
- Permissible load capacity (100 x 100 mm): 500 kg
- With grating: Yes
- Coating weight per m²: 5000 kg
- Material: Sheet steel
- Surface: Zinc plated

Collection volume (l)		82	118	172	242
Length (mm)		1350	1900	2850	2850
Width (mm)		1350	1350	1350	1900
50060...	Ident. No.	800 O+	801 O+	802 O+	803 O+

Prod. Gr. 5AI

Overall height 123 mm

With galvanised grating



Technical data:
- Height: 123 mm
- Declaration of conformity in acc. with StawaR: Yes
- Permissible load capacity (100 x 100 mm): 500 kg
- With grating: Yes
- Coating weight per m²: 5000 kg
- Material: Sheet steel
- Surface: Zinc plated

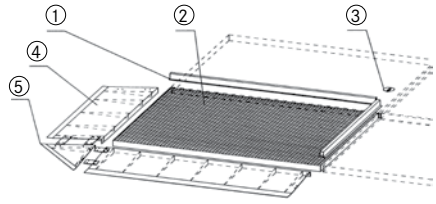
Collection volume (l)		22	40	80	178	111	223
Length (mm)		500	1000	1000	2000	2500	2500
Width (mm)		500	500	1000	1000	500	1000
50060...	Ident. No.	812 O+	813 O+	814 O+	815 O+	816 O+	817 O+

Prod. Gr. 5AI

Loading ramps and connectors for floor protection trays, height 78 mm

Type	Length (mm)	Width (mm)	Height (mm)	50060... Ident. No.	
① Tray connector	1350	55	30	809	O
① Tray connector	1900	55	30	810	O
① Tray connector	2850	55	30	811	O+
③ Cross-connector	-	-	20	808	O
④ Access ramp	1350	500	78	804	O+
④ Access ramp	1900	500	78	805	O+
④ Access ramp	2850	500	78	806	O+
⑤ Access corner	500	500	78	807	O

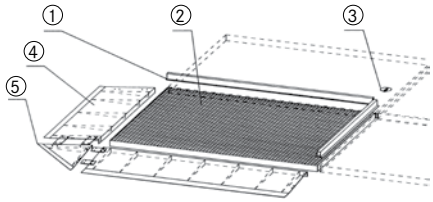
Prod. Gr. 5AI



Loading ramps and connectors for floor protection trays, height 123 mm

Type	Length (mm)	Width (mm)	Height (mm)	50060... Ident. No.	
① Tray connector	500	-	-	824	○
① Tray connector	1000	-	-	825	○
① Tray connector	2000	-	-	826	○+
① Tray connector	2500	-	-	827	○+
③ Cross-connector	-	-	16	823	○
④ Access ramp	500	1120	123	818	○+
④ Access ramp	1000	1120	123	819	○+
④ Access ramp	2000	1120	123	820	○+
④ Access ramp	2500	1120	123	821	○+
⑤ Access corner	1120	1120	123	822	○+

Prod. Gr. 5AI



Gas cylinder container for outdoor use

Application:
For storing gas cylinders outside in accordance with TRGS 510.

Execution:
- Robust frame construction with roof and base
- Lockable hinged door
- Fork pockets for picking up with a forklift truck

Delivery:
Fully assembled

Technical data:
- Material: Steel
- Surface: Zinc plated

Ident. No. 027

					Gas cylinder container for outdoor use								Gas bottle storage accessories	
													Divider	
				Door design	Single wing doors		Double wing doors		Single wing doors		Double wing doors			
				Design of the floor	Stud plate		Stud plate		Grating		Grating			
With roof	Max. number of gas bottles with 220-mm Ø	Length (mm)	Width (mm)	Height (mm)	50061... Ident. No.		50061... Ident. No.		50061... Ident. No.		50061... Ident. No.		50061... Ident. No.	
Yes	16	1085	1140	2170	001	○+	-	-	021	○+	-	-	-	-
Yes	32	2115	1155	2260	-	-	003	○+	-	-	023	○+	041	○+
Yes	45	2115	1570	2260	-	-	005	○+	-	-	025	○+	043	○+
Yes	60	2535	1575	2260	-	-	007	○+	-	-	027	○+	045	○+
Yes	78	3135	1570	2260	-	-	009	○+	-	-	029	○+	047	○+
Yes	104	3135	2170	2260	-	-	011	○+	-	-	031	○+	049	○+

Prod. Gr. 5AI

Accessories for gas cylinder container

Application:
Ident. No. 051: for securing upright glass bottles with Ø 220 mm.

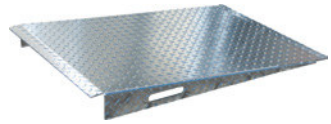
Execution:
- **Ident. No. 051:**
  - mount supports made from profiled sheet steel
  - perforation for accurate suspension of chain guard

Notes:
Ident. No. 051: mount supports can be arranged in terms of width according to the diameter of the glass bottles

50061...	bracket	Ident. No.	051 ○
50061...	loading ramp	Ident. No.	055 ○+

Prod. Gr. 5AI

Ref. no. 051



Ident. No. 055

CLASSIC line safety cabinet, type 90

Fire-resistant (FR) for 90 minutes

Application:
For safe and legally compliant storage of hazardous materials and flammable liquids in work areas in line with TRGS 510, DIN EN 14470-1 and DIN EN 14727.

Execution:
- External corpus, powder-coated sheet steel, light grey RAL 7035
- Internal corpus made of high quality decorative panels, light grey RAL 7035
- Lockable hinged doors, door front in zinc yellow RAL 1018
- Standard features: height-adjustable tray bases, base tray, 1 perforated insert made from powder coated sheet steel, height-adjustable base
- Hinged doors with standard integrated locking system and temperature monitoring, automatic self-closing in case of fire
- Ventilation and air extraction on each cabinet level
- Viewing window provided for visual check of ventilation shut-off flaps
- Tray bases and base trays are galvanically connected with the cabinet housing – avoids risk of ignition (BGR 132 TRBS 2153)
- Feet adjustable from inside and outside
- Underpinning guaranteed due to removable base

Advantage:
- Tested safety on high level: Prototype testing by MPA, TÜV, GS/CE-marks, fire resistant for 90 minutes and High Quality seal for superior design, user-friendliness and increased service life.
- Fire resistant for 90 minutes

Technical data:
- Fire resistance rating: F90
- Door design: Full-sheet panel
- External height: 2080 mm
- Depth: 595 mm
- Interior height: 1830 mm
- Internal depth: 446 mm
- With base basin: Yes
- Number of tray bases: 3 PCS
- Colour of front: Zinc yellow RAL 1018
- Cabinet colour: Light grey RAL 7035
- Mandatory testing according to DGUV (UVV): Yes

Ident. No. 002–010

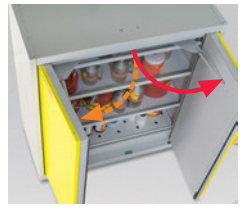
Product video: YouTube ID: uzAM4Oyo7FQ

Model			CLASSIC M29-200660-001	CLASSIC L29-200960-001	CLASSIC ONE L	CLASSIC XL29-201260-001	CLASSIC ONE XL
Number of doors (PCS)			1	2	2	2	2
With single-handed swing door technology			Yes	No	Yes	No	Yes
External width (mm)			595	895	895	1195	1195
Internal width (mm)			499	799	799	1099	1099
CLASSIC line safety cabinet, type 90	50069...	Ident. No.	002 O+	004 O+	006 O+	010 O+	012 O+
Tray base	50069...	Ident. No.	102 O	104 O	104 O	110 O+	110 O+
HK services	HKI00001...	Ident. No.	001 (-)	001 (-)	001 (-)	001 (-)	001 (-)

Prod. Gr. 5AJ

Product details single-handed operation

The single-handed wing door solution offers maximum user comfort.



Single-hand hinged door system offers max. operating convenience

Filter attachment for solvent vapours

With super silent fan and exhaust air control, for safety cabinet no. 50069002-012

Application:
For ventilating and monitoring safety cabinets by filtering almost 100% of harmful solvents (hydrocarbons) via molecular adsorption. The filtering provides optimum protection for the user. No need for an additional exhaust air connection. The purified air is released into the ambient air.

Execution:
- Sheet steel housing in silver with pearl-mica effect
- Integrated LED error indicator
- Plug and play: simply connect to a 230-V/50-Hz power supply using the CEE 7/7 plug
- Built-in fan in accordance with DIN EN 14986
- Removable activated carbon filter element (2 kg fill content)
- Removable particle filter in accordance with DIN EN 779.
- Filter performance (activated carbon): 30% of the filling quantity for all media of the supplied materials list.
- Visual and audible alarm in the event of faults.
- One dry contact (24 V/2 A).
- Conformity of the manufacturer according to ATEX Guideline RL94/9EC and Low Voltage Directive 2006/95/EC

Advantage:
- Multi-stage filter system with safety factor 2
- Filter warning system
- Quiet fan
- Plug and play for easy installation

Technical data:
- Width: 415 mm
- Height: 310 mm
- Material: Sheet steel
- Surface: Powder-coated/ steel plate
- Mandatory testing according to DGUV (UVV): Yes

50069...	Ident. No.	400 ○

Prod. Gr. 5AJ

Safety cabinet, type 90

BATTERY CLASSIC XL

Application:
with BATTERY XL for compliance with all laws, regulations and directives, in particular the guidelines for storage in accordance with the German Insurance Association's (GDV) technical information sheet on loss prevention for lithium-ion batteries from VdS and FM Global. With additional facilities for hazard control in the case of spontaneous combustion of the battery, process reliability is ensured and can be taken into account during hazard analysis.

Execution:
- doors fitted with integrated hold-open device as standard
- self-closing and locking doors for protection against backdraft from the inside
- Separate thermal elements for automatic door closing and locking in all storage levels in the event of a fire
- can only be unlocked by authorised personnel after a fire
- extraction of harmful vapours above the collecting tray as well as on each cabinet level
- Lower tray with perforated metal sheet rust
- bearing base, collecting tray and perforated metal inserts made from sheet steel
- hinged doors and outer body made of powder-coated sheet steel

Advantage:
- airing and ventilation on each cabinet level for optimised air exchange
- in the event of a fire inside or outside, the blockage-free door closure is automatically activated via a thermal element
- automatic locking in the event of a fire to prevent backdraft

Notes:
Optional temperature sensors and Cabi2Net or Smart Control as an early warning system for the detection of thermal events deliverable on request.

Technical data:
- Model: BATTERY XL
- Fire resistance rating: F90
- Number of doors: 2 PCS
- With single-handed swing door technology: No
- External height: 2085 mm
- External width: 1094 mm
- Depth: 612 mm
- Interior height: 1697 mm
- Internal width: 979 mm
- Internal depth: 457 mm
- With base basin: Yes
- Number of shelves: 3 PCS
- Colour of front: Light-tan PANTONE 389 C
- Cabinet colour: Light grey RAL 7035
- Mandatory testing according to DGUV (UVV): Yes

50069...	Ident. No.	050 ○+

Prod. Gr. 5AJ

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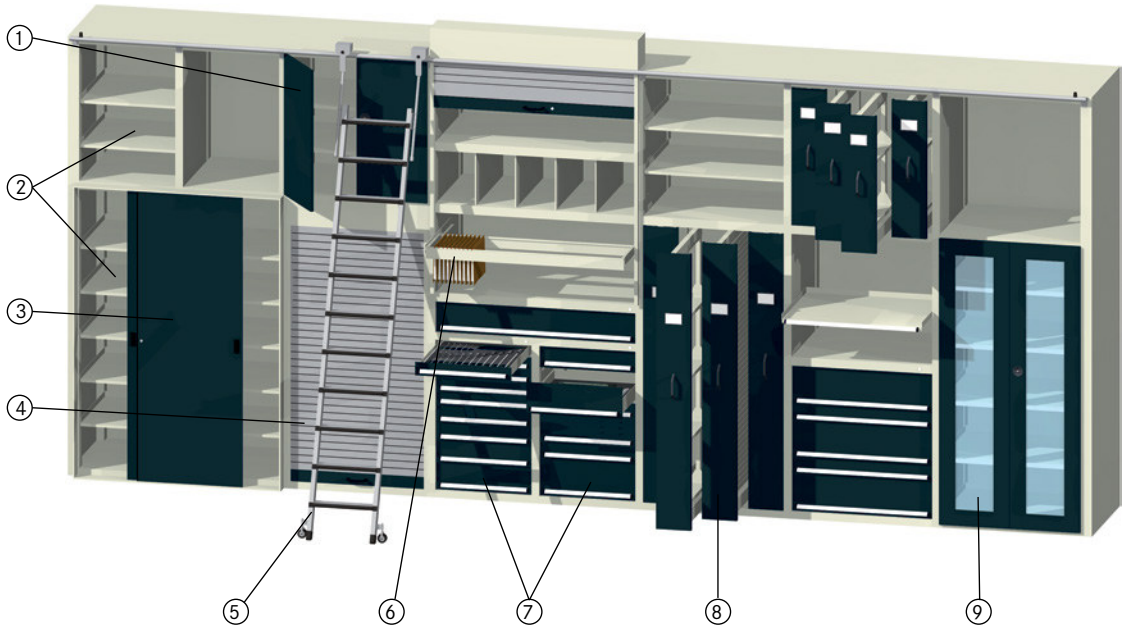
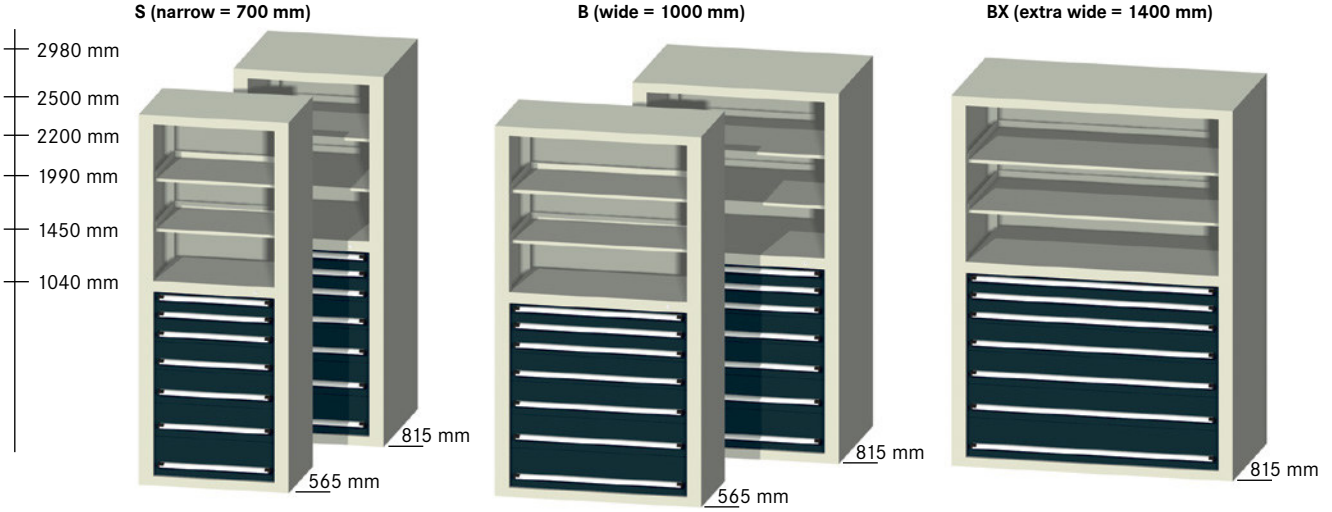
HK tool shelves
System 550 and system 800

These HK tool shelves are based on the proven series of our HK tool cabinets. This means that there are virtually no limits to the individual combinations that can be selected to suit your requirements. Any individual parts such as shelves, drawers, vertical extensions or different door variants can be combined. The shelves are made precisely for the existing operating conditions. You will receive a **CAD planning drawing** with each quotation.

Planning dimensions:
Width: Overall width = rack nominal width (700, 1000 or 1400 mm) + 100 mm
Depth: System 550 = 563 mm + possibly hinged door 25 mm, sliding door 94 mm, roller shutters 30 mm
System 800 = 813 mm + possibly hinged door 25 mm, sliding door 94 mm, roller shutters 30 mm
Height: Total height = rack nominal height + possibly roller shutter box 211 mm



① **Front-mounted hinged doors with solid sheet metal doors**
② **Shelves removable or fixed, height-adjustable**
③ **Front-mounted sliding doors**
④ **Front-mounted roller shutters**
⑤ **Front-mounted step ladder mobile or suitable for suspension**
⑥ **Extension with frames for suspended folders**
⑦ **Drawers**
⑧ **Vertical pull-out mechanisms**
⑨ **Front-mounted hinged doors with viewing windows**



Powder coating: Body RAL 7035, light grey with fronts RAL 5010, gentian blue.

Special paint: the following colours or combinations of these colours are available at no extra cost:

RAL 1007	RAL 1015	RAL 1028	RAL 2004	RAL 3002	RAL 3020	RAL 5005	RAL 5010	RAL 5012	RAL 5014	RAL 5015
daffodil yellow	light ivory	melon yellow	pure orange	carmine red	traffic red	signal blue	gentian blue	light blue	pigeon blue	sky blue

RAL 6011	RAL 6018	RAL 7016	RAL 7021	RAL 7023	RAL 7032	RAL 7035	RAL 7038	RAL 7042	RAL 8019	RAL 9010
reseda green	yellow green	Anthracite grey	black grey	concrete grey	pebble grey	light grey	agate grey	traffic grey	Grey brown	pure white

Colours may be subject to printing-related differences; the original colours according to RAL are definitive.

Rack housing
for HK tool rack

Execution:
- Robustly welded sheet steel construction
- Note: The racks must be anchored on the floor for safety reasons.

Delivery:
No. 50548: When requesting/ordering, please indicate the RAL colours required.

No. 50558: In your request/order please indicate the RAL colours required.

Technical data:
- Material: Steel
- Colour: Optional
- Surface: Powder-coated

No. 50558

Width (mm)					700	700	1000	1000	1400	1400
Design					Shelving unit	Add-on shelving	Shelving unit	Add-on shelving	Shelving unit	Add-on shelving
	Suitable for system	Height (mm)	Number of undershelves (PCS)							
50558...	550	1040	0	Ident. No.	004 O+	034 O+	005 O+	035 O+	-	-
50558...	550	1450	0	Ident. No.	009 O+	039 O+	010 O+	040 O+	-	-
50558...	550	1990	1	Ident. No.	014 O+	044 O+	015 O+	045 O+	-	-
50558...	550	2200	1	Ident. No.	019 O+	049 O+	020 O+	050 O+	-	-
50558...	550	2500	1	Ident. No.	024 O+	054 O+	025 O+	055 O+	-	-
50558...	550	2980	1	Ident. No.	029 O+	059 O+	030 O+	060 O+	-	-
50548...	800	1040	0	Ident. No.	004 O+	034 O+	005 O+	035 O+	006 O+	036 O+
50548...	800	1450	0	Ident. No.	009 O+	039 O+	010 O+	040 O+	011 O+	041 O+
50548...	800	1990	1	Ident. No.	014 O+	044 O+	015 O+	045 O+	016 O+	046 O+
50548...	800	2200	1	Ident. No.	019 O+	049 O+	020 O+	050 O+	021 O+	051 O+
50548...	800	2500	1	Ident. No.	024 O+	054 O+	025 O+	055 O+	026 O+	056 O+
50548...	800	2980	1	Ident. No.	029 O+	059 O+	030 O+	060 O+	031 O+	061 O+

Prod. Gr. 501
Prices do not include assembly!

Fitted shelf
for HK tool rack

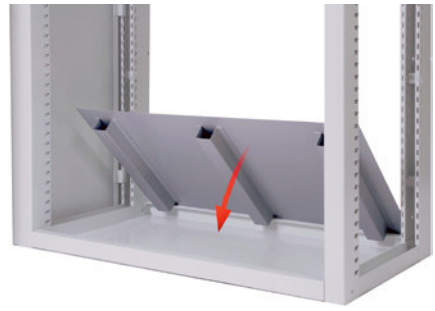
Application:
For placing on the lowest shelf in order to obtain a flat surface.

Delivery:
Note: When requesting/ordering, please indicate the RAL colours required.

Technical data:
- Colour: Optional
- Load-carrying capacity: 100 kg
- Surface: Powder-coated
- Material: Sheet steel

Suitable for system	Suitable for width (mm)	Depth (mm)	50558... Ident. No.		50548... Ident. No.	
550	700	565	271	O	-	-
550	1000	565	276	O	-	-
800	700	815	-	-	311	O
800	1000	815	-	-	316	O
800	1400	815	-	-	321	O+

Prod. Gr. 501



No. 50548

Intermediate shelf incl. lock
for HK tool rack

Application:
Upper shelf incl. with key for one drawer fitting.

Execution:
- With cylinder lock incl. 2 keys

Delivery:
Note: When requesting/ordering, please indicate the RAL colours required.

Technical data:
- Colour: Optional
- Load-carrying capacity: 100 kg
- Surface: Powder-coated
- Material: Sheet steel
- Height: 60 mm

Suitable for system	Suitable for width (mm)	Depth (mm)	50558... Ident. No.		50548... Ident. No.	
550	700	565	291	○	-	-
550	1000	565	296	○	-	-
800	700	815	-	-	341	○
800	1000	815	-	-	346	○
800	1400	815	-	-	351	○

Prod. Gr. 501

Shelf - 100 % full extension
for HK tool rack

Application:
For individual configuration of the HK cabinet housing/tool shelves.

Execution:
- With rails
- Height-adjustable in increments of 30 mm
- **No. 50295–50298:** Equipped with aluminium handle strip, paper and cellon strips and lateral cover caps
- **No. 50310–50320:** Fitted with aluminium handle strip, paper and cellon strips and lateral cover caps

Technical data:
- Design: Full extension
- Extendible: Yes
- Material: Sheet steel
- Surface: Powder-coated
- Height: 71 mm

No. 50295 380, 50310 480
Full-extension slide

No. 50298 380, 50315 480

No. 50320
Full-extension slide

Suitable for system		550		550		800		800		800	
Load-carrying capacity (kg)		100		100		200		200		200	
Colour		Optional		Optional		Optional		Optional		Optional	
Depth (mm)		460		460		710		710		710	
Suitable for width (mm)	Width (mm)	50295... Ident. No.		50298... Ident. No.		50310... Ident. No.		50315... Ident. No.		50320... Ident. No.	
700	596	380	○	-	-	480	○	-	-	-	-
1000	896	-	-	380	○	-	-	480	○	-	-
1400	1299	-	-	-	-	-	-	-	-	380	○

Prod. Gr. 5BB
Prices do not include assembly!

Shelf - fixed type
for HK tool rack

Application:
For individual configuration of the HK cabinet housing/tool shelves.

Execution:
- With support strips
- Height-adjustable in increments of 30 mm

Technical data:
- Design: Solid
- Extendible: No
- Material: Sheet steel
- Surface: Powder-coated
- Height: 38 mm

No. 50295

No. 50298
fixed type

No. 50310
fixed type

No. 50315
fixed type

No. 50320
fixed type

Suitable for system		550		550		800		800		800	
Load-carrying capacity (kg)		100		100		200		200		200	
Colour		Optional		Optional		Optional		Optional		Optional	
Depth (mm)		520		520		770		700		770	
Suitable for width (mm)	Width (mm)	50295... Ident. No.		50298... Ident. No.		50310... Ident. No.		50315... Ident. No.		50320... Ident. No.	
700	644	390	○	-	-	490	○	-	-	-	-
1000	944	-	-	390	○	-	-	-	-	-	-
1022	944	-	-	-	-	-	-	490	○	-	-
1400	1344	-	-	-	-	-	-	-	-	390	○

Prod. Gr. 5BB
Prices do not include assembly!

Drawer - 100 % full extension

for HK tool rack system 550

Application:
For individual configuration of the HK cabinet housing/tool shelves. The drawers can be installed in the housing in any sequence, but the sum of the front heights must be equal to the useful height of the housing.

Execution:
- Made of sheet steel with a reinforced, perforated bottom (25 mm hole grid)
- Run on Delrin rollers in rails which are suspended in the housing with plug caps
- Inner sides slotted all around, for attaching and fixing insert material such as compartment rails and dividers
- Equipped with aluminium handle strip, paper and cellon strips and lateral cover caps
- SOFT-CLOSE-AUTOMATIC for smooth and silent drawer closing, see no. 50392 005.

Notes:
Clear internal dimensions for hard foam inserts: 15 mm less than specified internal dimensions

Technical data:
- Pullout type: Full extension
- Drawer with slots: Yes
- Perforated drawer base: Yes
- Material: Sheet steel
- Surface: Powder-coated

No. 50295 300

Colour of front					Optional		Optional		
Box colour					Light grey RAL 7035		Light grey RAL 7035		
Drawer width (inner dimension) (mm)					600		900		
Drawer front height	Drawer cabinet height (mm)	Mount height (mm)	Drawer depth (inner dimension) (mm)	Load-carrying capacity (kg)	50295... Ident. No.		50298... Ident. No.		
60 mm	40	40	450	70	300	○+	300	○+	
90 mm	70	70	450	100	305	○+	305	○+	
120 mm	100	100	450	100	310	○+	310	○+	
150 mm	130	130	450	100	315	○+	315	○+	
180 mm	130	150	450	100	320	○+	320	○+	
210 mm	130	190	450	100	325	○+	325	○+	
240 mm	130	220	450	100	330	○+	330	○+	
270 mm	130	250	450	100	335	○+	335	○+	
300 mm	130	280	450	100	340	○+	340	○+	
330 mm	130	310	450	100	345	○+	345	○+	
360 mm	130	340	450	100	350	○+	350	○+	

Prod. Gr. 5BB
Prices do not include assembly!

Drawer - 100 % full extension

for HK tool rack system 800

No. 50310–50315

Application:
For individual configuration of the HK cabinet housing/tool shelves. The drawers can be installed in the housing in any sequence, but the sum of the front heights must be equal to the useful height of the housing.

Execution:
- Inner sides slotted all around, for attaching and fixing insert material such as compartment rails and dividers
- **No. 50310–50315:**
  - Made of sheet steel with a reinforced, perforated bottom (25 mm hole grid)
  - Run on Delrin rollers in rails which are suspended in the housing with plug caps
  - Equipped with aluminium handle strip, paper and cellon strips and lateral cover caps
  - SOFT-CLOSE-AUTOMATIC for smooth and silent drawer closing, see no. 50392 005
- **No. 50320:**
  - made of sheet steel with a reinforced, perforated bottom (25 mm hole grid)
  - runs on Delrin rollers in rails which are suspended in the housing with push-fit fastenings
  - equipped with aluminium handle strip, paper and cellon strips and lateral cover caps
  - SOFT-CLOSE AUTOMATIC for smooth closing of drawers without noise see no. 50392 007.

Notes:
No. 50310–50315: Clear internal dimensions for hard foam inserts: 15 mm less than specified internal dimensions

Technical data:
- Pullout type: Full extension
- Drawer with slots: Yes
- Perforated drawer base: Yes
- Material: Sheet steel
- Surface: Powder-coated

				Colour of front	Optional		Optional		Optional	
				Box colour	Light grey RAL 7035		Light grey RAL 7035		Light grey RAL 7035	
				Drawer width (inner dimension) (mm)	600		900		1300	
Drawer front height	Drawer cabinet height (mm)	Mount height (mm)	Drawer depth (inner dimension) (mm)	Load-carrying capacity (kg)	50310... Ident. No.		50315... Ident. No.		50320... Ident. No.	
60 mm	40	40	700	70	300	o+	300	o+	299	o+
90 mm	70	70	700	100	305	o+	305	o+	-	-
120 mm	100	100	700	100	310	o+	310	o+	-	-
150 mm	130	130	700	100	317	o+	317	o+	-	-
180 mm	130	160	700	100	322	o+	322	o+	-	-
210 mm	130	190	700	100	327	o+	327	o+	-	-
240 mm	130	220	700	100	332	o+	332	o+	-	-
270 mm	130	250	700	100	337	o+	337	o+	-	-
300 mm	130	280	700	100	342	o+	342	o+	-	-
330 mm	130	310	700	100	347	o+	347	o+	-	-
360 mm	130	340	700	100	352	o+	352	o+	-	-
90 mm	70	70	700	200	405	o+	405	o+	300	o+
120 mm	100	100	700	200	410	o+	410	o+	305	o+
150 mm	130	130	700	200	417	o+	417	o+	310	o+
180 mm	130	160	700	200	422	o+	422	o+	315	o+
210 mm	130	190	700	200	427	o+	427	o+	320	o+
240 mm	130	220	700	200	432	o+	432	o+	325	o+
270 mm	130	250	700	200	437	o+	437	o+	330	o+
300 mm	130	280	700	200	442	o+	442	o+	335	o+
330 mm	130	310	700	200	447	o+	447	o+	340	o+
360 mm	130	340	700	200	452	o+	452	o+	345	o+

Prod. Gr. 5BB
Prices do not include assembly!

Extension for DIN A4 landscape suspension files

for HK tool rack system 550

Ident. No. 675, 775
Pullout without front plate

Application:
For hanging DIN A4 suspended files in the HK tool shelf

Execution:
- **Ident. No. 670, 770:** With front panel and handle strip
- **Ident. No. 675, 775:** Without front panel (for installation behind the doors)

Technical data:
- Colour: Light grey RAL 7035
- Surface: Powder-coated
- Material: Sheet steel

Suitable for width (mm)	50558... Ident. No.	
700	775	o
1000	670	o

Prod. Gr. 501

Vertical extension set
for HK tool rack system 800

Application:
For easy-grip, safe and space-saving storage of large, bulky tools and work equipment.

Execution:
- Set consisting of multiple extensions
- Made of welded steel profiles
- Double-sided storage possible
- Extendable extensions thanks to telescopic guides
- Tubular profiles with 90 mm hole grid for fastening holders for NC tools, shelves and perforated metal plate walls
- **Ident. No. 601–616:** Equipped with front plates
- **Ident. No. 621–646:** Equipped with front panels

Delivery:
Note: When requesting/ordering, please indicate the RAL colours required.

Technical data:
- Colour: Optional
- Surface: Powder-coated
- Material: Sheet steel

Suitable for width (mm)	Height (mm)	50549... Ident. No.	
700	960	606	○+
700	1890	616	○+
1000	960	631	○+
1000	1890	646	○+

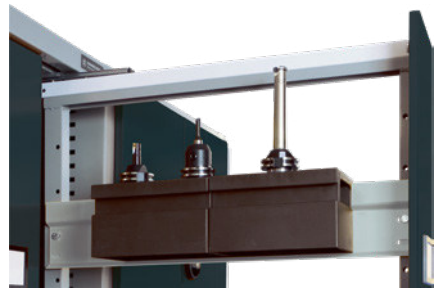
Prod. Gr. 501

Clip-on profile for vertical extension, 300 mm

Application:
For holding tool carriers.

Execution:
- Up to 3 tool carriers no. 50655020-130 per insert profile
- 2 insert profiles are required for double-sided storage

Technical data:
- Material: Sheet steel
- Suitable for vertical pull-out mechanism width: 300 mm



50549...	Ident. No.	680
		○

Prod. Gr. 501

Pegboard for vertical extensions

Execution:
- 2 perforated metal plate walls are required for double-sided storage

Technical data:
- Colour: Light grey RAL 7035
- Depth: 660 mm
- Surface: Powder-coated
- Material: Sheet steel

Height (mm)		705	1735
50549...	Ident. No.	810	815
		○	○+

Prod. Gr. 501

Shelf for vertical extensions

Application:
For holding spare part boxes, easy-view storage bins etc.

Execution:
- Internal dimensions height 40 mm
- Useful length 650 mm

Technical data:
- Colour: Light grey RAL 7035
- Length: 650 mm
- Surface: Powder-coated
- Material: Sheet steel

Suitable for vertical pull-out mechanism width (mm)		180	300
50549...	Ident. No.	800 ○	805 ○

Prod. Gr. 501

Front-mounted hinged doors
for HK tool rack

Application:
The shelf unit becomes a closable cabinet through the use of two-hinged doors.

Execution:
- From sheet steel, canted
- Rack depth 25 mm
- Behind the front-mounted hinged doors, drawers or fixed or pull-out, height-adjustable shelves can be installed
- Hinged doors can also be fitted later

Notes:
The hinged doors cannot be fitted next to sliding doors. In your request/order please indicate the requested RAL colour.

Technical data:
- Colour: Optional
- Surface: Powder-coated
- Material: Sheet steel

Ident. No. 440

Suitable for width (mm)		700	1000	1400
50548...	Ident. No.	436 ○+	466 ○+	491 ○+

Prod. Gr. 501

Front-mounted sliding doors
for HK tool rack

Application:
The sliding doors can be used to turn two shelf bays into one cabinet with sliding doors.

Execution:
- From sheet steel, canted
- Projection depth 95 mm
- Drawers or fixed or pull-out, height-adjustable shelves can be installed behind the front-mounted sliding doors
- When requesting/ordering, please indicate the RAL colours required.

Notes:
The hinged doors and roller shutters cannot be mounted next to sliding doors. At least 2 sliding doors are required in each case (for 2 similar bays).

Technical data:
- Colour: Optional
- Surface: Powder-coated
- Material: Sheet steel

Ident. No. 495–550

Suitable for width (mm)		700	1000	1400
50548...	Ident. No.	570 ○+	590 ○+	610 ○+

Prod. Gr. 501

Front-mounted roller shutter
for HK tool rack

Application:
Installation of the front-mounted roller shutter turns the shelf into a closable cabinet.

Execution:
- Roller shutter housing made of sheet steel H x D approx. 215 x 215 mm
- Plastic roller shutters with integrated spring shaft
- Roller shutter guide made of vertical sections, mounted on the rack frame
- plastic slats in colour grey
- Note: The roller shutters cannot be mounted next to sliding doors.
- When requesting/ordering, please indicate the RAL colours required for the sheet parts

Technical data:
- Colour: Grey
- Material: Steel / plastic

Suitable for width (mm)		700	1000
50548...	Ident. No.	625 ○+	640 ○+

Prod. Gr. 501

Rack step ladder (EN standard 131)

for HK tool rack

Execution:
- ZARGES shelf stepladder
- 80 mm deep steps
- cushioned front step edge
- **Ident. No. 207–209:**
  - wear-resistant anodised rails
  - Ladder head device suitable for rail of diameter 30 mm
  - Trolley brakes itself when someone stands on it
  - The ladder can be positioned vertically against the shelf without being unhooked
  - Ladder incline 22°
- **Ident. No. 217–218:**
  - Corrosion-proof lightweight metal rectangular tubes
  - Two suspension and attachment hooks each for guide rails up to a diameter of 36 mm

Notes:
Ident. No. 207–209: when ordering, please specify the measurement from the ground to the upper edge of the pipe rail!

Technical data:
- Material: Aluminium
- Step depth: 80 mm
- EN standard: 131
- Mandatory testing according to DGUV (UVV): Yes

Ident. No. 209

Variant with chassis

Variant with 2 hook-on and hanging hooks

Suitable for shelf height (mm)	Number of steps	Design: Min./max. suspension height, vertical	On castors: 50260... Ident. No.		With hook: 50260... Ident. No.	
1990	7	1.90-2.13 m	207	O+	-	-
2200	8	2.14-2.34 m	208	O+	-	-
2500	9	2.35-2.56 m	209	O+	-	-
1990	8	1.95-2.19 m	-	-	217	O+
2200	9	2.20-2.44 m	-	-	218	O+

Prod. Gr. 5AK

Guide rail for rack step ladders, no. 50260207-221

Execution:
- Light metal pipe, anodised, diameter 30 mm
- 3000 mm long

Technical data:
- Material: Light metal
- Length: 3000
- Mandatory testing according to DGUV (UVV): No

50260...	Ident. No.	225 O+

Prod. Gr. 5AK

Accessories for		50260 225
50260... Light metal intermediate bracket	Ident. No.	230 O
50260... Light metal bracket with end stop, left	Ident. No.	235 O
50260... Light metal bracket with end stop, right	Ident. No.	240 O
50260... Bracket to screw on shelving frames for front-mounted doors With 4 holes	Ident. No.	245 O

Tool shelf case study

Tool rack case study

ATORN Boltless shelving rack, load capacity per bay 100 kg

single-row, with pre-assembled frame

Basic rack in combination with add-on rack

Application:
Universal shelving system for all storage applications, quick set-up or conversion through simple plugging of the shelves, can be assembled without tools.

Execution:
- Galvanised plug-in rack, pre-assembled frames, simple and quick set-up and conversion without tools
- Shelves height-adjustable in increments of 25 mm
- Shelves with a 50 mm perforation grid to accommodate accessories
- Rear diagonal strut for longitudinal stiffening
- Comprehensive accessories including compartment dividers, partition grid available on request
- Planning dimensions: Basic shelf = nominal length + 56 mm, nominal depth + 36 mm

Advantage:
- Quick plug-in assembly without tools

Delivery:
Delivery contents basic unit: 2 frames, 4 shelves

Delivery contents add-on unit: 1 frames, 4 shelves

Notes:
- **Shelves with a height/depth ratio of ≥ 5: 1 must be secured against tilting (wall or base anchoring)**
- **Loads per bay/unit apply to evenly distributed loads**
- **Bay load indications apply to shelving rows with 3 or more bays**
- **Load-bearing capacity, cover floor max. 200 kg**

Technical data:
- Depth: 436 mm
- Grid dimension: 25 mm
- Number of shelves: 4 PCS
- Nominal depth: 400 mm
- Nominal length: 1000 mm
- Type of assembly: To insert
- Height: 2000 mm
- Quality label: RAL-RG 614/1
- Load-carrying capacity per shelf: 100 kg
- Load-carrying capacity per field: 900 kg

		Surface	Zinc plated		Zinc plated	
		Design	Shelving unit		Add-on shelving	
Length (mm)	Number of frame (PCS)		50164... Ident. No.		50164... Ident. No.	
1056	2		001	●+	-	-
1006	1		-	-	002	●+

Prod. Gr. 587

Wall mounting for plug-in rack page 2026
Base anchoring for plug-in rack page 2026

ATORN Set of two shelves for ATORN boltless rack, load capacity 100 kg

Execution:
- With a 50 mm perforation grid to accommodate accessories
- Edge height 40 mm
- Incl. shelf holders

			Surface	Zinc plated	
Depth (mm)	Length (mm)	Load-carrying capacity (kg)		50164... Ident. No.	
400	1000	100		003	●

Prod. Gr. 587

Shelf plug-in rack – single-row, with disassembled frame
Galvanised or RAL 7035, light grey, powder-coated

Design:
- With disassembled frame
- Quick plug-in assembly without tools
- Shelf loads 100, 150 and 230 kg
- Shelf edge height 40 mm
- Shelves with a 50 mm perforation grid to accommodate accessories
- Shelves height-adjustable every 25 mm
- Note: Depth bracing always zinc plated, even if the frame is coated

Advantages:
- More cost-efficient than a rack with a pre-assembled frame
- Quick plug-in assembly without tools
- Variable adjustment to the stock by means of grid dimensions

Planning dimensions:
Length of basic rack = nominal length + 56 mm, length of add-on rack = nominal length + 6 mm,
Depth of basic rack = nominal depth + 36 mm, depth of add-on rack nominal depth + 36 mm

Safety instructions:
- **Shelves with a height/depth ratio of ≥ 5: 1 must be secured against tilting (wall or base anchoring)**
- **Loads per bay/unit apply to evenly distributed loads**
- **Bay load indications apply to shelving rows with 3 or more bays**
- **Load-bearing capacity, cover floor max. 200 kg**

Wall attachment for plug-in rack page 2026; Base anchoring for plug-in rack page 2026

META CLIP boltless shelving rack - load capacity per bay 100 kg

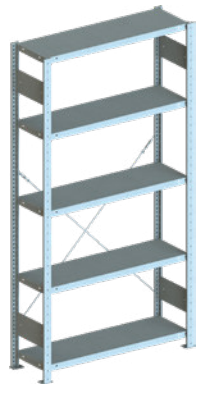
Application:
Universal shelving system for all storage applications, quick setup or conversion through simple plugging of the shelves, can be assembled without tools

Execution:
- Shelves height-adjustable in increments of 25 mm for variable adaptation to stored goods
- Shelves with a 50 mm hole grid to accommodate accessories, shelf edge height 40 mm
- For technical reasons, depth reinforcements are always zinc plated, even with coated frames
- Basic rack planning dimensions: Nominal length + 56 mm, nominal depth + 36 mm
- With dismantled or pre-assembled frame

Advantage:
- Quick plug-in assembly without tools
- Stable and reliable
- Different versions available

Notes:
Shelves with a height/depth ratio equal to or greater than 5:1 must be secured against tilting (wall or foot anchoring). The loads indicated per shelf and per bay apply to evenly distributed loads. Bay load indications apply to shelving rows with 3 or more bays. Cover shelf max. 200 kg.

Technical data:
- Length: 1056 mm
- Nominal length: 1000 mm
- Design: Shelving unit
- Type of assembly: To insert
- Material: Steel
- Design of the frame: Disassembled
- Grid dimension: 25 mm
- Load-carrying capacity per shelf: 100 kg
- Number of frame: 2 PCS
- Quality label: RAL-RG 614/1
- Made in: Germany
- Mandatory testing according to DGUV (UVV): Yes



Ident. No. 001

				Surface	Zinc plated		Plastic-coated	
				Colour	-		Light grey RAL 7035	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)	50167... Ident. No.		50167... Ident. No.	
2000	336	300	5	1100	001	●	002	●
2000	436	400	5	1100	003	●	004	●
2000	636	600	5	1100	007	●	008	●
2500	436	400	6	1650	011	●	012	●
2500	636	600	6	1650	015	●	016	●
2000	536	500	5	1100	005	●	006	●
2500	336	300	6	1650	009	●	010	●
2500	536	500	6	1650	013	●	014	●

Prod. Gr. 508

META CLIP boltless shelving rack - load capacity per bay 100 kg

				Surface	Zinc plated		Plastic-coated	
				Colour	-		Light grey RAL 7035	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)	50167... Ident. No.		50167... Ident. No.	
2000	336	300	5	1100	017	●+	018	●+
2000	536	500	5	1100	021	●+	022	●+
2500	336	300	6	1650	025	●+	026	●+
2000	436	400	5	1100	019	●+	020	●+
2000	636	600	5	1100	023	●+	024	●+
2500	436	400	6	1650	027	●+	028	●+
2500	636	600	6	1650	031	●+	032	●+
2500	536	500	6	1650	029	●+	030	●+

Prod. Gr. 508

META Additional shelf, load capacity 100 kg

Colour	Zinc		Light grey RAL 7035	
Surface	Zinc plated		Powder-coated	
Depth (mm)	50167... Ident. No.		50167... Ident. No.	
300	033	●	034	●
400	035	●	036	●
500	037	●	038	●
600	039	●	040	●

Prod. Gr. 508

META CLIP boltless shelving rack - load capacity per bay 150 kg

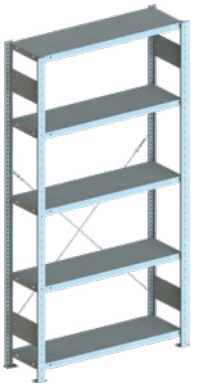
Application:
Universal shelving system for all storage applications, quick setup or conversion through simple plugging of the shelves, can be assembled without tools

Execution:
- Shelves height-adjustable in increments of 25 mm for variable adaptation to stored goods
- Shelves with a 50 mm hole grid to accommodate accessories, shelf edge height 40 mm
- For technical reasons, depth reinforcements are always zinc plated, even with coated frames
- Basic rack planning dimensions: Nominal length + 56 mm, nominal depth + 36 mm
- With dismantled or pre-assembled frame

Advantage:
- Quick plug-in assembly without tools
- Stable and reliable
- Different versions available

Notes:
Shelves with a height/depth ratio equal to or greater than 5:1 must be secured against tilting (wall or foot anchoring). The loads indicated per shelf and per bay apply to evenly distributed loads. Bay load indications apply to shelving rows with 3 or more bays. Cover shelf max. 200 kg.

Technical data:
- Length: 1056 mm
- Nominal length: 1000 mm
- Design: Shelving unit
- Type of assembly: To insert
- Material: Steel
- Design of the frame: Disassembled
- Grid dimension: 25 mm
- Load-carrying capacity per shelf: 150 kg
- Number of frame: 2 PCS
- Quality label: RAL-RG 614/1
- Made in: Germany
- Mandatory testing according to DGUV (UVV): Yes



Ident. No. 041

				Surface	Zinc plated		Plastic-coated	
				Colour	-		Light grey RAL 7035	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)	50167... Ident. No.		50167... Ident. No.	
2000	536	500	5	1100	045	●+	046	●+
2000	336	300	5	1100	041	●+	042	●+
2000	436	400	5	1100	043	●+	044	●+
2000	636	600	5	1100	047	●+	048	●+
2500	336	300	6	1650	049	●+	050	●+
2500	436	400	6	1650	051	●+	052	●+
2500	536	500	6	1650	053	●+	054	●+
2500	636	600	6	1650	055	●+	056	●+

Prod. Gr. 508

META CLIP boltless shelving rack - load capacity per bay 150 kg

				Surface	Zinc plated		Plastic-coated	
				Colour	-		Light grey RAL 7035	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)	50167... Ident. No.		50167... Ident. No.	
2000	336	300	5	1100	057	●+	058	●+
2000	436	400	5	1100	059	●+	060	●+
2000	536	500	5	1100	061	●+	062	●+
2000	636	600	5	1100	063	●+	064	●+
2500	336	300	6	1650	065	●+	066	●+
2500	436	400	6	1650	067	●+	068	●+
2500	536	500	6	1650	069	●+	070	●+
2500	636	600	6	1650	071	●+	072	●+

Prod. Gr. 508

META Additional shelf, load capacity 150 kg

	Colour	Zinc		Light grey RAL 7035	
	Surface	Zinc plated		Powder-coated	
Depth (mm)		50167... Ident. No.		50167... Ident. No.	
300		073	●	074	●
400		075	●	076	●
500		077	●	078	●
600		079	●	080	●

Prod. Gr. 508

META CLIP boltless shelving rack - load capacity per bay 230 kg

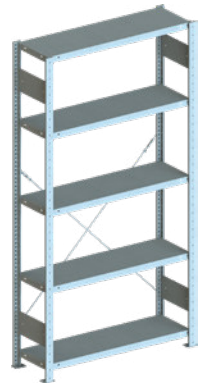
Application:
Universal shelving system for all storage applications, quick setup or conversion through simple plugging of the shelves, can be assembled without tools

Execution:
- Shelves height-adjustable in increments of 25 mm for variable adaptation to stored goods
- Shelves with a 50 mm hole grid to accommodate accessories, shelf edge height 40 mm
- For technical reasons, depth reinforcements are always zinc plated, even with coated frames
- Basic rack planning dimensions: Nominal length + 56 mm, nominal depth + 36 mm
- With dismantled or pre-assembled frame

Advantage:
- Quick plug-in assembly without tools
- Stable and reliable
- Different versions available

Notes:
Shelves with a height/depth ratio equal to or greater than 5:1 must be secured against tilting (wall or foot anchoring). The loads indicated per shelf and per bay apply to evenly distributed loads. Bay load indications apply to shelving rows with 3 or more bays. Cover shelf max. 200 kg.

Technical data:
- Length: 1056 mm
- Nominal length: 1000 mm
- Design: Shelving unit
- Type of assembly: To insert
- Material: Steel
- Design of the frame: Disassembled
- Grid dimension: 25 mm
- Load-carrying capacity per shelf: 230 kg
- Number of frame: 2 PCS
- Quality label: RAL-RG 614/1
- Made in: Germany
- Mandatory testing according to DGUV (UVV): Yes



Ident. No. 081

				Surface	Zinc plated		Plastic-coated	
				Colour	-		Light grey RAL 7035	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)	50167... Ident. No.		50167... Ident. No.	
2000	336	300	5	1100	081	●+	082	●+
2000	436	400	5	1100	083	●+	084	●+
2000	536	500	5	1100	085	●+	086	●+
2000	636	600	5	1100	087	●+	088	●+
2000	836	800	5	1100	089	●+	090	●+
2500	336	300	6	1650	091	●+	092	●+
2500	436	400	6	1650	093	●+	094	●+
2500	536	500	6	1650	095	●+	096	●+
2500	636	600	6	1650	097	●+	098	●+
2500	836	800	6	1650	099	●+	100	●+

Prod. Gr. 508

META CLIP boltless shelving rack - load capacity per bay 230 kg

Application:
Universal shelving system for all storage applications, quick setup or conversion through simple plugging of the shelves, can be assembled without tools

Execution:
- Shelves height-adjustable in increments of 25 mm for variable adaptation to stored goods
- Shelves with a 50 mm hole grid to accommodate accessories, shelf edge height 40 mm
- For technical reasons, depth reinforcements are always zinc plated, even with coated frames
- Basic rack planning dimensions: Nominal length + 56 mm, nominal depth + 36 mm
- With dismantled or pre-assembled frame

Advantage:
- Quick plug-in assembly without tools
- Stable and reliable
- Different versions available

Notes:
Shelves with a height/depth ratio equal to or greater than 5:1 must be secured against tilting (wall or foot anchoring). The loads indicated per shelf and per bay apply to evenly distributed loads. Bay load indications apply to shelving rows with 3 or more bays. Cover shelf max. 200 kg.

Technical data:
- Length: 1006 mm
- Nominal length: 1000 mm
- Design: Add-on shelving
- Type of assembly: To insert
- Material: Steel
- Design of the frame: Disassembled
- Grid dimension: 25 mm
- Load-carrying capacity per shelf: 230 kg
- Number of frame: 1 PCS
- Quality label: RAL-RG 614/1
- Made in: Germany
- Mandatory testing according to DGUV (UVV): Yes

Ident. No. 106

				Surface	Zinc plated		Plastic-coated	
				Colour	-		Light grey RAL 7035	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)	50167... Ident. No.		50167... Ident. No.	
2000	336	300	5	1100	101	●+	102	●+
2000	436	400	5	1100	103	●+	104	●+
2000	536	500	5	1100	105	●+	106	●+
2000	636	600	5	1100	107	●+	108	●+
2000	836	800	5	1100	109	●+	110	●+
2500	336	300	6	1650	111	●+	112	●+
2500	436	400	6	1650	113	●+	114	●+
2500	536	500	6	1650	115	●+	116	●+
2500	636	600	6	1650	117	●+	118	●+
2500	836	800	6	1650	119	●+	120	●+

Prod. Gr. 508

META Additional shelf, load capacity 230 kg

Execution:
- With a 50 mm perforation grid to accommodate accessories
- Edge height 40 mm
- Incl. shelf holders

Technical data:
- Made in: Germany
- Height: 40 mm
- Length: 1000 mm
- Material: Sheet steel
- Load-carrying capacity: 230 kg
- Mandatory testing according to DGUV (UVV): Yes

		Colour	Zinc		Light grey RAL 7035	
		Surface	Zinc plated		Powder-coated	
Depth (mm)			50167... Ident. No.		50167... Ident. No.	
300			121	●	122	●
400			123	●	124	●
500			125	●	126	●
600			127	●	128	●
800			129	●+	130	●+

Prod. Gr. 508

➥ Shelves with 330 kg capacity available on request.

shelf plug-in rack – single-row, with pre-assembled frame
Galvanised or in RAL 7035, light grey, powder-coated

Design:
- With pre-assembled frame = clinched frame
- Quick plug-in assembly without tools
- Shelf loads 100, 150 and 230 kg
- Shelf edge height 40 mm
- Shelves with a 50 mm perforation grid to accommodate accessories
- Shelves height-adjustable every 25 mm
- With diagonal struts attached to the reverse

Advantages:
- Quick plug-in assembly without tools
- Variable adjustment to the stock by means of grid dimensions
- Comprehensive range of accessories

Planning dimensions:
Basic rack = nominal length + 56 mm, add-on rack = nominal length + 6 mm, basic rack = nominal depth + 36 mm, add-on rack = nominal depth + 36 mm

Safety instructions:
- **Shelves with a height/depth ratio of ≥ 5: 1 must be secured against tilting (wall or base anchoring)**
- **Loads per bay/unit apply to evenly distributed loads**
- **Bay load indications apply to shelving rows with 3 or more bays**
- **Load-bearing capacity, cover floor max. 200 kg**

Figure: 1x basic shelf + 1x add-on shelf
Delivery with clinched frame

dispatched from the supplier's warehouse within 10 days

5-year guarantee

Wall attachment for plug-in rack page 2026; Base anchoring for plug-in rack page 2026

META CLIP boltless shelving rack - length 1,000 mm, load capacity per bay 100 kg
single-row, with pre-assembled frame

Application:
Universal shelving system for all storage applications, quick setup or conversion through simple plugging of the shelves, can be assembled without tools

Execution:
- Shelves height-adjustable in increments of 25 mm for variable adaptation to stored goods
- Shelves with a 50 mm hole grid to accommodate accessories, shelf edge height 40 mm
- For technical reasons, depth reinforcements are always zinc plated, even with coated frames
- Basic rack planning dimensions: Nominal length + 56 mm, nominal depth + 36 mm
- With dismantled or pre-assembled frame

Advantage:
- Quick plug-in assembly without tools
- Stable and reliable
- Different versions available

Notes:
Shelves with a height/depth ratio equal to or greater than 5:1 must be secured against tilting (wall or foot anchoring). The loads indicated per shelf and per bay apply to evenly distributed loads. Bay load indications apply to shelving rows with 3 or more bays. Cover shelf max. 200 kg.

Technical data:
- Length: 1056 mm
- Nominal length: 1000 mm
- Design: Shelving unit
- Type of assembly: To insert
- Material: Steel
- Design of the frame: Pre-assembled
- Grid dimension: 25 mm
- Load-carrying capacity per shelf: 100 kg
- Number of frame: 2 PCS
- Quality label: RAL-RG 614/1
- Made in: Germany
- Mandatory testing according to DGUV (UVV): Yes

Ident. No. 203

					Surface	Zinc plated		Plastic-coated	
					Colour	-		Light grey RAL 7035	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)		50167... Ident. No.		50167... Ident. No.	
2000	336	300	5	1650		201	●+	202	●+
2000	436	400	5	1650		203	●+	204	●+
2000	536	500	5	1650		205	●+	206	●+
2000	636	600	5	1650		207	●+	208	●+
2500	336	300	6	2400		209	●+	210	●+
2500	436	400	6	2400		211	●+	212	●+
2500	536	500	6	2400		213	●+	214	●+
2500	636	600	6	2400		215	●+	216	●+
3000	336	300	7	1920		217	●+	218	●+

				Surface	Zinc plated		Plastic-coated	
				Colour	-		Light grey RAL 7035	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)	50167... Ident. No.		50167... Ident. No.	
3000	436	400	7	1920	219	●+	220	●+
3000	536	500	7	1920	221	●+	222	●+
3000	636	600	7	1920	223	●+	224	●+

Prod. Gr. 508

META CLIP boltless shelving rack - length 1,000 mm, load capacity per bay 100 kg

single-row, with pre-assembled frame

				Surface	Plastic-coated		Zinc plated	
				Colour	Light grey RAL 7035		-	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)	50167... Ident. No.		50167... Ident. No.	
2000	436	400	5	1650	234	●+	233	●+
2000	636	600	5	1650	238	●+	237	●+
2000	536	500	5	1650	236	●+	235	●+
2500	336	300	6	2400	240	●+	239	●+
2500	436	400	6	2400	242	●+	241	●+
2500	536	500	6	2400	244	●+	243	●+
2500	636	600	6	2400	246	●+	245	●+
3000	336	300	7	1920	248	●+	247	●+
3000	436	400	7	1920	250	●+	249	●+
3000	536	500	7	1920	252	●+	251	●+
3000	636	600	7	1920	254	●+	253	●+
2000	336	300	5	1650	232	●+	231	●+

Prod. Gr. 508

META Additional shelf, load capacity 100 kg

	Colour	Zinc		Light grey RAL 7035	
	Surface	Zinc plated		Powder-coated	
Depth (mm)		50167... Ident. No.		50167... Ident. No.	
300		033	●	034	●
400		035	●	036	●
500		037	●	038	●
600		039	●	040	●

Prod. Gr. 508

META CLIP boltless shelving rack - load capacity per bay 150 kg

single-row, with pre-assembled frame

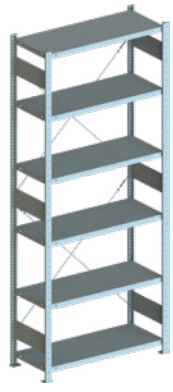
Application:
Universal shelving system for all storage applications, quick setup or conversion through simple plugging of the shelves, can be assembled without tools

Execution:
- Shelves height-adjustable in increments of 25 mm for variable adaptation to stored goods
- Shelves with a 50 mm hole grid to accommodate accessories, shelf edge height 40 mm
- For technical reasons, depth reinforcements are always zinc plated, even with coated frames
- Basic rack planning dimensions: Nominal length + 56 mm, nominal depth + 36 mm
- With dismantled or pre-assembled frame

Advantage:
- Quick plug-in assembly without tools
- Stable and reliable
- Different versions available

Notes:
Shelves with a height/depth ratio equal to or greater than 5:1 must be secured against tilting (wall or foot anchoring). The loads indicated per shelf and per bay apply to evenly distributed loads. Bay load indications apply to shelving rows with 3 or more bays. Cover shelf max. 200 kg.

Technical data:
- Length: 1056 mm
- Nominal length: 1000 mm
- Design: Shelving unit
- Type of assembly: To insert
- Material: Steel
- Design of the frame: Pre-assembled
- Grid dimension: 25 mm
- Load-carrying capacity per shelf: 150 kg
- Number of frame: 2 PCS
- Quality label: RAL-RG 614/1
- Made in: Germany
- Mandatory testing according to DGUV (UVV): Yes



Ident. No. 272

				Surface	Zinc plated		Plastic-coated	
				Colour	-		Light grey RAL 7035	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)	50167... Ident. No.		50167... Ident. No.	
2000	336	300	5	1650	261	●+	262	●+
2000	436	400	5	1650	263	●+	264	●+

				Surface	Zinc plated		Plastic-coated	
				Colour	-		Light grey RAL 7035	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)	50167... Ident. No.		50167... Ident. No.	
2000	536	500	5	1650	265	●+	266	●+
2000	636	600	5	1650	267	●+	268	●+
2500	336	300	6	2400	269	●+	270	●+
2500	436	400	6	2400	271	●+	272	●+
2500	536	500	6	2400	273	●+	274	●+
2500	636	600	6	2400	275	●+	276	●+
3000	336	300	7	1920	277	●+	278	●+
3000	436	400	7	1920	279	●+	280	●+
3000	536	500	7	1920	281	●+	282	●+
3000	636	600	7	1920	283	●+	284	●+

Prod. Gr. 508

META CLIP boltless shelving rack - load capacity per bay 150 kg

single-row, with pre-assembled frame

				Surface	Zinc plated		Plastic-coated	
				Colour	-		Light grey RAL 7035	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)	50167... Ident. No.		50167... Ident. No.	
2000	336	300	5	1650	291	●+	292	●+
2000	436	400	5	1650	293	●+	294	●+
2000	536	500	5	1650	295	●+	296	●+
2000	636	600	5	1650	297	●+	298	●+
2500	336	300	6	2400	299	●+	300	●+
2500	436	400	6	2400	301	●+	302	●+
2500	536	500	6	2400	303	●+	304	●+
2500	636	600	6	2400	305	●+	306	●+
3000	336	300	7	1920	307	●+	308	●+
3000	436	400	7	1920	309	●+	310	●+
3000	536	500	7	1920	311	●+	312	●+
3000	636	600	7	1920	313	●+	314	●+

Prod. Gr. 508

Additional shelf, load capacity 150 kg

		Colour	Zinc		Light grey RAL 7035	
		Surface	Zinc plated		Powder-coated	
Depth (mm)			50167... Ident. No.		50167... Ident. No.	
300			073	●	074	●
400			075	●	076	●
500			077	●	078	●
600			079	●	080	●

Prod. Gr. 508

META CLIP boltless shelving rack - load capacity per bay 230 kg

single-row, with pre-assembled frame

Application:

Universal shelving system for all storage applications, quick setup or conversion through simple plugging of the shelves, can be assembled without tools

Execution:

- Shelves height-adjustable in increments of 25 mm for variable adaptation to stored goods
- Shelves with a 50 mm hole grid to accommodate accessories, shelf edge height 40 mm
- For technical reasons, depth reinforcements are always zinc plated, even with coated frames
- Basic rack planning dimensions: Nominal length + 56 mm, nominal depth + 36 mm
- With dismantled or pre-assembled frame

Advantage:

- Quick plug-in assembly without tools
- Stable and reliable
- Different versions available

Notes:

Shelves with a height/depth ratio equal to or greater than 5:1 must be secured against tilting (wall or foot anchoring). The loads indicated per shelf and per bay apply to evenly distributed loads. Bay load indications apply to shelving rows with 3 or more bays. Cover shelf max. 200 kg.

Technical data:

- Length: 1056 mm
- Nominal length: 1000 mm
- Design: Shelving unit
- Type of assembly: To insert
- Material: Steel
- Design of the frame: Pre-assembled
- Grid dimension: 25 mm
- Load-carrying capacity per shelf: 230 kg
- Number of frame: 2 PCS
- Quality label: RAL-RG 614/1
- Made in: Germany
- Mandatory testing according to DGUV (UVV): Yes

Ident. No. 331

				Surface	Zinc plated		Plastic-coated	
				Colour	-		Light grey RAL 7035	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)	50167... Ident. No.		50167... Ident. No.	
2000	336	300	5	1650	321	●+	322	●+
2000	436	400	5	1650	323	●+	324	●+
2000	536	500	5	1650	325	●+	326	●+
2000	636	600	5	1650	327	●+	328	●+
2000	836	800	5	1650	329	●+	330	●+
2500	336	300	6	2400	331	●+	332	●+
2500	436	400	6	2400	333	●+	334	●+
2500	536	500	6	2400	335	●+	336	●+
2500	636	600	6	2400	337	●+	338	●+
3000	336	300	7	1920	341	●+	342	●+
3000	436	400	7	1920	343	●+	344	●+
3000	536	500	7	1920	345	●+	346	●+
3000	636	600	7	1920	347	●+	348	●+
3000	836	800	7	1920	349	●+	350	●+
2500	836	800	6	2400	339	●+	340	●+

Prod. Gr. 508

META CLIP boltless shelving rack - load capacity per bay 230 kg

single-row, with pre-assembled frame

				Surface	Zinc plated		Plastic-coated	
				Colour	-		Light grey RAL 7035	
Height (mm)	Depth (mm)	Nominal depth (mm)	Number of shelves (PCS)	Load-carrying capacity per field (kg)	50167... Ident. No.		50167... Ident. No.	
2000	536	500	5	1650	355	●+	356	●+
2500	636	600	6	2400	367	●+	368	●+
2000	336	300	5	1650	351	●+	352	●+
2000	436	400	5	1650	353	●+	354	●+
2000	636	600	5	1650	357	●+	358	●+
2000	836	800	5	1650	359	●+	360	●+
2500	336	300	6	2400	361	●+	362	●+
2500	436	400	6	2400	363	●+	364	●+
2500	536	500	6	2400	365	●+	366	●+
2500	836	800	6	2400	369	●+	370	●+
3000	336	300	7	1920	371	●+	372	●+
3000	436	400	7	1920	373	●+	374	●+
3000	536	500	7	1920	375	●+	376	●+
3000	636	600	7	1920	377	●+	378	●+
3000	836	800	7	1920	379	●+	380	●+

Prod. Gr. 508

META Additional shelf, load capacity 230 kg

			Colour	Zinc		Light grey RAL 7035	
			Surface	Zinc plated		Powder-coated	
Depth (mm)				50167... Ident. No.		50167... Ident. No.	
300				121	●	122	●
400				123	●	124	●
500				125	●	126	●
600				127	●	128	●
800				129	●+	130	●+

Prod. Gr. 508

Shelves with 330 kg capacity available on request.

META Frame for boltless rack

Execution:
- Without clamp base and cover cap
- Pre-assembled frame

Technical data:
- Made in: Germany

Height (mm)	Design	Surface	Zinc plated 50167... Ident. No.		Powder-coated 50167... Ident. No.	
2000	Open		839	●+	840	●+
2500	Open		849	●+	850	●+
3000	Open		859	●+	860	●+
2000	Closed		869	●+	870	○+
2500	Closed		879	●+	880	○+
3000	Closed		889	●+	890	○+

Prod. Gr. 508

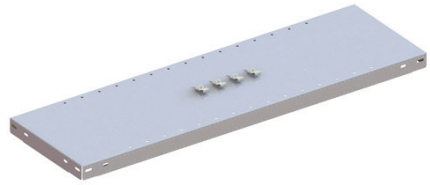
Ident. No. 831–860

Ident. No. 861–890

META Shelf for boltless rack

Execution:
- With a 50 mm perforation grid to accommodate accessories
- Edge height 40 mm
- Incl. shelf holders

Technical data:
- Made in: Germany
- Height: 40 mm
- Material: Sheet steel
- Mandatory testing according to DGUV (UVV): Yes



Length (mm)	Depth (mm)	Design	Load-carrying capacity (kg)	Colour	-		Light grey RAL 7035		Zinc	
				Surface	Zinc plated		Powder-coated		Zinc plated	
					50167... Ident. No.		50167... Ident. No.		50167... Ident. No.	
750	300	-	100		185	●	186	●	-	-
750	400	-	100		187	●	188	●	-	-
750	500	-	100		189	●	190	●	-	-
750	600	-	100		191	●	192	●	-	-
1000	300	-	100		-	-	034	●	033	●
1000	400	-	100		-	-	036	●	035	●
1000	500	-	100		-	-	038	●	037	●
1000	600	-	100		-	-	040	●	039	●
1000	300	To screw	150		-	-	074	●	073	●
1000	400	To screw	150		-	-	076	●	075	●
1000	500	To screw	150		-	-	078	●	077	●
1000	600	To screw	150		-	-	080	●	079	●
1000	300	-	230		-	-	122	●	121	●
1000	400	-	230		-	-	124	●	123	●
1000	500	-	230		-	-	126	●	125	●
1000	600	-	230		-	-	128	●	127	●
1000	800	-	230		-	-	130	●+	129	●+
1300	300	-	230		-	-	662	●	661	●
1300	400	-	230		-	-	664	●	663	●
1300	500	-	230		-	-	666	●	665	●
1300	600	-	230		-	-	668	●+	667	●+
1300	800	-	230		-	-	670	●+	669	●+

Prod. Gr. 508

Shelves with 330 kg capacity available on request.

META Shelf support for boltless rack

Execution:
- With 40 mm upturned edge

Technical data:
- Made in: Germany

50167...	Cover shelf support for cover shelves with 40 mm upturned edge	Ident. No.	961 ●
50167...	Shelf support for shelves with 40 mm upturned edge	Ident. No.	962 ●

Prod. Gr. 508

Ident. No. 961

Ident. No. 962

META Solid sheet metal back panel for boltless rack

Execution:
- Incl. fastening material

Delivery:
3 pieces

Technical data:
- Made in: Germany
- Material: Sheet steel

Surface		Zinc plated		Powder-coated	
Colour				Light grey RAL 7035	
Height (mm)	Width (mm)	50167... Ident. No.		50167... Ident. No.	
2000	1000	983	●+	989	●+
2000	1300	986	●+	992	●+
2500	1300	987	●+	993	●+
2500	1000	984	●+	990	●+
3000	1000	985	●+	991	●+
3000	1300	988	●+	994	●+

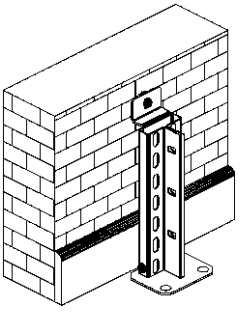
Prod. Gr. 508

META Wall mounting for boltless rack

Application:
For securely attaching shelves to the wall.

Execution:
- Assembled as set, suitable for one basic unit or one add-on shelf.
- Incl. mounting material.

Technical data:
- Made in: Germany



Suitable for shelving		Add-on shelfing	Shelving unit
50167...	Ident. No.	825 ●	826 ●

Prod. Gr. 508

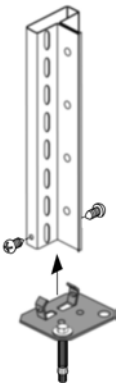
META Foot anchoring for boltless rack

Application:
For securely attaching shelves to the ground.

Execution:
- Assembled as set, suitable for one basic unit or one add-on shelf.
- Incl. mounting material.

Delivery:
Set consisting of pan head tapping screws and anchor bolts

Technical data:
- Made in: Germany



Suitable for shelving		Shelving unit	Add-on shelfing
50166...	Ident. No.	322 ●	324 ●

Prod. Gr. 508

META Cover caps for boltless rack

Application:
For sealing rack frames.

Execution:
- Caps required for single-row basic shelf: 4 single caps
- Caps required for single-row add-on shelf: 2 single caps
- Caps required for double-row basic shelf: 4 single caps and 2 double cap
- Caps required for double-row add-on shelf: 2 single caps and 1 double cap

Ident. No. 966

Ident. No. 967

Made in		-	Germany
50167...	Ident. No.	966 ●	967 ●

Prod. Gr. 508

META Clamping and adjustable feet for boltless rack

Technical data:
- Surface: Zinc plated
- Made in: Germany
- Material: Sheet steel

Ident. No. 951

Ident. No. 952

	① Single adjustable foot, max. bay load 1800 kg, adjustment range 40 mm		② Clamp foot		③ Shim 2mm		④ Double adjustable foot, max. bay load 1800 kg, adjustment range 40 mm		⑤ Double clamp foot		⑥ Shim double foot 2 mm	
Adjustment range (+/-)	50167... Ident. No.		50167... Ident. No.		50167... Ident. No.		50167... Ident. No.		50167... Ident. No.		50167... Ident. No.	
40 mm	951	●	-	-	-	-	954	●	-	-	-	-
-	-	-	952	●	953	●	-	-	955	●	956	●

Prod. Gr. 508

META Longitudinal bracing with diagonal strut for boltless rack

Technical data:
- Made in: Germany

Length (mm)		1000	1300
50167...	Ident. No.	971 ●	972 ●

Prod. Gr. 508

Accessories for		50167 971	50167 972
50167... Turnbuckle for diagonal strut For META CLIP plug-in rack	Ident. No.	973 ○	973 ○

Ident. No. 971

META Longitudinal bracing with longitudinal bars for boltless rack

Technical data:
- Made in: Germany
- Suitable for base chamfer: 40 mm

Length (mm)		1000	1300
50167...	Ident. No.	996 ●	998 ●

Prod. Gr. 508

META Connection plate for double-row boltless rack

Technical data:
- Surface: Zinc plated
- Made in: Germany
- Material: Sheet steel

50167...	Ident. No.	982 ●

Prod. Gr. 508

META Compartment dividers, free standing

Notes:
Depth: 800 mm without handle

Technical data:
- Surface: Zinc plated

Depth (mm)	Height (mm)	50167... Ident. No.	
300	150	830	○
400	150	963	○
500	150	974	○

Depth (mm)	Height (mm)	50167... Ident. No.	
600	150	979	○
800	140	980	○

Prod. Gr. 508

META Compartment dividers, end-to-end
Height from top edge of shelf to top edge of shelf

Notes:
Height from top shelf edge to top shelf edge.

Technical data:
- Surface: Zinc plated

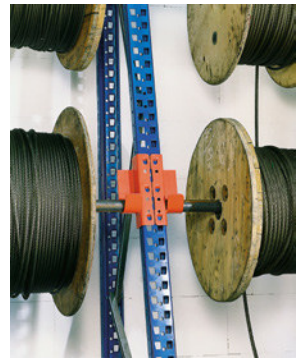
Depth (mm)	Height (mm)	50167... Ident. No.	
300	200	487	○
300	300	488	○
300	400	489	○
300	500	490	○
300	600	515	○
400	200	516	○
400	300	517	○
400	400	518	○
400	500	519	○
400	600	520	○
500	200	599	○
500	300	600	○
500	400	695	○

Depth (mm)	Height (mm)	50167... Ident. No.	
500	500	696	○
500	600	697	○
600	200	698	○
600	300	699	○
600	400	700	○
600	500	761	○
600	600	762	○
800	200	763	○
800	300	764	○
800	400	827	○
800	500	828	○
800	600	829	○

Prod. Gr. 508

Cable drum shelves
for efficient supply of cables

Individual business models require individual solutions. This especially applies to cable storage and provision. Together with our partners, we are able to find exactly the solution that you need for efficient and space-saving cable provision. Contact us.



Kardex Remstar Megamat RS

Application:
Overwhelming benefits for the economical and safe storage of your small parts in a paternoster lift.

Version:
- available as a stand-alone version or as an integrated solution
- modular structure, variety of options, versatile retrofitting options
- suitable for all common storage containers and storage boxes
- low-wear operation due to automatic chain tensioner
- Equipment controller with optional Power Pick Global warehouse management
- Emergency crank handle for power failure
- Retrofit and conversion packages available for application changes

Advantages:
- optimal utilisation of available space combined with minimal footprint
- Increased storage space thanks to high-density storage
- high rotation speed - quick access to all stored goods - clearly organised storage of small parts - short routes, quick access
- up to 60 percent more storage capacity
- very high picking performance - short picking times - lower error rate in picking
- “Goods-to-man” principle
- Operate on sight

Our service:
We plan customised solutions adapted exactly to your individual storage requirements. Do not hesitate to get in touch with us.

Picking solutions: “Man-to-goods” order picking. The solution for small and medium-sized companies.

“Man-to-goods” order picking, supported by connecting conveyor systems to increase picking efficiency.

“Goods-to-man” order picking for applications in the higher performance range (> 300 access operations per employee per hour)

Kardex Remstar — special applications available as standard modules:

Trockenraum
Relative Luftfeuchtigkeit beträgt maximal 5%

Reinraum
Staubschutz, Sicherheit und Schutz vor unbefugten Zutritt

Kühlung + Lager
Branchen-Lösungen für konditionierte Lagerbedingungen von -20 bis +70°C

Feuerschutz
Brandschutz, Brandsicherheit und Feuerschutz

Product video: YouTube ID: 99C1nb9iSIk

Technical hotline +49 (0)7141 498-5819

Kardex Remstar Shuttle XP

Application:

Optimum utilisation of storage space on minimal floor space area for combined storage of small and large parts

Version:

- Height: from 2.55 m to 30 m; in 100 mm grid
- Width: from 1.58 m to 4.38 m, depth: from 2.31 m to 4.29 m
- Load profiles: Payload up to 67/120 t
- The shelves can be organised for any type of goods using individual subdivisions. The right trays for your requirements: different dimensions are available for a wide range of applications. Easy and clear division of trays accelerate pick times enormously.
- The service opening is the area in which the tray of goods is made available in an ergonomic way. Up to six service openings per device are possible. Shutter doors in the service opening ensure safety for operators and goods.
- The sidewalls of the service opening are continuously equipped with brackets. Working positions can be individually adjusted to suit the height of the operating personnel using bearing angle modules.
- Light grid for protrusion control
- Automatic height measurement system; identification of stored goods in 25 mm raster

Advantages:

- Maximum space utilisation with minimal footprint
- Reduction of access times - quick and safe access
- Precise inventory stocks thanks to integration into the internal goods management system
- More safety for operator and stored goods
- Increasing of inventory turnover

Our service:

We plan customised solutions adapted exactly to your individual storage requirements. Please contact us.

Kardex Remstar - special applications available as standard modules:

Trockenraum
Relative Luftfeuchtigkeit beträgt maximal 5%

Reinraum
Staubschutz, Sicherheit und Schutz vor unbefugten Zutritt

Kühlung + Lager
Branchen-Lösungen für konditionierte Lagerbedingungen von -20 bis +70°C

Feuerschutz
Brandschutz, Brandsicherheit und Feuerschutz

Product video: YouTube ID: BV2j-vPqajo

Technical hotline +49 (0)7141 498-5819

Divider system
For individual and flexible room division

Application:
Variable and versatile system for workshop and warehouse. For rapid self-assembly of barriers, storeroom walls and partitions. The flexible modular design allows elements to be combined according to your individual needs and requirements on site.

Design:
Flat grid mesh 40 x 40 mm, frame profile 30 mm, high-quality machined steel

① Wall element
② Adjustable wall element
③ Top element
④ Hatch element
⑤ Single door element
⑥ Double door element
⑦ Sliding door element
⑦ Sliding door element

Powder coating: all elements of the partitioning system are available at no extra cost in the following colours. Other colours available on request.

RAL 5002	RAL 5007	RAL 5018	RAL 7037
Ultramarine blue	Brilliant blue	Turquoise blue	Dusty grey

Divider system
Options and possible combinations

The divider system is manufactured from flat grid mesh and C-profile frame to ensure maximum safety. The profile frames allow various fillings to be inserted instead of the grid mesh, such as acrylic glass, sheet metal, coated chipboard and combinations of the various fillings (upon request). In addition, all partition wall combinations are available as mobile screen wall systems. The well-designed, angled feet allow the partition walls to be installed at 45/60°. Integrated threaded holes for attaching steering rollers turn the screen walls into mobile partitions in a flash. The maximum width of the elements is 1000 mm.

Different designs available on request

Available upon request: Steering rollers

Inclined arrangement of the adjustment feet

Machine protection system
For safe demarcation of automatic systems and robots

Application:
Variable and versatile system for maximum safety on automatic equipment and robots. The flexible modular design enables elements to be combined according to your individual desires and needs and rearranged or exchanged at any time. Installing the elements on post profiles provides users with unlimited layout options.

Design:
Elements made of high-quality processed steel with the correct mesh size 50 x 25 mm to prevent reaching through. Complies with EN ISO 13857. Designed according to Machinery Directive 2006/42/EC. Request now or enquire in our online shop.

Painting: All elements of the machine protection system are deliverable in the following paints at no extra charge. Other paints and a hot-dip galvanised version for use in outdoor areas are available on request.

RAL 1018	RAL 5002	RAL 5007	RAL 5018	RAL 7037	RAL 9005
Zinc yellow	Ultramarine blue	Brilliant blue	Turquoise blue	Dusty grey	Jet black

Technical hotline +49 (0)7141 498-5819

Steel-construction modular platforms

Stand-alone steel construction that can be designed according the requirements and for the respective loads. The extreme stability allows versatile use of the upper levels, for example, for offices, break areas or as additional storage space or further production areas.

Design:

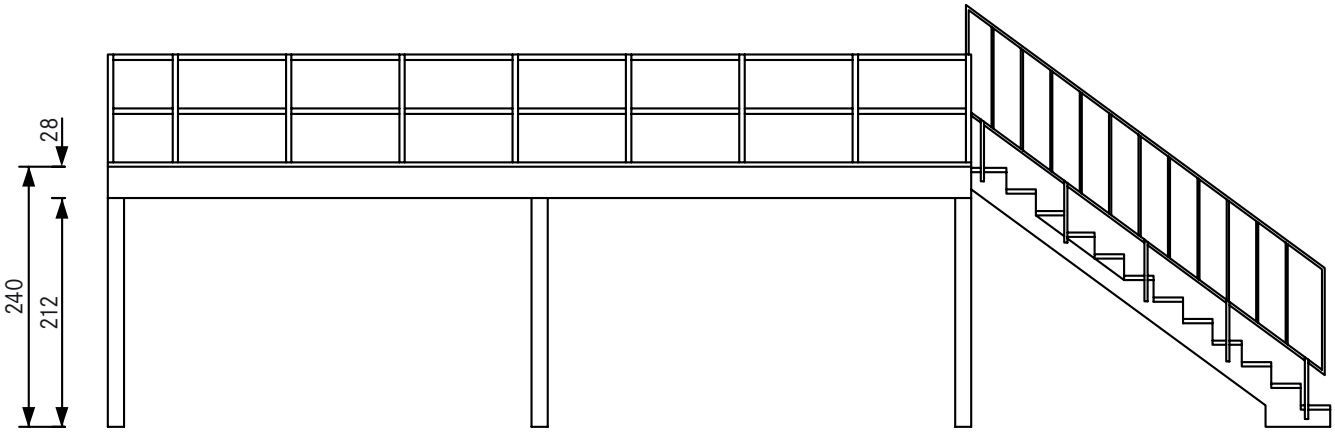
- Individual grid of support columns to suit your installations and traffic routes beneath the storage platform. Overhangs and projections make the best possible use of all available space.
- Self-supporting structure, made of hot-rolled steel sections or square tubing.
- Different platform coverings (wood, grating, non-slip surface) are available.

Your benefits:

- Optimisation of available usable surfaces in height
- Alternative to the construction of new halls
- Individual variants for different applications and all trades
- Can be extended at any time by adding further modules; likewise, the platform can be disassembled, relocated and reinstalled elsewhere
- Corresponds to the guidelines of the employer's liability insurance association according to BGR 234
- Easy and quick mounting by our specialised personnel

Our service:

We plan customised solutions adapted exactly to your requirements, integrate staircases, pallet transfer areas, safety railings or even office cabins. Select your personal colour scheme from our extensive range of colours.



Plastic collision protection for rack supports

Application:
Optimal safety and protection, suitable for almost all brands of shelf racks.

Execution:
- Highly flexible inner foam for optimal force distribution
- **Ident. No. 501–507:**
  - Almost indestructible ballistic plastic outer shell (HDPE) with a wall thickness of more than 7 mm
  - Bright colour for excellent visibility
  - Suitable for cold storage, withstands extreme temperatures down to -40 °C
  - Solid, rounded design deflects forklift tines away from the rack support
  - Very high shock absorption for frontal impact force of up to 2.4 t
  - Tested in accordance with European and international standards FEM 10.2.02, AS4084
- **Ident. No. 513–527:**
  - Virtually indestructible ballistic plastic body armour
  - Excellent visibility
  - Suitable for cold storage - withstands extreme temperatures down to -40 °C

Advantage:
- Prevents accidents and minimises repair work and costs
- Ideal slim design – no loss of shelf space
- Non-toxic and fully recyclable
- Quick, easy installation, does not need to be fixed to the floor
- **Ident. No. 501–507:** Elastic, spring-back, dimensionally stable, returns to its original shape
- **Ident. No. 513–527:** Elastic, spring-back, dimensionally stable - returns to its original shape

Notes:
Installation tool required for sizes L and XXL, recommended for sizes S and M

Technical data:
- Height: 600 mm

Ident. No. 513

Size					S	M	L	XXL
Suitable for max. shelving stand width (mm)					87	100	110	120
Suitable for min. shelving stand width (mm)					70	88	101	111
		Type	Material					
Plastic collision protection for rack supports	50172...	Rack Armour®	HDPE - High density polyethylene	Ident. No.	501 ●	503 ●	505 ○	507 ○
	50172...	ECO RACK	Plastic recyclate	Ident. No.	521 ○	513 ○	525 ○	527 ○
A.M.P.E.R.E. accessories: crash protection for racks	50172...			Ident. No.	-	511 ○	511 ○	511 ○

Prod. Gr. 504

Assembly aid for rack collision protection

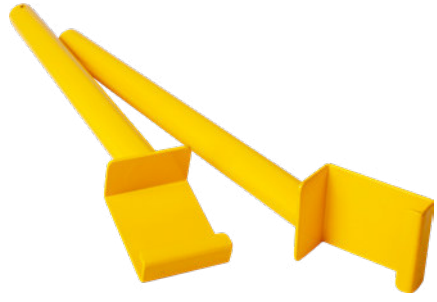
Size M to XXL

Application:
Required for installing Rack Armour® and ECO RACK in sizes L and XXL

Execution:
- Made of hot-dip galvanised steel, painted yellow

Advantage:
- Easy to use
- Stainless

Notes:
Can also be used for installing Rack Armour® crash protection for racks in sizes S and M - but using the assembly aid is not a requirement.



50172...	Ident. No.	511 ○

Prod. Gr. 504

Impact protection

Application:
Warns of and protects persons from hazardous areas, removes hazard from sharp edges and prevents impact injuries. For indoor and outdoor applications.

Execution:
- high-quality protective elements produced from flexible ageing-resistant polyurethane foam
- UV- and solvent-resistant, silicone-free
- temperature-resistant from -40°C to +90°C
- fire classification UL94
- no open-pore cutting edges (important for hygiene and external areas)
- simple to cut to size
- **Ident. No. 601, 610:** The self-adhesive impact protection elements adhere permanently and securely to smooth, clean surfaces, corners and edges.
- **Ident. No. 603:** Simple attachment to all metallic surfaces (steel joists, cabinets, frames). Simple to reposition and remove again. Also suitable for temporary applications or as transport protection.

Technical data:
- Material: Polyurethane foam

Ident. No. 601–603

Length (mm)		1000	5000
50172...	Ident. No.	603 ○	610 ○

Prod. Gr. 504

META Crash protection corner

Application:
For the protection of rack columns or partitioning systems in corner and transit areas.

Execution:
- Complete with 4 screw anchors

Advantage:
- Protects the bottom of upright posts against damage by industrial trucks

Technical data:
- Limb length: 175 mm
- Limb length 2: 175 mm
- Angle: 90 Degree
- Height: 400 mm
- Material: Steel
- Form: L

50170...	Ident. No.	495 ●+

Prod. Gr. 508

META Crash protection corner

Application:
For the protection of rack columns or partitioning systems in corner and transit areas.

Execution:
- Complete with 4 screw anchors

Advantage:
- Protects the bottom of upright posts against damage by industrial trucks

Technical data:
- Length: 239 mm
- Internal width: 154 mm
- Limb length: 208 mm
- Limb length 2: 208 mm
- Height: 400 mm
- Material: Steel
- Form: U

50170...	Ident. No.	498 ●

Prod. Gr. 508

META Crash protection wall for rack front ends for META MULTIPAL pallet rack

Application:
For protection of the shelf faces

Execution:
- Complete with mounting accessories
- **Ident. No. 487:** For single shelving unit with depth 800 mm
- **Ident. No. 488:** For single shelving unit with depth 1100 mm
- **Ident. No. 489:** For double shelving system with 800 mm depth + 200 m spacer piece

Technical data:
- Height: 400 mm

Ident. No. 487

50170...	Ident. No.	489 ○+

Prod. Gr. 508

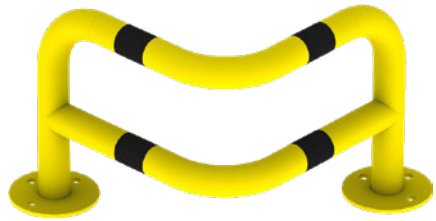
90° crash protection bar for indoor use

with pipe diameters of 42.4 mm and 76 mm

Application:
Maximum security for business inventory such as storage racks, machinery, fire extinguishers, power boxes.

Execution:
- Made of stable steel profile tube
- 90° curved, zinc-coated
- Complete with sleeve anchor for ground mounting on concrete surface
- With black reflective tape

Technical data:
- Angle: 90 Degree



Ident. No. 300

Length (mm)		350	350	600	600	600
Height (mm)		300	600	350	600	1200
Pipe Ø (mm)		42.4	42.4	76	76	76
50172...	Ident. No.	300 ○	301 ○	302 ○	303 ○	304 ○

Prod. Gr. 5AY
For outdoor use, also available in white/red.

Crash protection bar for indoor use

with pipe diameter of 42.4 mm

Application:
For the protection of business inventory.

Execution:
- Made of stable steel profile tube
- Incl. sleeve anchor for ground mounting on concrete surface
- With black reflective tape

Technical data:
- Pipe diameter: 42.4 mm

Ident. No. 313–315, 319

Length (mm)		350	750	1000	350	750	1000
Height (mm)		300	300	300	600	600	600
50172...	Ident. No.	313 ○	314 ○	315 ○	317 ○	318 ○	319 ○

Prod. Gr. 5AY
For outdoor use, also available in white/red.

Crash protection bar for indoor use

with pipe diameter of 76 mm

Application:
For the protection of business inventory.

Execution:
- Made of stable steel profile tube
- Incl. sleeve anchor for floor mounting on concrete surface
- With black reflective tape

Technical data:
- Pipe diameter: 76 mm

Length (mm)	Height (mm)	50172... Ident. No.	
500	350	321	○
750	350	322	○
1000	350	323	○
500	600	325	○
750	600	326	○

Length (mm)	Height (mm)	50172... Ident. No.	
1000	600	327	○
500	1200	329	○
750	1200	330	○
1000	1200	331	○

Prod. Gr. 5AY

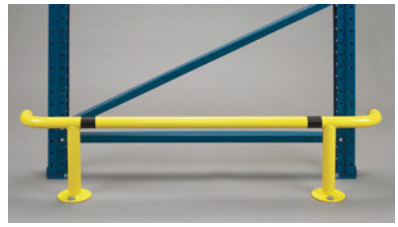
Crash protection bar as rack protection (front)

with pipe diameters of 42.4 mm and 76 mm

Application:
Prevents collision damage to shelves.

Execution:
- Made of stable steel profile tube
- Incl. sleeve anchor for floor mounting on concrete surface
- With black reflective tape

Technical data:
- Length: 1250 mm



Height (mm)		300	600	350	600
Pipe Ø (mm)		42.4	42.4	76	76
50172...	Ident. No.	316 ○	320 ○	324 ○	328 ○

Prod. Gr. 5AY

Crash protection bar with underrun protection for indoor use
with pipe diameter of 76 mm

Application:
For the protection of business inventory, e.g. preventing damage due to ramming by transport devices.

Execution:
- Made of stable steel profile tube
- Incl. welded underride guard sheet, 4 mm thick
- Zinc-coated
- Incl. sleeve anchor for ground mounting on concrete surface
- With black reflective tape

Technical data:
- Pipe diameter: 76 mm

Ident. No. 352

Ident. No. 355

Length (mm)		500	750	1000	500	750	1000
Height (mm)		350	350	350	600	600	600
50172...	Ident. No.	350 ○	351 ○	352 ○	353 ○	354 ○	355 ○

Prod. Gr. 5AY

Crash protection bar for indoor use
with pipe diameter of 76 mm

Application:
For the protection of business inventory, e.g. preventing damage due to ramming by transport devices, as a spacer.

Execution:
- Made of stable steel profile tube, zinc-coated
- Incl. sleeve anchor for ground mounting on concrete surface
- With black reflective tape

Technical data:
- Height: 85 mm
- Pipe diameter: 76 mm

Length (mm)		400	800	1200
50172...	Ident. No.	360 ○	361 ○	362 ○+

Prod. Gr. 5AY

Protection bar for indoor use
with pipe diameter of 42 mm, height 1,000 mm

Application:
For securing and delimiting operating paths and vulnerable areas.

Execution:
- Made of stable steel profile tube, hot-dip galvanised
- Incl. sleeve anchor for ground mounting on concrete surface
- With black reflective tape

Technical data:
- Height: 1000 mm
- Pipe diameter: 42 mm

Example application

Length (mm)		1000	1500	2000
50172...	Ident. No.	401 ○+	404 ○	407 ○+

Prod. Gr. 5AY
For outdoor use, also available in white/red.

Crash protection bollard for indoor use

for dowelling and setting in concrete

Application:
For the protection of business inventory—for fixing with bolts, incl. a sleeve anchor for mounting on concrete floors

Execution:
- Made of stable steel profile tube
- With black reflective tape

Technical data:
- Height: 1200 mm

Pipe Ø (mm)		76	159	273
50172...	Ident. No.	371 O+	373 O	375 O+

Prod. Gr. 5AY

Crash protection bollard for outdoor use

Height 1,200 mm and 1,600 mm

Application:
For the protection of business inventory—for fixing with bolts, incl. a sleeve anchor for mounting on concrete floors

Execution:
- Made of stable steel profile tube
- With red reflective tape

Technical data:
- Height: 1200 mm

Pipe Ø (mm)		76	159	273
50172...	Ident. No.	390 O+	391 O	392 O+

Prod. Gr. 5AY

Borderline crash protection system

For indoor use

Application:
For maximum protection of certain areas from collision damage, to protect machines, storage areas, shelves etc. Easy-assembly plug-in and screw connection system that meets the highest demands of quality, force absorption and variability. The Borderline crash protection system can be expanded as required and so can be adapted to your individual operating requirements.

Example application, incl. centre support and corner protector

Example application with corner protectors

Crash protection planks, height 400 mm

for Borderline crash protection system

Application:
For maximum protection of certain areas against contact damage, e.g. for protecting machines, storage spaces and shelves.

Execution:
- Easy-to-mount plug and screw system that meets the highest standards of quality, energy absorption and variability
- The Borderline crash protection system can be expanded as required and can thus be adapted to your individual operating requirements
- From high-quality processed profile steel 3 mm thick
- Boards can be extended from 50-150 mm

Technical data:
- Height: 400 mm

Length (mm)	50172... Ident. No.	
800	420	O
900	421	O
1000	422	O
1100	423	O
1200	424	O
1300	425	O

Length (mm)	50172... Ident. No.	
1600	426	O+
1700	427	O+
1800	428	O+
1900	429	O+
2000	430	O+

Prod. Gr. 5AY

Example application with corner protectors

Example application, incl. centre support and corner protector

Centre support
for Borderline crash protection system

Application:
For the extension and connection of crash protection boards—Borderline crash protection system

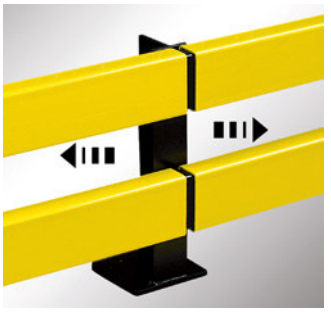
Execution:
- Made of stable T profile steel 50 x 50 mm, robust design

Advantage:
- Protects the bottom of upright posts against damage by industrial trucks

Technical data:
- Length: 50 mm
- Height: 400 mm
- Material: Steel

50172...	Ident. No.	435 ○

Prod. Gr. 5AY



Variable extension 50-150 mm

90° corner protectors
for Borderline crash protection system

Application:
For construction of the Borderline crash protection system with crash protection boards

Execution:
- Made of 5 mm thick sheet steel, curved by 90°
- With pre-drilled holes for floor mounting and 4 holes each for mounting crash protection planks to both sides
- Incl. mounting material
- With black reflective tape

Advantage:
- Protects the bottom of upright posts against damage by industrial trucks

Technical data:
- Length: 180 mm
- Angle: 90 Degree
- Height: 400 mm
- Material: Steel
- Form: L

Installation material included

50172...	Single	Ident. No.	440 ○
50172...	Set of 2 pieces	Ident. No.	441 ○

Prod. Gr. 5AY

Fluorescent traffic cone SET
5 traffic cones + 10 m chain

Application:
the cone sets are quick and easy to set up. ideal for temporary barriers.

Execution:
- freely rotatable polyethylene chain hooks
- can be easily inserted into the cones
- chain for hanging
- the ends of the hook fit to the holes in the cones and ensure a secure grip

Advantage:
- temporary cordoning off
- 3 pieces
- affordable

Delivery:
5 fluorescent traffic cones, 10-m red/white chain (M-POLY visible) and 5 chain hooks

Notes:
in public areas, traffic cones in accordance with the technical delivery conditions are required

50173...	Ident. No.	086 ●

Prod. Gr. 504

2 bollards with retracting belt strap

robust version with rubber weight

Execution:
- Vertical rod piping made from robust plastic
- With 2 rubber rings to protect the pipe
- Weight made from hard rubber
- Grab holes for easy handling
- Screw connection between pipe and weight, two protective rubber rings
- 4-way system

Advantage:
- Fully robust version
- Hardly any wear even after rough handling
- Extremely quick to assemble and dismantle

Delivery:
Pre-assembled

Technical data:
- Extension length: 3500 mm
- Diameter ground plate: 354 mm
- Max. extension length: 3650 mm
- Belt width: 50 mm

Colour of belt		Red/white	Yellow/black
50173...	Ident. No.	012 ○	014 ○

Prod. Gr. 559

Ident. No. 014

Ident. No. 012

2 bollards with retracting belt strap

with a solid steel weight

Execution:
- Vertical rod piping made from robust plastic
- Cast-iron weight, with impact-resistant, black plastic protective hood
- 4-way system

Delivery:
Pre-assembled

Technical data:
- Extension length: 2000 mm
- Diameter ground plate: 354 mm
- Max. extension length: 2300 mm
- Belt width: 50 mm

Colour of belt		Yellow/black	Red/white
50173...	Ident. No.	001 ○	003 ○

Prod. Gr. 559

Ident. No. 001

Ident. No. 003

RS-GUIDESYSTEMS® Bollards with retracting belt strap

For creating barriers up to 9 metres in length

Application:
Ident. No. 020–024: Ideal for prohibiting entry to large areas, as well as many other applications with varying distance requirements.
Ident. No. 025–029: The combination of a 100-mm belt width and maximum belt extension length of up to 7 m is perfect for prohibiting entry, especially over long distances, but also over small distances.

Execution:
- Metal post, black
- Cast-iron weight with black protective hood

Advantage:
- **Ident. No. 020–024:** Can be used to prohibit entry to large areas
- **Ident. No. 025–029:** Perfect for prohibiting access

Delivery:
Preassembled

Notes:
Other colours or customised digital printing available on request.

Technical data:
- Type: GLA 85
- Diameter ground plate: 350 mm
- Dimension base plate: 350 mm diameter

Ident. No. 024

Ident. No. 029

Ident. No. 023

Ident. No. 028

			Bollards with retracting belt strap		Accessories for barriers	
Max. extension length (mm)	Belt width (mm)	Colour of belt	50173... Ident. No.		50173... Ident. No.	
9000	50	Red	020	○	097	○
9000	50	Blue	021	○	097	○
9000	50	Black	022	○	097	○

			Bollards with retracting belt strap		Accessories for barriers	
Max. extension length (mm)	Belt width (mm)	Colour of belt	50173... Ident. No.		50173... Ident. No.	
9000	50	Red/white	023	○	097	○
9000	50	Yellow/black	024	○	097	○
7000	100	Red	025	○	098	○
7000	100	Blue	026	○	098	○
7000	100	Black	027	○	098	○
7000	100	Red/white	028	○	098	○
7000	100	Yellow/black	029	○	098	○

Prod. Gr. 559

Chain warning posts SET

6 posts + 10 m chain

Application:
for simple, fast and mobile cordoning off in storage, production, shipping and administration areas. for indoor and temporary outdoor use.

Execution:
- plastic upper section
- cap with four integrated chain mounts
- low centre of gravity, stable
- post with integrated plug connector to securely attach to the base plate
- ready-to-use set with accessories

Advantage:
- low tare weight
- cordon off quickly and with ease
- three variants available
- great value for money

Delivery:
6 chain stands, 10 m chain (M-POLY visible), 10 connecting links and 10 mounting hooks

Notes:
maximum distance between chain stands when using plastic chains: 2.0 m

50173...	Ident. No.	133 ● 143 ●+

Prod. Gr. 504

Belt barrier with magnetic wall unit

TECHNIFOR

Application:
Ideal for use in areas that only need to be cordoned off temporarily.

Execution:
- Wall unit for magnetic attachment to walls
- Easy extension slide, high-quality workmanship
- Complete with magnetic belt end and steel shim as counterpiece

Technical data:
- Belt width: 50 mm

Extension length (mm)	Max. extension length (mm)	Colour of belt	50173... Ident. No.	
4300	4600	Yellow/black	061	○
4300	4600	Red/white	063	○
7400	7700	Yellow/black	071	○
7400	7700	Red/white	073	○
8700	9000	Yellow/black	081	○
8700	9000	Red/white	083	○

Prod. Gr. 559

Belt barrier for screwing into a wall

Application:
Ideal for use in areas that need to be continually cordoned off.

Execution:
- Wall unit for bolting to walls
- Easy extension slide, high-quality workmanship
- Includes wall clip for hooking onto the opposite wall

Technical data:
- Belt width: 50 mm

Extension length (mm)	Max. extension length (mm)	Colour of belt	50173... Ident. No.	
4300	4600	Yellow/black	031	○
4300	4600	Red/white	033	○
7400	7700	Yellow/black	041	○
7400	7700	Red/white	043	○
8700	9000	Yellow/black	051	○
8700	9000	Red/white	053	○

Prod. Gr. 559

RS-GUIDESYSTEMS® Belt barrier for screwing into a wall

Flexible cordoning off up to 20 metres in length

Application:

Ident. No. 030–032: The adjustable belt pull-out allows the belt barrier to be used flexibly and for most applications.

Execution:

- Housing made from a mix of plastic and metal
- Continuously extendable belt
- **Ident. No. 034–035:** with locking device

Advantage:

- Adjustable belt pull-out thanks to 360° rotatable housing
- **Ident. No. 030–032:** Even longer distances are quickly, effortlessly and effectively closed off thanks to the maximum belt extension length of 10 m.

Notes:

Ident. No. 030–032: Installed via a screw connection. Magnetic variant, other colours and customised digital printing available upon request.

Ident. No. 034–035: Installed via a screw connection. Other colours and customised digital printing on request.

Technical data:

- Belt width: 50 mm

Ident. No. 032

Ident. No. 030

			Belt barrier for screwing into a wall		Accessories for barriers	
Type	Max. extension length (mm)	Colour of belt	50173... Ident. No.		50173... Ident. No.	
GLW 1000	10000	Red/white	030	○	097	○
GLW 1000	10000	Yellow/black	032	○	097	○
GLW 2000	20000	Red/white	034	○	097	○
GLW 2000	20000	Yellow/black	035	○	097	○

Prod. Gr. 559

Warning tape

Inexpensive, extremely tear-resistant multi-purpose tape

Application:

quickly secure construction sites and dangerous areas. effectively block dangerous areas, entrances and parking areas. effortlessly mark traffic routes and obstacles.

Advantage:

- made of polyethylene
- cordon off quickly
- resistant to tearing
- affordable

50173...	Ident. No.	093 ●

Prod. Gr. 586

Accessories for		50173 093
50173... marking pin made from steel with safety bar	Ident. No.	099 ●

DURABLE DURALINE STRONG floor marking tapes (DIN 51130)

single-coloured

Application:

self-adhesive, extra strong floor marking tape for indoor use. For resilient, long-term marking of footpaths and driveways in warehouses and factories

Execution:

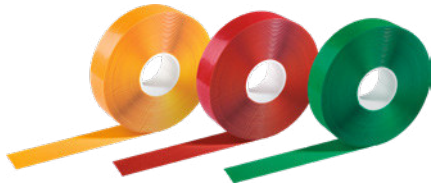
- in accordance with ASR A1.5/1.2 “Floors” as per DIN 51130 slip prevention (R group) R 10
- extruded material for abrasion resistance and durability
- bevelled edges provide strong adhesive force

Advantage:

- Suitable for forklifts, except steering and turning movements
- Slip resistance R 10
- strong adhesive force
- abrasion-resistant and durable

Technical data:

- Type description: Duraline Strong
- Width of tape x length of strap: 50 mm x 30 m
- Thickness: 1.2 mm



Ident. No. 500

Colour		Signal yellow RAL 1003	Signal red RAL 3001	Signal green RAL 6032
50173...	Ident. No.	500 ●	501 ●	502 ●

Prod. Gr. 5BD

DURALINE STRONG floor marking tapes (DIN 51130)

two-tone

Application:
self-adhesive, dual-colour floor marking tape for indoor use. For resilient, long-term marking of footpaths and driveways in warehouses and factories

Execution:
- in accordance with ASR A1.5/1.2 “Floors” as per DIN 51130 slip prevention (R group) R 9

Advantage:
- Slip resistance R 9

Technical data:
- Type description: Duraline Strong
- Width of tape x length of strap: 50 mm x 30 m
- Thickness: 0.7 mm

Colour		Yellow | Black	Red | White	Green | White
50173...	Ident. No.	503 ●	504 ●	505 ●

Prod. Gr. 5BD

Anti-slip adhesive tapes

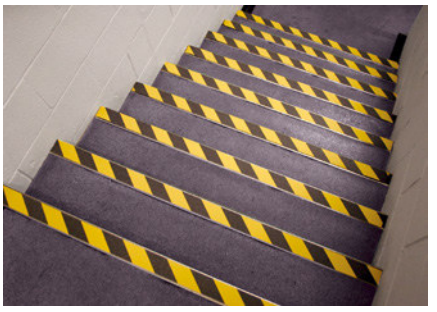
with rough surface

Application:
Versatile use and easy to glue, e.g on stair steps, ladders, ramps, paths, entry areas, loading zones or in front of machines, for use inside and outside.

Execution:
- Self-adhesive, anti-slip adhesive tape with rough surface made of aluminium oxides on a polymer backing
- Slip prevention R13 in accordance with EN 13552
- Temperature-resistant from -20 °C to +60 °C and UV-resistant
- 1 roll width 50 mm, length per roll 18.3 m

Advantage:
- Suitable for fast marking of hazardous areas
- Increases slip safety on slippery surfaces

Technical data:
- Material: Aluminium oxide/polymer
- Surface structure: Coarse
- Suitable for wet areas: No
- Antistatic: No
- Non-slip: Yes
- Compliant with REACH: Yes



Example application

Length (m)			18.3
Width (mm)			50
Min. temperature resistance (°C)			-20
Max. temperature resistance (°C)			60
	Colour		
50225...	Black	Ident. No.	130 ●
50225...	Black | Yellow	Ident. No.	132 ●
50225...	Red | White	Ident. No.	134 ●
50225...	Yellow	Ident. No.	136 ●
50225...	Transparent	Ident. No.	138 ●

Prod. Gr. 5AD

Floor marking templates

Application:

Ident. No. 300: For professional and economical indoor and outdoor marking of parking spaces and car parks, open spaces, industrial markings, safety markings, factory halls, warehouses etc.

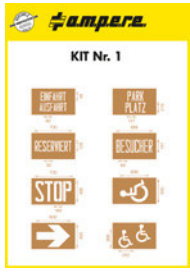
Ident. No. 311–312, 314–315, 317: Spray stencils for marking on company premises

Ident. No. 313, 316: Spray stencils for marking in operational areas

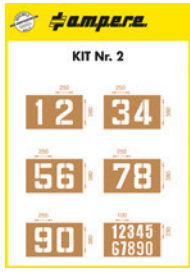
Execution:

- **Ident. No. 300:**
  - Simple line width adjustment from 3 to 10 cm
  - Quick conversion to a marking stick
  - Side striper for markings close to walls - supplied with the marking unit
  - Ergonomic handle for easier dispensing of the spray can
  - Patented can holder - can automatically adjusts to the correct spray position
  - Reinforced, very robust housing
  - Adjustable directional arrow for following the pre-marking
  - Wind protector for precise markings
  - Holder for three spare cans for quick access to paint
  - Wide wheels for better stability and straighter lines
- **Ident. No. 311:** Consisting of 8 stencils:
- Entrance/Exit (letter height 230 mm, word width 655 mm)
- Car park (letter height 195 mm, letter width 65 mm, word width 705 mm)
- Reserved (letter height 230 mm, letter width 65 mm, word width 705 mm)
- Visitor (letter height 235 mm, letter width 70 mm, word width 700 mm)
- Stop (letter height 400 mm, letter width 100 mm, word width 700 mm)
- Disabled symbol (height 570 mm, width 710 mm)
- 2 arrow combinations (height 380 mm, width 530 mm and height 60-140 mm, width 410-530 mm)
- **Ident. No. 311–317:**
  - Made from oiled and reinforced special cardboard
  - Reusable
- **Ident. No. 312:** Consisting of 6 stencils with numbers:
- 1 2 (number height 380 mm, number width 250 mm)
- 3 4 (number height 380 mm, number width 250 mm)
- 5 6 (number height 380 mm, number width 250 mm)
- 7 8 (number height 380 mm, number width 250 mm)
- 9 0 (number height 380 mm, number width 250 mm)
- 1 2 3 4 5 / 6 7 8 9 0 (number height 230 mm, number width 105 mm)
- **Ident. No. 313:** Includes six stencils with capital letters, symbols and icons:
- A B C D E F G H I J (letter height 230 mm, letter width 100 mm)
- K L M N O P Q R S T (letter height 230 mm, letter width 100 mm)
- U V W X Y Z - • / (letter height 230 mm, letter width 102 mm)
- Disabled symbol (height 570 mm, width 710 mm)
- Pedestrian (height 570 mm, width 710 mm)
- Bicycle (height 570 mm, width 710 mm)
- **Ident. No. 314:** Consisting of 8 stencils with symbols:
- Disabled person symbol (height 600 mm, width 500 mm)
- Disabled person symbol (height 300 mm, width 250 mm)
- Arrow (length 600 mm, width 400 mm)
- Collection point (height 500 mm, width 500 mm)
- Charging station (height 293 mm, width 590 mm)
- Pedestrian (height 620 mm, width 400 mm)
- Bicycle (height 710 mm, width 570 mm)
- Stop (letter height 400 mm, word width 700 mm, letter width 160 mm)
- **Ident. No. 315:** Consisting of 8 stencils:
- Arrow (length 600 mm, width 400 mm)
- Stop (letter height 400 mm, word width 700 mm, letter width 160 mm)
- Circle (Ø 460 mm)
- Permitted maximum speed - 10 km/h (Ø 180 mm, height of number 180 mm)
- No entry (Ø 460 mm)
- No stopping (Ø 360 mm)
- Fire extinguisher (height 492 mm, width 510 mm)
- Wall hydrant (height 492 mm, width 515 mm)
- **Ident. No. 316:** Includes 12 stencils with footprints:
- Footprint/walking route (length of footprint 300 mm)
- **Ident. No. 317:** Consisting of 6 stencils with symbols and signs:
- Safety distance '2m' (height 400 mm, width 600 mm)
- Safety distance '1m' (height 400 mm, width 600 mm)
- Circle (Ø 460 mm)
- Arrow (length 600 mm, width 400 mm)
- Walkway (length 300 mm)
- Pedestrian (height 620 mm, width 400 mm)

Ident. No. 300



Ident. No. 311



Ident. No. 312

Ident. No. 313

Ident. No. 314

Ident. No. 315

Ident. No. 316

Ident. No. 317

	KIT no. 1	KIT no. 2	KIT no. 3	City KIT	Industry KIT 2	Footprint KIT	KIT Covid1
69700... Ident. No.	69700... Ident. No.	69700... Ident. No.	69700... Ident. No.	69700... Ident. No.	69700... Ident. No.	69700... Ident. No.	69700... Ident. No.
300 ●+	311 ○	312 ●	313 ○	314 ○	315 ●	316 ○	317 ○

Prod. Gr. 6RK

Floor marking paint

Application:
Ident. No. 301–309: For professional, economical marking indoors and outdoors. Crisp marking lines on parking spaces and traffic routes.
Ident. No. 310: Clear special sealing varnish to protect floor markings from contamination

Execution:
- **Ident. No. 301–307:**
  - With high pigment content
  - Abrasion- and weather-resistant (abrasion resistance may vary depending on the ground and weather conditions)
  - Can be emptied to the last drop
  - Special nozzle for extremely crisp marking lines
  - Grey and black paint can be used to cover unwanted marking
  - No CFC, lead, cadmium or toluene
- **Ident. No. 301–309:** Insensitive to temperature fluctuations
- **Ident. No. 308–309:** With very high pigment content
- **Ident. No. 308–310:** Highly resistant to abrasion and weathering
- **Ident. No. 310:**
  - Varnish protects the marking and prevents contamination
  - After the marking has dried, simply apply the Traffic Protektor special sealing varnish using the New Perfect Striper floor marker
  - Provides long-term protection and preservation of the marking

Advantage:
- Dries quickly
- **Ident. No. 301–307:** Grüner Punkt certification for easy disposal

Notes:
Test the paint before applying as the shelf life may vary depending on the ground and weather conditions. The floor should be cleaned and dusted before application. When marking sealed or waterproofed floors, we recommend testing the compatibility, drying time and adhesion of the paint. It may be necessary to lightly sand the surface or apply a primer to ensure optimum adhesion. If the surface is not treated appropriately, the marking paint can rub off after a short time. To prevent the nozzle from clogging, briefly spray the valve clear after use.

Technical data:
- Container: Can
- Contents: 500 ml
- Number of pieces per packet: 12

Ident. No. 301

69700...	Extra white	Ident. No.	308 ●
69700...	Extra yellow	Ident. No.	309 ●
69700...	White	Ident. No.	301 ●
69700...	Yellow	Ident. No.	302 ●
69700...	Red	Ident. No.	303 ●
69700...	Blue	Ident. No.	304 ●
69700...	Green	Ident. No.	305 ●
69700...	Grey	Ident. No.	306 ●
69700...	Black	Ident. No.	307 ○
69700...	Transparent sealing	Ident. No.	310 ○

Prod. Gr. 6RK

REGISTERED SAFETY IDENTIFIERS (DIN 51130)

Application:
self-adhesive safety label for attaching to floors in the interior

Execution:
- in accordance with ASR A1.5/1.2 “Floors” as per DIN 51130 slip prevention (R-Group) R 9
- in accordance with ASR A1.3 and DIN EN ISO 7010

Advantage:
- slip prevention R9
- abrasion-resistant and durable

Technical data:
- Thickness: 0.4 mm
- Number of pieces per packet: 1
- DIN: 51130
- Mandatory testing according to DGUV (UVV): No

Form	Length of tape (mm)	Text on the sign	Ø (mm)	50173... Ident. No.	
Round	-	No smoking	430	510	●
Round	-	Use hearing protection	430	511	●
Round	-	No admittance	430	512	●
Round	-	Use walkway	430	513	●
Round	-	Forbidden for walkers	430	514	○
Round	-	Use foot protection	430	515	●
Triangular	430	Fork lift trucks warning	-	516	●
Round	-	Use high visibility vest	430	517	○

Prod. Gr. 5BD

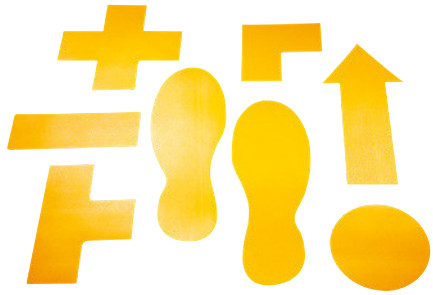
DURABLE PARKING SPACE MARKINGS (DIN 51130)

Application:
self-adhesive symbol for attaching to floors in the interior

Execution:
- in accordance with ASR A1.5/1.2 “Floors” as per DIN 51130 slip prevention (R-Group) R 9

Advantage:
- slip prevention R9
- abrasion-resistant and durable

Technical data:
- Colour: Signal yellow RAL 1003
- DIN: 51130
- Thickness: 0.7 mm
- Mandatory testing according to DGUV (UVV): No
- Number of pieces per packet: 10



Ø (mm)	Width of band (mm)	Length of tape (mm)	Form	50173... Ident. No.	
-	90	240	Foot	520	●
-	100	150	T	521	●
-	150	150	Cross	522	●
-	100	100	L	523	●
-	50	150	Line	524	●
100	-	-	Point	525	●
-	100	150	Arrow	526	●

Prod. Gr. 5BD

3M Warning marking tapes 766i/767i

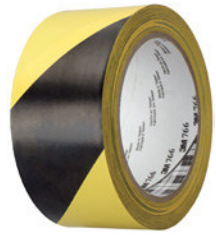
All-purpose soft PVC adhesive tape for use on many surfaces

Application:
For marking, barricading, bundling, protecting and covering. Also suitable for making the floor. Ideal for indicating hazards.

Execution:
- Highly elastic backing material

Advantage:
- Solvent-resistant
- High initial adhesive strength
- Supple even on uneven surfaces

Technical data:
- Width of tape x length of strap: 50 mm x 33 m
- Type of adhesive: Rubber/resin
- Adhesive tape backing material: PVC
- Breaking elongation: 180 %



Ident. No. 505

Ident. No. 515

Type description		766i	767i
Thickness (mm)		0.125	0.129
Colour		Black | Yellow	Red | White
69772...	Ident. No.	505 ●	515 ●

Prod. Gr. 6RM

Safety mirror

Application:
For monitoring access areas and internal processes. Or for safety at junctions.

Execution:
- with 250 mm wall bracket
- for internal and protected external areas

Advantage:
- prevents accidents and theft
- simple mounting and adjustment
- lightweight and extremely impact-resistant

Ø (mm)	Distance (m)	50179... Ident. No.	
300	2	501	○
400	3	502	○
500	5	503	○
600	7	504	○
700	9	505	○
800	11	506	○

Prod. Gr. 559

Extended wall bracket for safety mirror

50179...	Ident. No.	509 ○

Prod. Gr. 559

Safety mirror 180°

Application:
For safety at tight T-junctions on company premises. Creates visibility in critical areas, narrow passage-ways and blind spots. For indoor use.

Execution:
- acrylic glass
- distortion-free 3-way mirror
- extreme wide-angle effect
- especially flat design for minimal space requirements
- wall fixture with conventional screws (not included in scope of delivery)

Advantage:
- prevents accidents and theft
- simple mounting

Ø (mm)	Width x height x depth	Distance (m)	50179... Ident. No.	
600	600 x 320 x 240 mm	5	511	○
800	800 x 410 x 330 mm	6	512	○
900	900 x 450 x 250 mm	7	513	○
1000	1000 x 530 x 400 mm	8	514	○

Prod. Gr. 559

Safety mirror 360°

Application:
Facilitates a 360° all-round view and thus ideal visibility at junctions and in areas with restricted visibility. Ideal for forklift truck traffic, for indoor applications.

Execution:
- acrylic glass
- distortion-free 360° all-round view
- extreme wide-angle effect
- attachment directly onto level ceiling using conventional screws (not included in scope of delivery) or to optional assembly set no. 50179526

Advantage:
- prevents accidents and theft
- simple mounting

	!!Accessoires!! (m)	**Safety mirror 360**		Chain for hanging, 4	
Ø (mm)	Distance (m)	50179... Ident. No.		50179... Ident. No.	
600	3	521	○	526	○
800	4	522	○+	526	○
900	5	523	○	526	○
1000	6	524	○	526	○
1250	8	525	○+	526	○

Prod. Gr. 559

Cable bridge

Flexible rubber compound

Application:
For protecting cables and hoses and for preventing trip hazards.

Execution:
- suitable for use on trucks and forklifts
- flexible, high-strength mixed rubber
- profiled, slip-resistant surface, can be easily driven over
- underside with non-slip rubber lips
- cable duct size: 2 x 20 mm and 1 x 45 mm

Technical data:
- Length x width x height: 1200 x 210 x 65 mm
- Number of ducts: 3

Colour		Yellow	Black
50226...	Ident. No.	001 ○	003 ○

Prod. Gr. 504

Cable bridge

with cable duct

Application:
Ident. No. 010: Allows cables, hoses and piping to be driven over without issue and drastically reduces the risk of tripping. Designed for occasional heavy loads, tested up to 12 t axle load.

Execution:
- **Ident. No. 010:**
  - cable duct size: 2 ducts 68 x 50 mm (W x H), 1 duct 55 x 50 mm (W x H)
  - extendible modular system
  - cable bridge dimensions (L x W x H): 960 x 600 x 75 mm
  - combined net length: 870 mm

Advantage:
- **Ident. No. 010:**
  - high load-bearing capacity owing to special solid rubber compound
  - ribbed, non-slip surface
  - permanent attachment possible owing to integrated dowel mounts

Technical data:
- Number of ducts: 3

Ident. No. 010

Design		Basic element	End | With groove	End | With pin
Colour		Black | Yellow	Black	Black
Length x width x height		960 x 600 x 75 mm	283 x 600 x 75 mm	283 x 600 x 75 mm
50226...	Ident. No.	010 ○	012 ○	014 ○

Prod. Gr. 504

Table dispenser for label protection film

Application:
For ease of operation when using label protection film.

Execution:
- For 3" = 76 mm core, max. width 150 mm
- Max. external diameter 145 mm
- Accessories: Label protection film, acrylic adhesives, self-adhesive, width 150 mm, length 66 m see no. 50007 425

50007...	Ident. No.	424 ○

Prod. Gr. 504

Label protection film

150 mm wide

Application:
For protecting labels, to be stuck down over labels to guarantee smooth logistics procedures.

Execution:
- PP film
- Colourless, transparent

Advantage:
- Protects labels from damp, dirt and damage
- Easy for the recipient to read

Technical data:
- Length: 66 m
- Width: 150 mm
- Colour: Transparent
- Number of pieces per packet: 12 PCS

50007...	Label protection film width 150 mm	Ident. No.	425 ●

Prod. Gr. 504

Hand dispenser for adhesive tapes

ideal for long-term use

Application:
For use with packaging adhesive tapes with a length of up to 66 m and width of 50 mm.

Execution:
- With notch trigger
- Two pressure rollers
- Extremely robust

69772...	Ident. No.	601 ●

Prod. Gr. 686

Scotch HE 180 hand roller

for Scotch PVC adhesive packaging tape 6890

Advantage:
- Adjustable adhesive tape stop mounted on wheel provides tension and feed control

69772...	Ident. No.	650 ●

Prod. Gr. 6RM

Scotch® PVC adhesive packaging tape 6890

high-quality, low-noise packaging tape

Execution:
- Humidity-resistant and resistant to chemicals
- High adhesive strength and tear resistance

Technical data:
- Type description: 6890
- Width of tape x length of strap: 50 mm x 66 m
- Thickness: 0.051 mm
- Type of adhesive: Natural rubber
- Adhesive tape backing material: PVC
- Breaking elongation: 70 %

Colour		Brown	Transparent
69772...	Ident. No.	485 ●	490 ●

Prod. Gr. 6RM

Ident. No. 485

Ident. No. 490

Fabric adhesive tape 2903

Application:
For bundling, packaging, connecting, sealing, protecting and colour coding products.

Advantage:
- Very good adhesion on different surfaces
- Fabric allows straight, tool-free tearing off in both longitudinal and transverse directions
- Can easily be torn by hand
- Good mouldability of the backing material for use on uneven surfaces

Technical data:
- Type description: 2903
- Width of tape x length of strap: 48 mm x 50 m
- Thickness: 0.15 mm
- Type of adhesive: Rubber/resin
- Adhesive tape backing material: PE-coated fabric
- Breaking elongation: 30 %

Colour		Black	Silver
69771...	Ident. No.	111 ●	121 ●

Prod. Gr. 6RM

Ident. No. 111

Ident. No. 121

UV-resistant premium fabric adhesive tapes 8979

can be removed up to 6 months later without leaving residue

Application:
For reinforcing, bundling, sealing, insulating, splicing, marking.

Advantage:
- Can be removed up to 6 months later without leaving residue
- UV resistant and can be used outdoors for up to 12 months
- Moisture-resistant

Technical data:
- Width of tape x length of strap: 48 mm x 55 m
- Thickness: 0.33 mm
- Colour: Blue
- Type of adhesive: Rubber/resin
- Adhesive tape backing material: PE-coated fabric
- Breaking elongation: 19 %

69771...	Ident. No.	180
		●

Prod. Gr. 6RM

Premium fabric adhesive tapes 389

temperature-resistant up to 70 °C, watertight, very high long-term adhesive force

Application:
For industrial applications such as marking, strengthening, repairing, sealing joints and air-conditioning ducts, bundling pipes, materials etc.

Execution:
- Close-meshed fabric adhesive tape with matt surface
- Polyethylene coating

Advantage:
- Excellent adhesive strength on a variety of surfaces
- Outstanding moisture resistance
- Adapts easily for use on uneven surfaces
- Good tear resistance and flexibility

Technical data:
- Width of tape x length of strap: 50 mm x 50 m
- Thickness: 0.26 mm
- Type of adhesive: Rubber/resin
- Adhesive tape backing material: PE-coated rayon fabric
- Breaking elongation: 6 %

Ident. No. 220

Ident. No. 230

Colour		Silver grey	Black
69771...	Ident. No.	220 ●	230 ●

Prod. Gr. 6RM

Double-sided adhesive tape 9527

synthetic rubber adhesive tape with immediate adhesion

Application:
For gluing sheet material such as foam, rubber or felt.

Execution:
- Synthetic rubber adhesive
- With paper fleece backing

Advantage:
- Excellent immediate adhesion
- Easily soluble protective paper
- Good adhesion on low-energy materials
- Temperature resistant up to 50°C

Technical data:
- Type description: 9527
- Width of tape x length of strap: 50 mm x 50 m
- Colour: White
- Breaking elongation: 0 %

69771...	Ident. No.	310
		●

Prod. Gr. 6RM

Dual-lock hook-and-loop fastener

Self-adhesive press-down closure for firm but detachable fastening

Execution:
- With self-adhesive pressure fastening

Advantage:
- Quick, easy assembly and removal
- Can be opened and closed again up to 1000 times

Type description		TB 3540	TB 3870	TB 4570
Width of tape x length of strap		25.4 mm x 3.0 m	25.4 mm x 3.05 m	25.4 mm x 3.05 m
Thickness (mm)		5.7	6.1	1.7
Colour		Black	Black	Translucent
Type of adhesive		Synthetic natural rubber	Acrylate	Acrylate
Min./max. temperature resistance		-30 to 70 °C	-30 to 82 °C	-30 to 70 °C
Max. short-term temperature resistance (°C)		70	90	90
69771...	Ident. No.	350 ●	355 ●	360 ●

Prod. Gr. 6RM

Ident. No. 350

Warning marking tapes 766i/767i

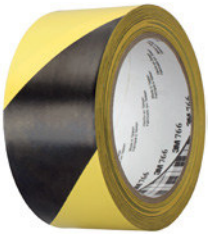
All-purpose soft PVC adhesive tape for use on many surfaces

Application:
For marking, barricading, bundling, protecting and covering. Also suitable for making the floor. Ideal for indicating hazards.

Execution:
- Highly elastic backing material

Advantage:
- Solvent-resistant
- High initial adhesive strength
- Supple even on uneven surfaces

Technical data:
- Width of tape x length of strap: 50 mm x 33 m
- Type of adhesive: Rubber/resin
- Adhesive tape backing material: PVC
- Breaking elongation: 180 %



Ident. No. 505

Ident. No. 515

Type description		766i	767i
Thickness (mm)		0.125	0.129
Colour		Black | Yellow	Red | White
69772...	Ident. No.	505 ●	515 ●

Prod. Gr. 6RM

Document pouches

self-adhesive

Application:
For shipping documents and other documents.

Execution:
- Made of environment-friendly polyethylene
- Good adhesion to cardboard, metal and plastic
- Reliable protection for your accompanying documents

- In a practical dispenser box
- Packing unit: 1000 pieces, contains 250-piece packages

Technical data:
- Material: PE - Polyethylene
- Number of pieces per packet: 1000 PCS

Suitable for DIN format		C6	C6	Long	Long	C5	C5
Inscription		-	Delivery slip/invoice	-	Delivery slip/invoice	-	Delivery slip/invoice
Colour		Transparent	Red | Transparent	Transparent	Red | Transparent	Transparent	Red | Transparent
50007...	Ident. No.	364 ●	365 ○	366 ○	367 ●	368 ●	369 ●

Prod. Gr. 504

Corrugated cardboard

On rolls

Application:
For wrapping products, as a filling material, as an intermediate layer or as a cover.

Execution:
- Cardboard out of 100% recycled paper
- Single face cardboard (face/flute)
- Coarse fluting (C flute)

Advantage:
- Environmentally friendly recycled product
- Easy to use
- Affordable

Technical data:
- Corrugated cardboard design: Single-fluted
- Wave type: C
- Length: 70 m
- Grammage: 80 g/m²

Width (mm)		700	1000
50007...	Ident. No.	055 ●	056 ●

Prod. Gr. 504

Moving boxes

robust version

Application:
For transporting books, files and other objects.

Execution:
- Robust, double-fluted cardboard
- Easy to fold
- With double base and handle notches on the front sides

Advantage:
- Simple and straightforward to use
- Can be re-used

Internal length (mm)		435	679
Internal width (mm)		335	335
Interior height (mm)		445	445
Corrugated cardboard design		Double-fluted	Double-fluted
Corrugated cardboard type		2.30	2.30
Wave type		BC	BC
Number of pieces per packet (PCS)		10	10
Weight (kg)		1.020	0.445
50007...	Ident. No.	348 ●	349 ●

Prod. Gr. 504

Folding cardboard boxes made of corrugated cardboard

Single-fluted

Application:
For storing packaged goods during transport, can be used to display advertisements. Multifunctional transport and storage packaging.

Execution:
- Easy to fold

Advantage:
- Excellent price/performance ratio
- Modular dimensions tailored to pallet dimensions
- Environmentally friendly as largely made from recycled paper
- Delivered flat to save space

Technical data:
- Corrugated cardboard design: Single-fluted
- Wave type: C
- Number of pieces per packet: 60 PCS

Internal length (mm)		185	225	302	385	385	440
Internal width (mm)		185	185	215	225	285	340
Interior height (mm)		100	130	290	160	200	320
Corrugated cardboard type		1:20	1:20	1.30	1.30	1.30	1.30
Weight (kg)		6.000	6.000	16.000	13.400	1.200	0.539
50007...	Ident. No.	830 ○	831 ○	833 ○	834 ○	835 ○	837 ○

Prod. Gr. 504

Folding cardboard boxes made of corrugated cardboard

Double-fluted

Application:
For storing packaged goods during transport, can be used to display advertisements. Multifunctional transport and storage packaging.

Execution:
- Robust, double-fluted cardboard
- Easy to fold

Advantage:
- Excellent price/performance ratio
- Modular dimensions tailored to pallet dimensions
- Environmentally friendly as largely made from recycled paper
- Delivered flat to save space

Technical data:
- Corrugated cardboard design: Double-fluted

Internal length (mm)		280	320	380	380	400	480	685	1180
Internal width (mm)		180	230	230	280	320	280	385	780
Interior height (mm)		180	160	170	280	210	230	380	550
Corrugated cardboard type		2.20	2.30	2.30	2.30	2.30	2.30	2.30	2.92
Wave type		BC	BC	BC	BC	BC	BC	BC	BA
Number of pieces per packet (PCS)		60	20	60	60	60	20	30	30
Weight (kg)		0.230	0.310	0.330	0.500	0.500	5.000	1.120	8.970
50007...	Ident. No.	800 ○	801 ●	803 ○	804 ○	806 ●	808 ○	815 ○+	820 ●

Prod. Gr. 504

Pallet boxes made of corrugated cardboard

Double-fluted

Application:
For transporting lightweight small parts easily on pallets.

Execution:
- Dimensions tailored to Euro pallet dimensions
- Sturdy double-fluted corrugated cardboard
- With practical loading flap

Advantage:
- Economical alternative to plastic versions
- Stable and durable
- Easy to load and unload thanks to ergonomic loading flap

Technical data:
- Internal length: 1180 mm
- Internal width: 780 mm
- Corrugated cardboard design: Double-fluted
- Number of pieces per packet: 10 PCS

Interior height (mm)		765	765	1065
Corrugated cardboard type		2.40	2.92	2.40
Wave type		BC	BA	BC
Weight (kg)		4.500	10.240	5.400
50007...	Ident. No.	845 ○	846 ○	847 ○

Prod. Gr. 504

NT Cutter Safety carton opener

Application:
For opening cardboard boxes, undoing packaging straps and films, and for pulling out packaging staples.

Execution:
- High-quality, ergonomically shaped plastic handle
- Replaceable blade

Advantage:
- Metal bow with internal blade protects the package contents from being damaged

Length (mm)		195
Blade width (mm)		10
53651...	Ident. No.	010 ●

Prod. Gr. 566

Accessories for		53651 010
53651... Spare blades, pack of 10 For safety box cutter art. no. 53651010	Ident. No.	100 ●

Edge protectors

made of elastic, sturdy PE

Application:
To protect the edges of transported goods and as a base for strapping band.

Execution:
- Robust edge protection angles made of plastic
- For band widths up to 23.5 mm

Advantage:
- Protects edges against damage from denting
- Increased safety by diverting forces into the strapping band

Technical data:
- Limb length: 40 mm
- Limb length 2: 40 mm
- Length: 41 mm
- Material: PE - Polyethylene
- Number of pieces per packet: 2000 PCS

50007...	Ident. No.	289 ●

Prod. Gr. 504

Edge protectors

made of 3 mm solid cardboard

Application:
To protect packaging, prevents the denting of light-weight goods, stabilises pallets, prevents strapping bands cutting into the packaged goods.

Execution:
- Made of cardboard (recycled paper)
- Can be stacked (nested)

Advantage:
- Easy to apply
- Saves storage space
- 100% recyclable
- Also available in a thinner version

Technical data:
- Material thickness: 3 mm
- Material: Cardboard

Limb length (mm)		50	50	50	60
Limb length 2 (mm)		50	50	50	60
Length (mm)		100	700	1100	700
Number of pieces per packet (PCS)		2500	72	72	72
50007...	Ident. No.	291 ●+	292 ●	293 ●	294 ○

Prod. Gr. 504

Stacking protection stand-up display

3 pieces made of corrugated cardboard

Application:
Pallet marker to prevent the stacking of several pallets on top of each other.

Execution:
- Inscription: Bitte nicht stapeln – Do not stack
- Colour: red/white
- Corrugated cardboard quality 1.20 B
- Dimensions 155 x 155 x 210 mm

Advantage:
- Environmentally-friendly
- Flat delivery in sheets saves space

Delivery:
Sheet (perforated) with 3 pallet stand-up displays

50007...	Ident. No.	311 ○

Prod. Gr. 504

Film bag

made of PE, with press-down closure and labelling field

Application:
For storing small parts.

Execution:
- Resealable and reusable
- Made of polyethylene

Advantage:
- Can be re-used
- High transparency
- Food-grade
- Robust

Technical data:
- Foil thickness: 50 µm
- Colour: Transparent
- Number of pieces per packet: 1000 PCS

Length (mm)		100	150	170	220	300
Width (mm)		70	100	120	160	200
50007...	Ident. No.	500 ●	501 ●	502 ●	503 ●	504 ●

Prod. Gr. 586

Film bag

made of PE, with press-down closure

Application:
For storing small parts.

Execution:
- Resealable and reusable
- Made of polyethylene
- Packing unit: 1000 pieces

Advantage:
- Can be re-used
- High transparency
- Food-grade
- Robust

Technical data:
- Foil thickness: 50 µm
- Colour: Transparent
- Number of pieces per packet: 1000 PCS

Length (mm)	Width (mm)	50007... Ident. No.	
100	70	530	●
120	80	531	●
150	100	532	●
170	120	533	●
220	150	534	●
220	160	535	●

Length (mm)	Width (mm)	50007... Ident. No.	
250	180	536	●
300	200	537	●
310	220	538	●
350	250	539	●
450	350	540	●

Prod. Gr. 586

Packing foam film

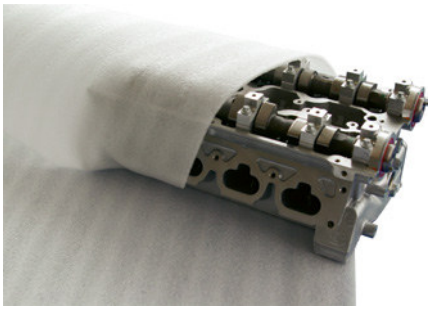
On roll, made of PE

Application:
For protecting edges and surfaces and as insulation and padding. Anti-slip insert layer, insulating and vibration-reducing.

Execution:
- Closed-cell, non-polymerised, foamed white padding material made of LDPE (Low Density Polyethylene)
- Extremely resistant to solvents, fuels, oils and other chemicals
- CFC-free foamed, colour white

Advantage:
- Many different uses, elastic, flexible
- Odour-neutral, water-resistant
- Dirt-resistant, dust-free, lightweight and heat-sealable
- Excellent padding properties

Technical data:
- Width: 1250 mm
- Colour: White



Length (m)		500	350	250	175	100
Material thickness (mm)		1.0	1.5	2.0	3.0	5.0
50007...	Ident. No.	557 ○	558 ○	559 ○	576 ●	577 ○

Prod. Gr. 504

Bubble wrap, perforated

On roll, made of PE

Application:
For secure packaging, for use as padding and protection for large, impact- and pressure-sensitive goods and scratch-sensitive areas.

Execution:
- Thickness 75 µ
- Perforated every 400 mm

Technical data:
- Length: 100 m
- Material: PE - Polyethylene

Width (mm)		500	1000
50007...	Ident. No.	590 ●+	591 ●

Prod. Gr. 586

Packing foam film in dispenser box

On roll, made of PE

Application:
For protecting edges and surfaces and as insulation and padding. Anti-slip insert layer, insulating and vibration-reducing.

Execution:
- On rollers, perforated at every 300 mm

Advantage:
- Many different uses, elastic, flexible
- Odour-neutral, water-resistant
- Dirt-resistant, dust-free, lightweight and heat-sealable
- Excellent padding properties

Delivery:
2 boxes with 1 roll each

Technical data:
- Length: 0.08 m
- Width: 285 mm
- Material thickness: 2.0 mm
- Colour: White

50007...	Ident. No.	595 ●

Prod. Gr. 586

Pallet cover sheets

On roll, made of LDPE film

Application:
For protected goods on pallets from above, stretched and laid on the pallet (top sheet).

Execution:
- Transparent, tear-proof LDPE cover sheets made of polyethylene
- With perforations for manual use

- Sheet dimensions: 1200 x 1600 mm
- Thickness 25 µm
- Packing unit: 1 roll with 300 sheets

Advantage:
- Easy to use thanks to perforations
- Protection against damp, dirt and dust

50007...	Ident. No.	665 ●

Prod. Gr. 586

Bubble wrap

On roll, made of PE

Application:
For secure packaging, for use as padding and protection for large, impact- and pressure-sensitive goods and scratch-sensitive areas.

Execution:
- Modern two-layered material of high-quality, environmentally friendly plastic
- Many small air bubbles absorb impact and pressure
- Tough, tear-resistant, waterproof, sealable, dust-resistant and watertight
- Insulates against extreme cold and heat

Advantage:
- For simple and versatile use
- Lightweight and safe padding material
- Tough, tear-resistant, waterproof, sealable
- Physiologically safe pursuant to Food Safety Act

Technical data:
- Number of plies: 2 PCS
- Bubble diameter: 10 mm
- Material: PE - Polyethylene

Foil thickness (µm)		60	75	75	75	75	125	100	125	75
Length (m)		100	100	100	50	100	50	100	100	50
Width (mm)		1200	1000	1200	1200	1500	1200	1200	1200	500
Number of pieces per packet (PCS)		1	1	1	1	1	1	1	1	3
50007...	Ident. No.	586 ○	588 ●	589 ○	592 ○	593 ○+	596 ○	597 ●	598 ○	587 ○

Prod. Gr. 504

Set of miniature rolls of stretch film

30 rolls, pre-stretched, 10 µm thick

Application:
For bundling, fixing, sealing and binding.

Execution:
- Pre-stretched mini hand-stretch film

Advantage:
- For universal use
- Easy to use
- Environmentally friendly due to lack of cardboard core
- Integrated thumb brake for optimum tensioning

Delivery:
Including 2 dispensers and cardboard box with 30 rolls each

Technical data:
- Foil thickness: 10 µm
- Length: 300 m
- Width: 85 mm
- Colour: Transparent

50007...	Ident. No.	641 ●

Prod. Gr. 504

Set of miniature rolls of stretch film

40 rolls, thickness 20 µm

Application:
For bundling, fixing, sealing and binding.

Execution:
- Traditional mini hand-stretched film

Advantage:
- For universal use
- Easy to use
- Integrated thumb brake for optimum tensioning

Delivery:
Including 1 dispenser and cardboard box with 40 rolls each

Technical data:
- Foil thickness: 20 µm
- Length: 150 m
- Width: 100 mm
- Colour: Transparent

50007...	Ident. No.	642 ●

Prod. Gr. 504

Hand dispenser for stretch films

Application:
For manual stretching over pallets.

Execution:
- Easily adjustable resistance brake
- Chrome-plated
- For a roll of up to 500 mm width

Advantage:
- Rapid, simple and safe handling of stretch films
- Avoid “hot hands”

Hand roller (without film)

50007...	Ident. No.	676 ●

Prod. Gr. 504

Stretch film to be unrolled by hand

On roll, pre-stretched, 500 mm wide

Application:
For the securing of loads on pallets, protection against damp, dirt and dust. Can be used as a wrapping or banding foil.

Execution:
- Stretch film optimally pre-stretched by machine
- Turned film edges to increase resistance
- Slippery outer side available in order to avoid pallets sticking to each other in trucks
- Must be wound with only minimal tension
- Reset forces are released after unwrapping (memory effect)
- Increased puncture resistance combined with reduced film thickness
- Good adhesion properties, high transparency, good tear propagation strength

Advantage:
- Easier to use since rolls are extremely light
- Avoids fatigue-inducing bending
- Higher working speed and less effort required
- Improved load unit securing thanks to higher retention forces
- Prevents pallets from sticking to each other

Technical data:
- Foil thickness: 8 µm
- Length: 600 m
- Width: 430 mm
- Colour: Transparent
- Number of pieces per packet: 6 PCS

50007...	Ident. No.	639 ●

Prod. Gr. 504

Stretch film to be unrolled by hand

On roll, width 500 mm

Application:
For securing loads on pallets and protecting against damp, dirt and dust. Can be used as a wrapping or banding foil.

Execution:
- Manual stretch foils with good adhesive properties (one-sided)
- Highly transparent, good tear resistance and stretch
- Thin but with good puncture resistance
- Environmentally-friendly, harmless to groundwater and recyclable

Advantage:
- Easy to use
- Excellent mechanical properties
- Secures pallets reliably

Technical data:
- Length: 270 m
- Width: 500 mm
- Number of pieces per packet: 6 PCS

Foil thickness (µm)		17	20	20	23
Colour		Transparent	Transparent	Black	Transparent
50007...	Ident. No.	761 ●	762 ●	763 ●	764 ●

Prod. Gr. 504

OLFA CUTTERS & KNIVES Film cutter

Application:
For cutting close-fitting film without damaging the material underneath.

Execution:
- Safety knife with concealed blade
- Ergonomically shaped plastic handle

Advantage:
- Blade is easy to replace using snap-open mechanism

Length (mm)		160
Blade width (mm)		10
53651...	Ident. No.	200 ●

Prod. Gr. 566

Accessories for		53651 200
53651... Spare blades, pack of 10 For film cutters no. 53651 200	Ident. No.	210 ●

GOT BIG PLANS?
WE WELCOME THE CHALLENGE.
OUR SPECIALIST ADVISERS PLAN EVERYTHING DOWN TO THE LAST DETAIL AND CAN HELP YOU WITH SELECTING, PLANNING AND IMPLEMENTATION.
07
06
05
04
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FETRA transport devices – professional “Made in Germany” quality

FETRA is a family run company proud of its German credentials.
FETRA transport devices, with one or two exceptions, are built in Germany using cutting edge and environmental friendly manufacturing technology. The company is committed to maintaining its production facilities in Germany!

fetra Transportgeräte

Wooden flooring in absolute furniture quality.
No unconcealed trimmed edges, no weakening or splitting of flooring, no risk of injury, great look and feel. All steel surfaces are optimally prepared with shot-blasting. Produces perfect adhesion of high-quality powder coating. This lavish finish guarantees longevity and a great enduring visual appearance!

Virtually all FETRA brand transport carts are equipped with specially engineered TPE tyres as standard.
- Very low starting, rolling and swivelling resistance
- Quiet movement over level surfaces
- Traceless, non-chalking
- Maintenance-free deep groove ball bearings and thread protection
- PAK-compliant in accordance with EU ordinance 1272/2013 in force since 2015

10-year Fetra quality guarantee!
FETRA transport devices are highly efficient and are precision-manufactured in state-of-the-art production facilities. High-quality materials and discernibly clean workmanship guarantee maximum quality at market-driven prices! Sound investment owing to 10-year Fetra quality guarantee.

TOTALSTOP central brake system for simple and secure locking of both steering wheels with just one step.
- Brake pedal always within the operator’s field of vision
- Can be actuated in any running position
- Works with all tyre materials, very easy to adjust
- Swivelling movement and wheel turning simultaneously blocked
- Innovative, comfortable, ergonomic and secure

{78}Perfect link{79} between base cart and superstructure with ingenious FETRA plug and screw principle with two-point bearing. Variability of a modular system with the robustness of a welded construction!

Order the TOTALSTOP central brake system at the same time as your transport device.
Look out for the TOTALSTOP symbol
See page page 2060 for appropriate order numbers

Total stop brake for FETRA transport devices

Application:
Alternative brake for transport trolleys. Locks two castors simultaneously with just one foot action. Suitable for all trolleys with technical characteristics: TOTALSTOP optional: Yes.

Execution:
- Placed centrally on the trolley
- Wheel block made of rubber

Advantage:
- The wheel rotation and swivel motion of both castors can be locked with a single touch of the foot
- The brake pedal always remains within the operator’s field of vision.
- Braking possible in every castor position
- Easy-release brake thanks to high pedal ground clearance
- Optimum braking performance on all tyre materials, easy to adjust

50268...	Ident. No.	609 ●

Prod. Gr. 5AB

Zinc-plated pallet trolleys with corner braces
Load capacity: 800 kg

Application:
Ident. No. 177–193, 212: Easy and safe transport of Euro pallets and crates.
Ident. No. 195: Ideal for the transport for Euro half pallets and Euroboxes.
Ident. No. 214: Ideal for the transport of Euro half pallets, Euroboxes and crates

Execution:
- **Ident. No. 177:**
  - Galvanised and securely welded pallet carriage with pallet holder
  - 2 fixed castors and 2 swivel castors made of solid rubber, 200 x 50 mm
- **Ident. No. 193:** Zinc-plated and securely welded pallet carriage with pallet holder
- **Ident. No. 193, 212:** 2 fixed wheels and 2 castors made of solid rubber, 200 x 50 mm
- **Ident. No. 195, 214:** High-quality and long-lasting zinc plating
- **Ident. No. 212:** Height-adjustable from 655-835 mm
- **Ident. No. 214:** Height adjustment range: 655-835 mm

Advantage:
- **Ident. No. 195, 214:** Supports more efficient material transport
- **Ident. No. 212:** Ergonomic - adjustable working height
- **Ident. No. 214:** Ergonomics - height-adjustable

Technical data:
- Load-carrying capacity: 800 kg
- Material: Steel / steel
- Material of loading surface: Steel frame
- Colour: Silver coloured
- Surface: Zinc plated
- Number of steering rollers: 2
- Number of fixed rollers: 2
- ESD-capable: No
- Wheel diameter: 200 mm
- Material of wheel: Solid rubber

Ident. No. 195

Ident. No. 214

Ident. No. 177

Ident. No. 193

Ident. No. 212

								With wheel lock	Yes
Type	Length (mm)	Width (mm)	Height (mm)	Loading surface length (mm)	Loading surface width (mm)	Min. height adjustment (mm)	Max. height adjustment (mm)	50291... Ident. No.	
high	846	646	700	800	600	-	-	195	○
Height-adjustable	846	646	704	800	600	655	830	214	○+
high	1246	846	700	1200	800	-	-	193	○+
Height-adjustable	1246	846	705	1200	800	655	835	212	○+
low	1246	846	355	1200	800	-	-	177	○

Prod. Gr. 5AT

Running gear for Euronorm pallets (EN standard 1757-3)

Angle steel, load capacity of up to 2,200 kg

Application:

No. 50257 146–50257 150, 50267 146, 50267 148, 50267 150: For transporting Euro pallets and Euro crates

No. 50267 145, 50267 147, 50267 149: For transporting half pallets and Euroboxes

Execution:

- Robust welded angular steel construction with four corner braces
- High-quality powder coating
- Two swivel castors and two fixed castors
- Locking device on the swivel castors in accordance with EN 1757-3

Advantage:

- Low breakaway, rolling and swivelling resistance

Technical data:

- Material of loading surface: Angle steel
- Surface: Powder-coated
- Number of steering rollers: 2
- Number of fixed rollers: 2
- ESD-capable: No
- Wheel diameter: 200 mm
- Total stop optional: Yes

No. 50257 148

No. 50257 150

No. 50267 148

						With wheel lock	Yes		Yes	
Load-carrying capacity (kg)	Loading surface length (mm)	Loading surface width (mm)	Colour	Material of wheel	Underride height (mm)	50267... Ident. No.			50257... Ident. No.	
750	810	610	Brilliant blue RAL 5007	TPE	329	145	●+		-	-
1050	810	610	Brilliant blue RAL 5007	PA - Polyamide	329	147	●+		-	-
1200	810	610	Brilliant blue RAL 5007	Elastic solid rubber	329	149	●+		-	-
750	1210	810	Brilliant blue RAL 5007	TPE	-	146	●+		-	-
1050	1210	810	Brilliant blue RAL 5007	PA - Polyamide	-	148	●+		-	-
1200	1210	810	Brilliant blue RAL 5007	Elastic solid rubber	-	150	●+		-	-
750	1210	810	Anthracite grey RAL 7016	TPE	-	-	-		146	○+
1050	1210	810	Anthracite grey RAL 7016	PA - Polyamide	-	-	-		148	○+
1200	1210	810	Anthracite grey RAL 7016	Elastic solid rubber	-	-	-		150	○+

50267... = Prod. Gr. 5AB
50257... = Prod. Gr. 5AE

Mounting frame for pallet running gear

Height 140 mm, 270 mm and 370 mm

Application:
For placing flat pallets and crates at a reasonable ergonomic height.

Execution:
- Welded angular steel frame structure with corner braces
- Sturdy support tubes with base plates; can be inserted into tubular sleeves on the corners of the mounting frame

Notes:
The mounting frames can be securely screwed to the pallet truck via the base plates using the mounting hardware (included in the scope of delivery).

Loading surface length (mm)			810	1210	810	1210	810	1210
Loading surface width (mm)			610	810	610	810	610	810
Height (mm)			140	140	270	270	370	370
Load-carrying capacity (kg)			1200	1200	1200	1200	1200	1200
Colour			Brilliant blue RAL 5007	Brilliant blue RAL 5007	Brilliant blue RAL 5007	Brilliant blue RAL 5007	Brilliant blue RAL 5007	Brilliant blue RAL 5007
Surface			Powder-coated	Powder-coated	Powder-coated	Powder-coated	Powder-coated	Powder-coated
	Loading surface size							
50267...	810 x 610 mm	Ident. No.	153 ●	-	155 ●	-	157 ●	-
50267...	1210 x 810 mm	Ident. No.	-	154 ●	-	156 ●	-	158 ●

Prod. Gr. 5AB

ProfiPlus transport roller made of plastic

For Euro formats: 600 x 400 mm or 2x 400 x 300 mm

Application:
Transport roller for common Euro containers

Execution:
- Load-bearing capacity 300 kg, with even load
- 4 ball-bearing-mounted castors with light grey solid rubber binding

Advantage:
- Quiet-running wheels, no tracks

Technical data:
- Material of loading surface: Plastic
- Height: 170
- Load-carrying capacity: 300 kg
- Loading surface height: 145 mm
- Number of steering rollers: 4
- Length: 615
- Width: 415
- Wheel diameter: 100 mm
- Material of wheel: Rubber

Ident. No. 500

Ident. No. 503

Ident. No. 506

Ident. No. 509

With wheel lock		No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Colour		Blue	Blue	Blue	Red	Red	Red	Blue	Blue	Blue	Red	Red	Red
Number of pieces per packet		1	2	-	1	2	-	1	2	-	1	2	-
Number of pieces per pallet		-	-	36	-	-	36	-	-	36	-	-	36
50242...	Ident. No.	500 ○	501 ○	502 ○	503 ○	504 ○	505 ○	506 ○	507 ○	508 ○	509 ○	510 ○	511 ○

Prod. Gr. 5AU

Transport roller made of plastic, load capacity 300 kg

For Euro formats: 600 x 400 mm or 2x 400 x 300 mm

Application:
Load capacity 300 kg, with even load distribution

Execution:
- 4 ball bearing swivel castors, 100 mm TPE graphite grey

Advantage:
- Transport roller for common Euro containers

Technical data:
- Material of loading surface: Plastic
- Loading surface size: 600 x 400 mm
- Height: 195 mm
- Load-carrying capacity: 300 kg
- Loading surface height: 195 mm
- Number of steering rollers: 4
- Length: 600 mm
- With wheel lock: No
- Wheel diameter: 100 mm
- Material of wheel: TPE

Ident. No. 004

Ident. No. 005

Width		400 m	400 mm
Colour		Flame red RAL 3000	Gentian blue RAL 5010
50190...	Ident. No.	004 ○	005 ○

Prod. Gr. 5AV

Transport dolly for crates (EN standard 1757-3)

Platform made of steel or wood, load capacity 400 kg

Application:
Ident. No. 127: For transporting crates, parcels, bulky and heavy goods

Execution:
- **Ident. No. 128:** Load area made of wooden plate covered in ribbed rubber
- **Ident. No. 128–130:** Two castors with brake, in accordance with EN 1757-3
- **Ident. No. 128–131:** Made of angular steel, welded and powder-coated
- **Ident. No. 130:** Load area made of wooden plate, beech finish on surface
- **Ident. No. 131:**
  - Welded construction with steel checker plate platform
  - Two castors with brake, in accordance with EN 1757-3

Advantage:
- **Ident. No. 127:**
  - Easy to manoeuvre thanks to high-quality castors
  - For universal use

Technical data:
- Load-carrying capacity: 400 kg
- Loading surface size: 500 x 500 mm
- With wheel lock: Yes
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Colour: Brilliant blue RAL 5007
- Surface: Powder-coated

Ident. No. 127

Ident. No. 128

Ident. No. 130

Ident. No. 131

Material of loading surface		-	Wood with ribbed rubber	Wood	Corrugated sheet metal
Loading surface height		183 mm	201 mm	199 mm	185 mm
Number of fixed rollers (PCS)		-	-	-	0
Number of steering rollers (PCS)		4	4	4	4
Length (mm)		-	-	500	-
Width (mm)		-	500	500	-
Total stop optional		-	No	-	No
50267...	Ident. No.	127 ●	128 ●	130 ●	131 ●

Prod. Gr. 5AB

Tyre trolley (EN standard 1757-3)

TYRE TROLLEY

Application:
Clever roller for easy transport and effective storage of wheels and tyres from cars to SUVs

Execution:
- Platform made of glass-fibre-reinforced polypropylene.
- Designed for 8 tyres or 4 complete wheels.
- Practical material trough for storing small parts.
- Easy and secure stacking.
- Compatible with FETRA tyre carts.

Technical data:
- Material of loading surface: Polypropylene, fibreglass-reinforced
- With handle: No
- Number of steering rollers: 4
- With wheel lock: Yes
- Total stop optional: No
- Wheel width: 25 mm
- Colour of loading area: Blue
- Colour: Blue

Ident. No. 048

Load-carrying capacity (kg)		120	180
Loading surface height		110 mm	140 mm
Height (mm)		110	140
Wheel Ø (mm)		75	100
Material of wheel		TPE	Solid rubber
50267...	Ident. No.	**048** ○	**049** ○

Prod. Gr. 5AB

hand trolley (EN standard 1757-3)

Application:
For transporting crates.

Execution:
- Made of steel tube with steel tube handle
- Platform made of derived timber material board in frame, beech decor surface
- Bolted-on handle, grip area with blue plastic coating
- Thermoplastic rubber tyres, non-chalking
- Plastic rims with precision deep groove ball bearings and thread guards

Advantage:
- One-handed sliding handle for ergonomic transport
- Elegant HK design

Delivery:
Disassembled

Technical data:
- Load-carrying capacity: 250 kg
- Loading surface length: 605 mm
- Loading surface width: 410 mm
- Loading surface height: 185 mm
- Colour: Anthracite grey RAL 7016
- Material of loading surface: Wood composite board
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Material of wheel: TPE
- With wheel lock: Yes
- With handle: Yes
- Surface: Powder-coated

50269...	Ident. No.	**132** ●

Prod. Gr. 504

fetra Transportgeräte **Transport dolly for Euro-standard crates** (EN standard 1757-3)

Plastic, load capacity 250 kg

Application:
For transporting Euronorm containers.

Execution:
- Plastic, load-bearing capacity 250 kg

Advantage:
- Safe transport of Euronorm containers thanks to precisely dimensioned frame
- extremely flexible thanks to low tare weight

Technical data:
- Material of loading surface: Plastic
- Loading surface size: 605 x 405 mm
- Load-carrying capacity: 250 kg
- Loading surface height: 145 mm
- Number of fixed rollers: 0 PCS
- Number of steering rollers: 4 PCS
- With wheel lock: Yes
- Total stop optional: No
- Wheel width: 35 mm
- Wheel diameter: 100 mm
- Material of wheel: PA - Polyamide
- Colour: Blue

50267...	Ident. No.	**133** ●

Prod. Gr. 5AB

fetra Transportgeräte — Transport dolly for Euro-standard crates (EN standard 1757-3)

Angle steel, load capacity 250 kg

Application:
For transport Euronorm containers, for constant industrial use.

Execution:
- Angle steel, load-bearing capacity 250 kg

Advantage:
- Safe transport of Euronorm containers thanks to precisely dimensioned frame
- Durable thanks to robust design

Technical data:
- Material of loading surface: Angle steel
- Load-carrying capacity: 250 kg
- Loading surface height: 182 mm
- Number of steering rollers: 4
- With wheel lock: Yes
- Total stop optional: No
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Surface: Powder-coated

Loading surface size		605 x 405 mm	605 x 405 mm	810 x 610 mm
Colour		Anthracite grey RAL 7016	Brilliant blue RAL 5007	Brilliant blue RAL 5007
50257...	Ident. No.	**135** ○	-	-
50267...	Ident. No.	-	**135** ●	**136** ●

50267... = Prod. Gr. 5AB
50257... = Prod. Gr. 5AE

Trolley for Euro-standard crates (EN standard 1757-3)

Application:
For transporting Euronorm containers or as a serving trolley for small parts in production and assembly.

Version:
- Welded angular steel frame
- Suitable for Euro-standard crates 600 x 400 mm
- Load areas made of engineered wood, edge 10 mm
- Clear shelf distance 400 mm
- Thermoplastic rubber tyres, grey, non-marking
- Plastic rims with precision deep groove ball bearings and thread guards

Advantage:
- Ideal combination of transport trolley and serving trolley
- Robust design
- Elegant HK design

Delivery:
disassembled

Technical data:
- Load-carrying capacity: 250 kg
- Load-carrying capacity of loading surfaces: 80 kg
- Length: 675 mm
- Width: 415 mm
- Height: 635 mm
- Material of loading surface: Wood composite board
- Loading surface length: 605 mm
- Loading surface width: 410 mm
- Number of loading surfaces: 2
- Colour: Anthracite grey RAL 7016
- Number of steering rollers: 4
- Wheel diameter: 125 mm
- Material of wheel: TPE
- With wheel lock: Yes
- Surface: Powder-coated

Ident. No. 139

Ident. No. 138

Type		Without push handle	With push handle
50269...	Ident. No.	**138** ○	**139** ●

Prod. Gr. 504

fetra Transportgeräte Platform trolley with push handle, folding (EN standard 1757-3)

Platform made of sheet steel, load capacity 150 kg and 250 kg

Application:
For goods and materials which need to be transported in a car or van, if the trolley is not constantly in use and needs to be stored on a temporary basis.

Execution:
- with affixed non-slip mat and all-round protective strip
- Foldable tubular push handle with broad crossbar
- Folding hinge bright galvanised

Advantage:
- takes up very little storage space thanks to fold-up sliding handle
- Economical design

Technical data:
- Design: With hinged bow handle
- Material of loading surface: Steel plate
- Colour: Brilliant blue RAL 5007
- Surface: Powder-coated
- Number of steering rollers: 2 PCS
- Number of fixed rollers: 2 PCS
- Material of wheel: Solid rubber
- Total stop optional: No

Loading surface size			740 x 480 mm	910 x 610 mm
Load-carrying capacity (kg)			150	250
Length (mm)			760	920
Width (mm)			495	630
Height (mm)			860	890
Loading surface length (mm)			740	910
Loading surface width (mm)			480	610
Wheel Ø (mm)			100	125
	With wheel lock			
50268...	Yes	Ident. No.	564 ●	565 ●

Prod. Gr. 5AB

fetra Transportgeräte Platform trolley with push handle, folding (EN standard 1757-3)

Platform made of plastic, load capacity 200 kg

Application:
For goods and materials which need to be transported in a car or van, if the trolley is not constantly in use and needs to be stored on a temporary basis.

Execution:
- Tubular push handle, folding with wide cross strut
- Folding hinge bright galvanised

Advantage:
- Low folding dimensions thanks to sliding handle
- Durable plastic platform
- Trolley with low tare weight but high carrying capacity

Technical data:
- Loading surface size: 810 x 500 mm
- Load-carrying capacity: 200 kg
- Design: With hinged bow handle
- Length: 815 mm
- Width: 540 mm
- Height: 890 mm
- Material of loading surface: Plastic
- Colour: Blue
- Surface
- Number of steering rollers: 2 PCS
- Number of fixed rollers: 2 PCS
- Wheel diameter: 125 mm
- Material of wheel: Solid rubber
- Total stop optional: No
- With wheel lock: Yes

	With wheel lock		
50268...	Yes	Ident. No.	566 ●

Prod. Gr. 5AB

fetra Transportgeräte Platform trolley with push handle

Wooden platform, load capacity 250 kg

Application:
For transporting goods and materials.

Execution:
- Steel tube, welded construction
- Push handle

Advantage:
- Durable even under heavy loads thanks to robust design
- Elegant frame design thanks to rounded corners

Technical data:
- Material of loading surface: Wood composite board
- Height: 910 mm
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel diameter: 125 mm
- Wheel width: 32 mm
- Material of wheel: TPE
- Surface: Powder-coated

Design				With bow handle	-	-	-
Colour				Brilliant blue RAL 5007	Brilliant blue RAL 5007	Anthracite grey RAL 7016	Anthracite grey RAL 7016
Colour of loading area				Beech	Beech	Medium grey	Medium grey
Loading surface length (mm)				850	1000	850	1000
Loading surface width (mm)				450	600	450	600
Load-carrying capacity (kg)				250	300	250	250
Loading surface height				206 mm	233 mm	206 mm	233 mm
Length (mm)				1100	1250	1100	1250
Width (mm)				450	600	450	600
	Colour	Colour of loading area					
50268...	Brilliant blue RAL 5007	Beech	Ident. No.	579 ●	580 ●+	-	-
50258...	Anthracite grey RAL 7016	Medium grey	Ident. No.	-	-	579 ○	580 ○

50268... = Prod. Gr. 5AB
50258... = Prod. Gr. 5AE

Platform trolley with push handle (EN standard 1757-3)

Platform made of durable hard PVC

Application:
For transporting heavy, bulky goods and materials, for continuous use in industrial applications.

Execution:
- construction kit system, can be completely fixed with screws
- steel tube/profile steel welded
- Weather-resistant rigid PVC board, dark grey
- Platform flush with frame
- Highly chemical-resistant, flame-resistant

Advantage:
- Robust design and high load capacity ensure a long service life even when used for high industrial loads
- FETRA plug-and-screw design allows trolleys and accessories to be altered easily

Technical data:
- Material of loading surface: Polyvinyl chloride - PVC hard
- Colour: Brilliant blue
- Surface: Powder-coated
- Number of steering rollers: 2
- Number of fixed rollers: 2
- ESD-capable: No
- Material of wheel: TPE
- Total stop optional: Yes
- Number of loading surfaces: 1
- Colour of loading area: Medium grey

Loading surface size			850 x 500 mm	1000 x 600 mm	1000 x 700 mm	1200 x 800 mm
Load-carrying capacity (kg)			500	600	600	600
Length (mm)			975	1125	1125	1325
Width (mm)			509	609	709	809
Height (mm)			948	990	990	990
Loading surface length (mm)			850	1000	1000	1200
Loading surface width (mm)			500	600	700	800
Wheel Ø (mm)			160	200	200	200
Underride height (mm)			188	230	230	230
	With wheel lock					
50268...	Yes	Ident. No.	706 ○	707 ○+	708 ○+	709 ○+

Prod. Gr. 5AB

Platform trolley with push handle

Platform made of wood, load capacity 500 kg and 600 kg

Application:
For transporting heavy, bulky goods and materials, for permanent use in industrial applications.

Execution:
- Module system, can be completely fixed with screws
- Other tyres upon request
- **No. 50258 581, 50268 582–50268 584:** Welded steel tube/profile steel
- **No. 50258 582–50268 581:** Steel tube/profile steel welded

Advantage:
- FETRA plug-and-screw design allows simple changes to the trolley and accessories
- **No. 50258 581, 50268 582–50268 584:** Robust design and high load capacity ensure a long service life even when used for industrial loads
- **No. 50258 582–50268 581:** Robust design and high carrying capacity ensure a long service life even when used for industrial loads

Technical data:
- Material of loading surface: Wood composite board
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 40 mm
- Material of wheel: TPE
- Surface: Powder-coated

Colour				Brilliant blue RAL 5007	Brilliant blue RAL 5007	Brilliant blue RAL 5007	Brilliant blue RAL 5007	Anthracite grey RAL 7016	Anthracite grey RAL 7016	Anthracite grey RAL 7016	Anthracite grey RAL 7016
Colour of loading area				Beech	Beech	Beech	Beech	Medium grey	Medium grey	Medium grey	Medium grey
Loading surface length (mm)				850	1000	1000	1200	850	1000	1000	1200
Loading surface width (mm)				500	600	700	800	500	600	700	800
Load-carrying capacity (kg)				500	600	600	600	500	600	600	600
Loading surface height				228 mm	270 mm	270 mm	270 mm	228 mm	270 mm	270 mm	270 mm
Length (mm)				975	1125	1125	1325	975	1125	1125	1325
Width (mm)				509	609	709	809	509	609	709	809
Height (mm)				948	990	990	990	948	990	990	990
Wheel Ø (mm)				160	200	200	200	160	200	200	200
	Colour	Colour of loading area									
50268...	Brilliant blue RAL 5007	Beech	Ident. No.	**581** ●+	**582** ●+	**583** ●+	**584** ●+	-	-	-	-
50258...	Anthracite grey RAL 7016	Medium grey	Ident. No.	-	-	-	-	**581** ○	**582** ○	**583** ○+	**584** ○+

50268... = Prod. Gr. 5AB
50258... = Prod. Gr. 5AE

RUXXAC by SECO Transportgeräte Dandy platform trolley

Platform with unique cross-shaped grid structure

Application:
Move heavy loads easily

Execution:
- Platform - unique cross-shaped grid structure
- Reduces the noise produced during travel, which may escape through the recesses of the platform
- Handle in the centre of the platform - easy transport
- Cross-shaped rubber coating on the platform - additional ability to secure the load during transport
- Screw-free wheel mounting
- The trolley can be folded easily with just a tap of the foot and stowed away effortlessly
- Accessories: Spannfix system, optionally available

Advantage:
- The trolley is both lightweight and strong
- Exceptionally smooth running
- Ergonomically shaped push handle
- Stackable - space-saving
- Non-marking wheels

Technical data:
- Material of loading surface: Plastic
- Number of steering rollers: 2
- Number of fixed rollers: 2
- ESD-capable: No
- Number of loading surfaces: 1
- Colour of loading area: Light grey

Ident. No. 082

Ident. No. 081

Loading surface size				670 x 465 mm	670 x 465 mm	865 x 605 mm	865 x 605 mm
Load-carrying capacity (kg)				180	180	330	330
Length (mm)				740	740	935	935
Width (mm)				465	465	605	605
Height (mm)				265	265	300	300
Wheel Ø (mm)				100	100	130	130
Material of wheel				TPE	TPE	Solid rubber	Solid rubber
Height (opened out) (mm)				895	895	935	935
Underride height (mm)				265	265	300	300
With wheel lock				No	Yes	No	Yes
		With wheel lock					
Dandy platform trolley	**50311...**	No	Ident. No.	**080** ○	-	**082** ○	-
	50311...	Yes	Ident. No.	-	**081** ○	-	**083** ○
Spannfix system, red	**50311...**		Ident. No.	**084** ○	**084** ○	**084** ○	**084** ○

Prod. Gr. 5AQ

Hybrid 2-in-1 platform trolley

With sack truck function

Application:
Move heavy loads easily

Execution:
- Folding sack truck - can also be used as a platform trolley
- Sack truck load capacity: 68 kg
- Platform trolley load capacity: 137 kg

Technical data:
- Loading surface size: 780 x 450 mm
- Load-carrying capacity: 137 kg
- Length: 780 mm
- Height: 920 mm
- Material of loading surface: Plastic
- Colour: Black | Blue
- Number of steering rollers: 2
- Number of fixed rollers: 2
- Height (opened out): 1100 mm
- Number of loading surfaces: 1
- With wheel lock: No

	With wheel lock		
50311...	No	Ident. No.	097 ○

Prod. Gr. 5AQ

Stainless steel platform trolley

Load capacity: 100 kg

Application:
Ideal for the versatile transportation of goods on site

Execution:
- Platform height 180 mm
- Loading area 820 x 520 mm
- 4 castors, including 2 with brake
- Wheel diameter 100 mm
- DIN EN ISO 9223
- C2 - EN 1.4372, AISI 201, 18/0

Advantage:
- Durable and rust-proof
- Space-saving thanks to folding push handle
- Quiet-running castors

Technical data:
- Loading surface size: 820 x 520 mm
- Load-carrying capacity: 100 kg
- Design: With hinged bow handle
- Length: 830 mm
- Width: 530 mm
- Height: 940 mm
- Loading surface length: 820 mm
- Loading surface width: 520 mm
- Material of loading surface: Stainless steel
- Colour: Silver coloured
- Number of steering rollers: 4
- Wheel diameter: 100 mm
- Material of wheel: Polyurethane
- Total stop optional: No
- Underride height: 180 mm

	With wheel lock		
50291...	Yes	Ident. No.	412 ○

Prod. Gr. 5AT

Platform trolley, load capacity 300 kg

With levelling system

Application:
Ergonomic and flexible trolley for many different applications

Execution:
- Maximum height of upper load area 810 mm
- Lowest height of upper load area 390 mm
- The upper load area automatically adjusts the height for loads between 0-90 kg
- The load area is at its lowest level when loaded with 90 kg

Advantage:
- Nestable = can be pushed into each other = saves space

Technical data:
- Load-carrying capacity: 300 kg
- Length: 960 mm
- Width: 525 mm
- Height: 1030 mm
- Colour: Silver coloured
- Number of steering rollers: 4 PCS
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Number of loading surfaces: 2 PCS
- Mandatory testing according to DGUV (UVV): No

50200...	Ident. No.	013 ○+

Prod. Gr. 5AT

Series 500 platform trolley

Load capacity: 500 kg

Version:
- Galvanised
- Load area, front and side walls made of melamine-coated MDF board

Technical data:
- Load-carrying capacity: 500 kg
- Material of loading surface: Medium density fibreboard
- Colour: Silver coloured
- Surface: Zinc plated
- Number of steering rollers: 2
- Number of fixed rollers: 2
- Wheel diameter: 200 mm
- Material of wheel: Solid rubber

Ident. No. 010

Ident. No. 014

Ident. No. 018

Ident. No. 022

Ident. No. 034

						With wheel lock	No		Yes	
Loading surface size	Type	Length (mm)	Width (mm)	Height (mm)	Loading surface length (mm)	Loading surface width (mm)	50250... Ident. No.		50250... Ident. No.	
1000 x 700 mm	Platform	1000	700	260	1000	700	010	○	011	○
1200 x 800 mm	Platform	1200	800	260	1200	800	012	○	013	○
1000 x 700 mm	With push handle	1000	700	900	1000	700	014	○	015	○
1200 x 800 mm	With push handle	1200	800	900	1200	800	016	○	017	○
1000 x 700 mm	With front wall	1000	700	900	1000	700	018	○	019	○
1200 x 800 mm	With front wall	1200	800	900	1200	800	020	○	021	○+
1000 x 700 mm	With front and rear wall	1000	700	900	1000	700	022	○	023	○+
1200 x 800 mm	With front and rear wall	1200	800	900	1200	800	024	○+	025	○+
1000 x 700 mm	With 2 longitudinal walls	1000	700	900	1000	700	034	○+	035	○+
1200 x 800 mm	With 2 longitudinal walls	1200	800	900	1200	800	036	○+	037	○+
1000 x 700 mm	With 200 mm box body	1000	700	900	1000	700	028	○+	029	○+
1200 x 800 mm	With 200 mm box body	1200	800	900	1200	800	032	○+	033	○+
1000 x 700 mm	With 400 mm box body	1000	700	900	1000	700	026	○+	027	○+
1200 x 800 mm	With 400 mm box body	1200	800	900	1200	800	030	○+	031	○+

Prod. Gr. 5AT

Platform trolley with 4 wire mesh walls (EN standard 1757-3)

Platform made of wood, load capacity 500 kg and 600 kg

Application:
For transporting heavy stackable parts, for permanent use in industrial applications.

Execution:
- Modular system, entirely screwed
- Steel tube/profile steel welded
- Front and longitudinal walls made of wire grid (50 x 50 x 4 mm)
- Wall height 500 mm
- Other tyres upon request

Advantage:
- Robust design and high carrying capacity ensure a long service life even when used for industrial loads
- FETRA plug-and-screw design allows simple changes to the trolley and accessories
- Robust external walls prevent loads from falling and protect them from external damage
- Removable longitudinal wall allows simple loading and unloading of the trolley

Technical data:
- Material of loading surface: Wood composite board
- Number of panels: 4 PCS
- Material of wall: Wire mesh
- Design: With walls
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 40 mm
- Material of wheel: TPE
- Surface: Powder-coated

Ident. No. 614

Load-carrying capacity (kg)			500	600	600	600
Loading surface size			850 x 500 mm	1000 x 600 mm	1000 x 700 mm	1200 x 800 mm
Loading surface height			228 mm	270 mm	270 mm	270 mm
Length (mm)			1030	1180	1180	1380
Width (mm)			509	609	709	809
Height (mm)			948	990	990	990
Loading surface length (mm)			850	1000	1000	1200
Loading surface width (mm)			500	600	700	800
Wheel Ø (mm)			160	200	200	200
	Colour					
50268...	Brilliant blue RAL 5007	Ident. No.	614 ●	615 ●	616 ●	617 ●

Prod. Gr. 5AB

Clax folding trolley

Complete with one folding box!

Application:
Picking trolley, lab trolley, shopping trolley, shelf trolley, serving trolley, mail distribution trolley, folding trolley for field service.

Version:
- Load capacity, upper shelf: 20 kg
- Load capacity, lower shelf: 40 kg
- Front wheel diameter: 90 mm, rear: 170 mm
- Durable plastic - aluminium construction
- Platform trolley with 2 levels

Advantage:
- Easy to unfold and fold together in just 2 seconds, using only a single button
- Transport standard folding boxes, beverage crates and much more
- Locking brake for safe loading and unloading
- Tie-down strap for securing the folding box to the upper shelf
- Firm stand when closed thanks to the support props

Technical data:
- Loading surface size: 505 x 355 mm
- Load-carrying capacity: 60 kg
- Length: 910 mm
- Width: 550 mm
- Height: 1030 mm
- Loading surface length: 505 mm
- Loading surface width: 355 mm
- Material of loading surface: Plastic
- Number of steering rollers: 2
- Number of fixed rollers: 2
- ESD-capable: No
- Material of wheel: Solid rubber
- Number of loading surfaces: 2

Ident. No. 031

Ident. No. 032

Ident. No. 033

Ident. No. 034

Ident. No. 035

Colour			Green	Red	Grey	Pink	Black
	With wheel lock						
50392...	Yes	Ident. No.	031 ●	032 ●	033 ●	034 ●	035 ●

Prod. Gr. 559

Clax folding box
46 litres

Suitable for transport trolley CLAX

High-quality plastic

Practical and folding to save space

Technical data:
- Length: 530 mm
- Width: 370 mm
- Height: 270 mm

Colour		Grey	Black
50392...	Ident. No.	036 ●	037 ●

Prod. Gr. 559

Ident. No. 036

Ident. No. 037

Service trolley with 3 load areas

Application:
For transporting lighter goods and materials. Ideal as provisioning trolley in workshop and assembly settings.

Execution:
- 15x height adjustment (middle shelf)
- Robust sheet steel design
- With thread protection – protects the bearings and threads against dirt
- Robust steering handle, permanently mounted on the body

Notes:
Please note: The trolley is delivered disassembled and requires assembly.

50267...	Ident. No.	960 ●

Prod. Gr. 504

Table trolley with 2 wooden load areas (EN standard 1757-3)
Simple version, load capacity 250 kg

Application:
Multi-functional transport trolleys for more efficient goods transport and a wide range of applications.

Execution:
- welded steel tube and profile steel, bolted construction
- Shelves made of wooden plate, beech decoration surface, mounted in steel frames
- Load areas with 15 mm high rim.
- High sliding handle
- With soft hose casing

Advantage:
- EasySTOP central brake
- Smooth-running ball-bearing-mounted castors
- With thread and foot guard
- Non-marking tyres
- Softgrip push handle - soft handle sleeve

Delivery:
Disassembled

Technical data:
- Load-carrying capacity: 250 kg
- Load-carrying capacity of loading surfaces: 80 kg
- Height: 1010 mm
- Material of loading surface: Wood composite board
- Number of loading surfaces: 2
- Colour: Anthracite grey RAL 7016
- Number of steering rollers: 2
- Number of fixed rollers: 2
- Wheel diameter: 125 mm
- Material of wheel: TPE
- With wheel lock: Yes
- Surface: Powder-coated

Length (mm)		975	1125
Width (mm)		525	625
Loading surface length (mm)		835	985
Loading surface width (mm)		490	590
50269...	Ident. No.	540 ●+	541 ●+

Prod. Gr. 504

Table trolley with 3 wooden load areas (EN standard 1757-3)

Simple version, load capacity 300 kg

Application:
Multi-functional transport trolleys for more efficient goods transport and a wide range of applications.

Execution:
- shelves made of wooden plate, beech decor surface, in steel frame, edge 15 mm
- high sliding handle
- load for central and upper load area 80 kg
- thermoplastic rubber tyres, grey, non-chalking

Advantage:
- EasySTOP central brake
- Smooth-running ball-bearing-mounted castors
- With thread and foot guard
- Non-marking tyres
- Softgrip push handle - soft handle sleeve

Technical data:
- Load-carrying capacity: 300 kg
- Material of loading surface: Wood composite board
- Load-carrying capacity of loading surfaces: 80 kg
- Number of loading surfaces: 3 PCS
- Loading surface height: 215 mm | 525 mm | 835 mm
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): No

Loading surface size			835 x 490 mm	985 x 590 mm
Length x width x height			975 x 525 x 1010 mm	1125 x 625 x 1010 mm
Length (mm)			975	1125
	Colour			
50269...	Anthracite grey RAL 7016	Ident. No.	542 ○+	543 ○+

Prod. Gr. 504

Table trolley ERGO

Application:
Ideal for carrying out tasks at different heights or handling large and small products.

Execution:
- High-quality powder-coated, with MDF board
- Two fixed castors, two swivel castors with brake, castor diameter: 200 mm
- Spacing between the load areas: 580 mm
- Load capacity per load area: 250 kg
- 2 fixed castors and 2 swivel castors made of solid rubber 200x50 mm

Advantage:
- No need to go far to find your tools - work equipment is provided directly at the workstation
- Non-marking tyres

Technical data:
- Load-carrying capacity: 500 kg
- Load-carrying capacity of loading surfaces: 250 kg
- Number of loading surfaces: 2
- Number of fixed rollers: 2
- Number of steering rollers: 2
- Length: 1110 mm
- With wheel lock: Yes
- Wheel diameter: 200 mm
- Material of wheel: TPE
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): No

Ident. No. 455

Loading surface size			1000 x 700 mm	1200 x 800 mm
Length x width x height			1110 x 700 x 965 mm	1110 x 800 x 965 mm
	Colour			
50291...	Dark grey	Ident. No.	455 ●+	457 ○+

Prod. Gr. 5AT

Table trolley with 2 load areas

Simple version, total load capacity 300 kg

Application:
For transporting goods and materials, for normal requirements in terms of load-bearing capacity and resistance.

Execution:
- welded steel tube and profile steel, bolted construction
- Shelves made of wooden plate, medium grey surface, in steel frame. Shelves with 12 mm high edge.
- high sliding handle

Advantage:
- economical thanks to lightweight design
- Large storage space for bulky parts incl. on lower loading surface

Technical data:
- Load-carrying capacity: 300 kg
- Material of loading surface: Wood
- Load-carrying capacity of loading surfaces: 80 kg
- Loading surface height: 200 mm | 820 mm
- Number of fixed rollers: 2
- Number of steering rollers: 2
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): No

No. 50258 541

No. 50268 541

Loading surface size				850 x 500 mm	1000 x 600 mm	1000 x 700 mm	1200 x 800 mm
Length x width x height				986 x 511 x 1039 mm	1136 x 611 x 1039 mm	1136 x 711 x 1039 mm	1336 x 811 x 1039 mm
Number of loading surfaces				2	2	2	3
Length (mm)				986	1136	1136	1336
	Colour	Colour of loading area					
50258...	Anthracite grey RAL 7016	Medium grey	Ident. No.	540 ○	541 ○+	-	-
50268...	Brilliant blue RAL 5007	Beech	Ident. No.	540 ●+	541 ●+	876 ●+	877 ●+

50268... = Prod. Gr. 5AB
50258... = Prod. Gr. 5AE

Accessories for			50268 540	50268 541
50268... frame	Infection protection	Ident. No.	024 ○	025 ○

Table trolley with 3 load areas

Simple version, load capacity 300 kg

Application:
For transporting goods and materials, for normal requirements in terms of load-bearing capacity and resistance.

Execution:
- **No. 50258 542–50258 543, 50268 543–50268 879:**
  - Welded steel tube and profile steel, bolted construction
  - Shelves made of wooden plate, beech decoration surface, mounted in steel frames
  - Shelves with 12 mm high edge
  - High sliding handle
  - Carrying capacity of upper loading area 80 kg
- **No. 50268 542:**
  - welded steel tube and profile steel, bolted construction
  - Shelves made of wooden plate, medium grey surface, in steel frame. Shelves with 12 mm high edge.
  - high sliding handle

Advantage:
- **No. 50258 542–50258 543, 50268 543–50268 879:**
  - Very versatile
  - Ergonomic push handle height
- **No. 50268 542:**
  - economical thanks to lightweight design
  - Large storage space for bulky parts incl. on lower loading surface

Technical data:
- Load-carrying capacity: 300 kg
- Material of loading surface: Wood
- Load-carrying capacity of loading surfaces: 80 kg
- Number of loading surfaces: 3
- Loading surface height: 200 mm | 510 mm | 820 mm
- Number of fixed rollers: 2
- Number of steering rollers: 2
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): No

No. 50258 543

No. 50268 543

Loading surface size				850 x 500 mm	1000 x 600 mm	1000 x 700 mm	1200 x 800 mm
Length x width x height				986 x 511 x 1039 mm	1136 x 611 x 1039 mm	1136 x 711 x 1039 mm	1336 x 811 x 1039 mm
Length (mm)				986	1136	1136	1336
	Colour	Colour of loading area					
50258...	Anthracite grey RAL 7016	Medium grey	Ident. No.	542 ○+	543 ○+	-	-
50268...	Brilliant blue RAL 5007	Beech	Ident. No.	542 ●+	543 ●+	878 ●+	879 ●+

50268... = Prod. Gr. 5AB
50258... = Prod. Gr. 5AE

Accessories for			50268 542	50268 543
50268... frame	Infection protection	Ident. No.	024 ○	025 ○

Table trolley with 2 wooden load areas (EN standard 1757-3)

Simple version, with total stop feature, load capacity 300 kg

Application:
For transporting goods and materials.

Advantage:
- Low cost thanks to lightweight design, for normal requirements in terms of carrying capacity and resistance
- Large storage space for bulky parts incl. on lower loading surface
- Brake using just one foot in any roller position

Technical data:
- Load-carrying capacity: 300 kg
- Material of loading surface: Wood
- Load-carrying capacity of loading surfaces: 80 kg
- Number of loading surfaces: 2
- Loading surface height: 200 mm | 820 mm
- Number of fixed rollers: 2
- Number of steering rollers: 2
- With wheel lock: Totalstop
- Wheel width: 32 mm
- Material of wheel: TPE
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): No

Loading surface size			850 x 500 mm	1000 x 600 mm	1000 x 700 mm	1200 x 800 mm
Length (mm)			986	1136	1136	1336
	Colour					
50268...	Brilliant blue RAL 5007	Ident. No.	508 ●+	509 ●+	886 ○+	887 ○+

Prod. Gr. 5AB

Table trolley with 2 wooden load areas

robust version, load capacity up to 600 kg

Application:
Ideal for large, bulky and heavy parts or for exacting industrial requirements.

Execution:
- Welded steel tube and profile steel, bolted construction
- Loading surfaces made of wooden plates, beech decoration, mounted flush with frame
- 2 steering wheels and 2 fixed castors, TPE tyres
- Hubs with grooved ball bearings
- Locking device on the steering rollers
- Powder-coated, long-lasting surface protection, impact- and scratch-resistant

Advantage:
- Reliable and durable - firmly welded construction
- No tracks on the tyres
- Deep groove ball bearing - runs smoothly even under heavy load

Technical data:
- Material of loading surface: Wood
- Load-carrying capacity of loading surfaces: 200 kg
- Number of loading surfaces: 2
- Number of fixed rollers: 2
- Number of steering rollers: 2
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 40 mm
- Material of wheel: TPE
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): No

							Colour	Brilliant blue RAL 5007		Anthracite grey RAL 7016	
							Colour of loading area	Beech		Medium grey	
Load-carrying capacity (kg)	Loading surface size	Length x width x height	Loading surface height	Length (mm)	Design	Wheel Ø (mm)		50268... Ident. No.		50258... Ident. No.	
500	850 x 500 mm	1047 x 509 x 860 mm	228 mm | 860 mm	1047	Robust	160	544	●+	-	-
600	1000 x 600 mm	1197 x 609 x 900 mm	270 mm | 900 mm	1197	Robust	200	545	●+	-	-
600	1000 x 700 mm	1197 x 709 x 900 mm	270 mm | 900 mm	1197	Robust	200	546	●+	-	-
600	1200 x 800 mm	1397 x 809 x 900 mm	270 mm | 900 mm	1397	Robust	200	547	●+	-	-
500	850 x 500 mm	1047 x 509 x 860 mm	228 mm | 860 mm	1047	-	160	-	-	544	○+

						Colour	Brilliant blue RAL 5007		Anthracite grey RAL 7016	
						Colour of loading area	Beech		Medium grey	
Load-carrying capacity (kg)	Loading surface size	Length x width x height	Loading surface height	Length (mm)	Design	Wheel Ø (mm)	50268... Ident. No.		50258... Ident. No.	
600	1000 x 600 mm	1197 x 609 x 900 mm	270 mm | 900 mm	1197	-	200	-	-	545	○+
600	1000 x 700 mm	1197 x 709 x 900 mm	270 mm | 900 mm	1197	-	200	-	-	546	○+
600	1200 x 800 mm	1397 x 809 x 900 mm	270 mm | 900 mm	1397	-	200	-	-	547	○+

50268... = Prod. Gr. 5AB
50258... = Prod. Gr. 5AE

Accessories for		50268 544	50268 545	50268 546	50268 547
50268... Infection protection frame	Ident. No.	020 ○	021 ○	021 ○	022 ○
50268... Drawer for table trolley with wooden load areas	Ident. No.	-	548 ○	549 ○	550 ○

fetra Transportgeräte — Table trolley with 2 hard-PVC load areas (EN standard 1757-3)

High chemical resistance, load capacity up to 600 kg

MADE IN

Application:
For transporting goods and heavy materials, for heavy-duty industrial requirements.

Execution:
- Welded steel tube and profile steel, bolted construction
- Weather-resistant rigid PVC board, dark grey
- Highly chemical-resistant, flame-resistant

Advantage:
- robust design and high load capacity ensure a long service life even when used for industrial loads
- Large storage space for bulky parts incl. on lower loading surface
- High-quality frame design with rounded corners

Technical data:
- Material of loading surface: Polyvinyl chloride - PVC hard
- Load-carrying capacity of loading surfaces: 200 kg
- Number of loading surfaces: 2 PCS
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Design: Robust
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 40 mm
- Material of wheel: TPE
- Surface: Powder-coated

Loading surface size			850 x 500 mm	1000 x 600 mm	1000 x 700 mm	1200 x 800 mm
Load-carrying capacity (kg)			500	600	600	600
Length x width x height			1047 x 509 x 860 mm	1197 x 609 x 900 mm	1197 x 709 x 900 mm	1397 x 809 x 900 mm
Loading surface height			228 mm | 860 mm	270 mm | 900 mm	270 mm | 900 mm	270 mm | 900 mm
Length (mm)			1047	1197	1197	1397
Wheel Ø (mm)			160	200	200	200
	Colour					
50268...	Brilliant blue RAL 5007	Ident. No.	456 ○+	457 ○+	458 ○+	459 ○+

Prod. Gr. 5AB

fetra Transportgeräte — Table trolley with 2 wooden load areas (EN standard 1757-3)

robust version, with total stop feature, load capacity up to 600 kg

10 MADE IN

Ident. No. 526

Application:
For transporting goods and heavy materials, for heavy-duty industrial requirements.

Advantage:
- Robust design and high carrying capacity ensure a long service life even when used for industrial loads
- High-quality frame design with rounded corners
- Brake using just one foot in any roller position

Technical data:
- Material of loading surface: Wood
- Load-carrying capacity of loading surfaces: 200 kg
- Number of loading surfaces: 2
- Number of fixed rollers: 2
- Number of steering rollers: 2
- With wheel lock: Totalstop
- Material of wheel: TPE
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): No

Load-carrying capacity (kg)			500	600	600
Loading surface size			850 x 500 mm	1000 x 700 mm	1200 x 800 mm
Loading surface height			228 mm | 860 mm	270 mm | 900 mm	270 mm | 900 mm
Length			1047	1197	1397
	Colour				
50268...	Brilliant blue RAL 5007	Ident. No.	526 ●+	528 ●+	529 ●+

Prod. Gr. 5AB

Table trolley with 2 sheet steel load areas

Welded oil-tight, total load capacity 400 kg

Application:
For the storage and transport of freshly cleaned or oily parts.

Execution:
- Steel structure, welded
- Oil-tight trays, edge 40 mm high
- Steel tube bar and sheet steel trays bolted

Advantage:
- Avoid the contamination of workstations and floors thanks to oil-tight welded trays

Technical data:
- Material of loading surface: Steel plate
- Load-carrying capacity: 400 kg
- Load-carrying capacity of loading surfaces: 200 kg
- Number of loading surfaces: 2
- Number of fixed rollers: 2
- Number of steering rollers: 2
- Design: Welded oil-tight
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 40 mm
- Material of wheel: TPE
- Surface: Powder-coated

No. 50258 555–50268 555

No. 50268 556

Loading surface size			850 x 500 mm	1000 x 700 mm
Length x width x height			1021 x 500 x 870 mm	1171 x 700 x 910 mm
Loading surface height			207 mm | 829 mm	248 mm | 870 mm
Length (mm)			1021	1171
Wheel Ø (mm)			160	200
	Colour			
50268...	Brilliant blue RAL 5007	Ident. No.	555 ●+	556 ●+
50258...	Anthracite grey RAL 7016	Ident. No.	555 ○+	556 ○+

50268... = Prod. Gr. 5AB
50258... = Prod. Gr. 5AE

Accessories for			50268 555	50268 556
50268... frame	Infection protection	Ident. No.	024 ○	025 ○

Table trolley with 3 sheet steel load areas

Welded oil-tight, total load capacity 400 kg

Application:
For the storage and transport of freshly cleaned or oily parts.

Execution:
- Steel tube and profile steel welded, bolted construction
- Oil-tight trays, edge 40 mm high
- 2 castors and 2 fixed castors, TPE tyres
- Hubs with grooved ball bearings
- Locking device on the castors
- Horizontal sliding handle
- Powder-coated, long-lasting surface protection, impact- and scratch-resistant

Advantage:
- Avoid the contamination of workstations and floors thanks to oil-tight welded trays

Technical data:
- Material of loading surface: Steel plate
- Load-carrying capacity: 400 kg
- Load-carrying capacity of loading surfaces: 200 kg
- Number of loading surfaces: 3
- Number of fixed rollers: 2
- Number of steering rollers: 2
- Design: Welded oil-tight
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 40 mm
- Material of wheel: TPE
- Surface: Powder-coated

No. 50258 557–50268 557

No. 50268 558

Loading surface size			850 x 500 mm	1000 x 700 mm
Length x width x height			1021 x 500 x 870 mm	1171 x 700 x 910 mm
Loading surface height			207 mm | 519 mm | 829 mm	248 mm | 560 mm | 870 mm
Length (mm)			1021	1171
Wheel Ø (mm)			160	200
	Colour			
50268...	Brilliant blue RAL 5007	Ident. No.	557 ●+	558 ●+
50258...	Anthracite grey RAL 7016	Ident. No.	557 ○+	558 ○+

50268... = Prod. Gr. 5AB
50258... = Prod. Gr. 5AE

Accessories for			50268 557	50268 558
50268... frame	Infection protection	Ident. No.	024 ○	025 ○

fetra Transportgeräte — Table trolley with 2 sheet steel load areas (EN standard 1757-3)

Welded oil-tight, with grating and drain valve, total load capacity 300 kg

Application:
For cleaning parts and transporting freshly cleaned or oily parts.

Execution:
- Steel frame with oil-and watertight welded sheet steel trays
- Lower sheet steel tray 25 mm high, oil-tight
- Upper sheet steel tray 100 mm high, oil-tight. Taper shelf with 1/2" drain valve
- Grating mesh width 31 x 31 mm, loosely inserted, flush at the top

Advantage:
- Avoid the contamination of workstations and floors thanks to oil-tight welded trays
- Large collection volume for upper load area thanks to high tray
- Parts can be cleaned on the upper shelf thanks to the integrated grating
- Simple drainage of liquids thanks to tapered base and 1/2" drain valve

Technical data:
- Material of loading surface: Steel plate
- Loading surface size: 1000 x 600 mm
- Load-carrying capacity: 300 kg
- Length x width x height: 1136 x 611 x 1030 mm
- Load-carrying capacity of loading surfaces: 100 kg
- Number of loading surfaces: 2 PCS
- Loading surface height: 181 mm | 901 mm
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Length: 1136 mm
- Design: Welded oil-tight
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Surface: Powder-coated

	Colour		
50268...	Brilliant blue RAL 5007	Ident. No.	559 ● +

Prod. Gr. 5AB

Accessories for		50268 559
50268... frame	Infection protection	Ident. No. 025 ○

fetra Transportgeräte — Table trolley with 2 wooden load areas (EN standard 1757-3)

Extremely robust, total load capacity 1,200 kg

Application:
For transporting large and particularly heavy loads.

Execution:
- Steel tube and profile steel welded
- Platforms made of non-slip waterproof plywood boards

Advantage:
- Extremely high carrying capacity thanks to robust design
- High-quality rollers ensure outstanding convenience and very light running even under heavy loads

Technical data:
- Load-carrying capacity: 1200 kg
- Design of the floor: Waterproof screen printing plate
- Load-carrying capacity of loading surfaces: 500 kg
- Number of loading surfaces: 2 PCS
- Loading surface height: 283 mm | 925 mm
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Design: Heavy load
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 50 mm
- Wheel diameter: 200 mm
- Material of wheel: Elastic solid rubber
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): No

No. 50258

No. 50268 561

Loading surface size			1000 x 700 mm	1200 x 800 mm	1600 x 800 mm	2000 x 800 mm
Length x width x height			1210 x 700 x 925 mm	1410 x 800 x 925 mm	1810 x 800 x 925 mm	2210 x 800 x 925 mm
Length (mm)			1210	1410	1810	2210
	Colour					
50268...	Brilliant blue RAL 5007	Ident. No.	560 ● +	561 ● +	562 ● +	563 ● +
50258...	Anthracite grey RAL 7016	Ident. No.	560 ○ +	561 ○ +	562 ○ +	563 ○ +

50268... = Prod. Gr. 5AB
50258... = Prod. Gr. 5AE

Table trolley with 3 wooden load areas (EN standard 1757-3)

Total load capacity 300 kg

Application:
For transporting goods and materials, as a simple assembly trolley.

Execution:
- Welded steel tube
- Shelves made of wooden plate, beech decor surface, in steel frame
- Lockable steel cabinet: D x W x H 600 x 500 x 600 mm with 1 fixed and 2 adjustable shelves
- 3 load areas with surrounding edge 12 mm high
- Load per shelf in cabinets 30 kg
- Sheet steel structure and fronts RAL 5007, brilliant blue, body grey RAL 7035, durable surface protection, impact- and scratch-resistant

Advantage:
- Ideal combination of table and workshop trolley
- Low-cost alternative to workshop trolley for normal requirements in terms of carrying capacity and resistance

Technical data:
- Material of loading surface: Wood
- Loading surface size: 1000 x 600 mm
- Load-carrying capacity: 300 kg
- Length x width x height: 1130 x 600 x 1040 mm
- Load-carrying capacity of loading surfaces: 80 kg
- Number of loading surfaces: 3 PCS
- Loading surface height: 200 mm | 510 mm | 820 mm
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Length: 1130 mm
- Design: With steel cabinet
- Width: 600 mm
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Surface: Powder-coated

	Colour		
50268...	Brilliant blue RAL 5007	Ident. No.	538 ●+

Prod. Gr. 5AB

Accessories for		50268 538
50268... Infection protection frame	Ident. No.	025 ○

Table trolley with 3 wooden load areas (EN standard 1757-3)

Total load capacity 300 kg

Application:
For transporting goods and materials, as a simple assembly trolley.

Execution:
- Welded steel tube
- Shelves made of wooden plate, beech decor surface, in steel frame
- Centrally locking drawer cabinet with 4 drawers (3 x 120 mm high and 1 x 180 mm high)
- Drawers with ball-bearing runners and lock, 4/5 extension. Cabinet dimensions D x W x H 600 x 500 x 600 mm
- 3 load areas with surrounding edge 12 mm high
- Sheet steel structure and fronts RAL 5007, brilliant blue, body grey RAL 7035, durable surface protection, impact- and scratch-resistant

Advantage:
- Ideal combination of table and workshop trolley
- Low-cost alternative to workshop trolley for normal requirements in terms of carrying capacity and resistance

Technical data:
- Material of loading surface: Wood
- Loading surface size: 1000 x 600 mm
- Load-carrying capacity: 300 kg
- Length x width x height: 1130 x 600 x 1040 mm
- Load-carrying capacity of loading surfaces: 80 kg
- Number of loading surfaces: 3 PCS
- Loading surface height: 200 mm | 510 mm | 820 mm
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Length: 1130 mm
- Design: With drawer cabinet
- Width: 600 mm
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Surface: Powder-coated

	Colour		
50268...	Brilliant blue RAL 5007	Ident. No.	539 ●+

Prod. Gr. 5AB

Accessories for		50268 539
50268... Infection protection frame	Ident. No.	025 ○

fetra Transportgeräte — Roller desk with 2 wooden load areas and horizontal writing surface (EN standard 1757-3)

2 wooden tray shelves, total load capacity 100 kg

Application:
Mobile workplace for operational, warehousing and dispatch settings, only takes up a small amount of space

Execution:
- Steel tube and profile steel welded, bolted construction
- Horizontal writing surface 605 x 589 mm, with pen stand
- 2 tray shelves, variable, screwable
- 2 rows of folders possible
- Load per shelf 50 kg

Advantage:
- Extremely practical and easy to manoeuvre
- Easy to move over edges and thresholds thanks to large rollers

Technical data:
- Material of loading surface: Wood
- Loading surface size: 600 x 500 mm
- Load-carrying capacity: 100 kg
- Length x width x height: 610 x 605 x 1195 mm
- Load-carrying capacity of loading surfaces: 50 kg
- Number of loading surfaces: 2 PCS
- Number of fixed rollers: 0 PCS
- Number of steering rollers: 4 PCS
- Length: 610 mm
- Design: With writing surface
- Width: 605 mm
- With wheel lock: Yes
- Total stop optional: No
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Surface: Powder-coated

	Colour		
50267...	Brilliant blue RAL 5007	Ident. No.	948 ●

Prod. Gr. 5AB

fetra Transportgeräte — Roller desk with 2 wooden load areas (EN standard 1757-3)

2 wooden tray shelves, total load capacity 100 kg

Application:
Mobile workplace for operational, warehousing and dispatch environments, with minimal footprint

Execution:
- Welded steel tube and profile steel, bolted construction
- Writing surface 605 x 589 mm, with stop bar
- 2 shelves, variable, screwable
- 2 rows of folders possible
- Load per shelf 50 kg

Advantage:
- Extremely practical and easy to manoeuvre
- Easy to move over edges and thresholds thanks to large rollers

Technical data:
- Material of loading surface: Wood
- Loading surface size: 600 x 500 mm
- Load-carrying capacity: 100 kg
- Length x width x height: 610 x 605 x 1195 mm
- Load-carrying capacity of loading surfaces: 50 kg
- Number of loading surfaces: 2 PCS
- Loading surface height
- Number of fixed rollers: 0 PCS
- Number of steering rollers: 4 PCS
- Length: 610 mm
- Design: With writing surface
- Width: 605 mm
- With wheel lock: Yes
- Total stop optional: No
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Surface: Powder-coated

	Colour		
50267...	Brilliant blue RAL 5007	Ident. No.	950 ●

Prod. Gr. 5AB

Accessories for		50267 950
50268... Infection protection frame	Ident. No.	023 ○

Roller desk with 1 wooden loading surface and horizontal writing surface (EN standard 1757-3)

1 wooden tray shelf, total load capacity 100 kg

Application:
Mobile workplace for operational, warehousing and dispatch settings, only takes up a small amount of space

Execution:
- Steel tube and profile steel welded, bolted construction
- Horizontal writing surface 605 x 589 mm, with pen stand
- With 1 lockable steel cabinet (W x D x H: 500 x 600 x 600 mm) with hinged door, 1 fixed and 2 adjustable shelves
- Steel cabinet: Body RAL 7035, front RAL 5007, load per shelf in cabinet 30 kg

Advantage:
- Extremely practical and easy to manoeuvre
- Easy to move over edges and thresholds thanks to large rollers

Technical data:
- Material of loading surface: Wood
- Loading surface size: 600 x 500 mm
- Load-carrying capacity: 100 kg
- Length x width x height: 610 x 605 x 1195 mm
- Load-carrying capacity of loading surfaces: 50 kg
- Number of loading surfaces: 1 PCS
- Number of fixed rollers: 0 PCS
- Number of steering rollers: 4 PCS
- Length: 610 mm
- Design: With writing surface and base cabinet
- Width: 605 mm
- With wheel lock: Yes
- Total stop optional: No
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Surface: Powder-coated

	Colour		
50267...	Brilliant blue RAL 5007	Ident. No.	949 ●

Prod. Gr. 5AB

Roller desk with 1 wooden load areas (EN standard 1757-3)

1 wooden tray shelf, total load capacity 100 kg

Application:
Mobile workplace for operational, warehousing and dispatch environments, with minimal footprint

Execution:
- Welded steel tube and profile steel, bolted construction
- Writing surface 605 x 589 mm, with stop bar
- With 1 lockable steel cabinet (W x D x H: 500 x 600 x 600 mm) with hinged door, 1 fixed and 2 adjustable shelves
- Steel cabinet: Body RAL 7035, front RAL 5007, load per shelf in cabinet 30 kg

Advantage:
- Extremely practical and easy to manoeuvre
- Easy to move over edges and thresholds thanks to large rollers

Technical data:
- Material of loading surface: Wood
- Loading surface size: 600 x 500 mm
- Load-carrying capacity: 100 kg
- Length x width x height: 610 x 605 x 1195 mm
- Load-carrying capacity of loading surfaces: 50 kg
- Number of loading surfaces: 1 PCS
- Loading surface height
- Number of fixed rollers: 0 PCS
- Number of steering rollers: 4 PCS
- Length: 610 mm
- Design: With writing surface and base cabinet
- Width: 605 mm
- With wheel lock: Yes
- Total stop optional: No
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Surface: Powder-coated

	Colour		
50267...	Brilliant blue RAL 5007	Ident. No.	951 ●

Prod. Gr. 5AB

Accessories for		50267 951
50268... Infection protection frame	Ident. No.	023 ○

Wheeled container

Load capacity: 500 kg

Application:
For safely and easily transporting and storing goods.

Execution:
- Wheeled platform made of HDPE plastic in jet black RAL 9005, with two horizontal and one diagonal reinforcement plate
- Two swivel castors and two fixed castors made of polypropylene, white, with thread guards, roller bearings
- Useful height of the lateral grids 1350 mm
- Capacity: 718.2 litres
- **Ident. No. 000:** High-quality powder-coated lateral grids in gentian blue RAL 5010
- **Ident. No. 001:** High-quality powder-coated lateral grids and rear panel grid in gentian blue RAL 5010
- **Ident. No. 002:** Full-length door for easy loading and unloading
- **Ident. No. 002–003:** High-quality galvanised lateral grids and rear panel grid
- **Ident. No. 003:** Hinged half-flap door for easy loading and unloading

Advantage:
- Improves the flow of material and goods
- Optimised to make loading trucks more efficient
- Smooth movement and versatile
- **Ident. No. 002:** The door prevents goods from falling out
- **Ident. No. 003:** The hinged half-flap door prevents goods from falling out

Technical data:
- Width x depth x height: 720 x 815 x 1530 mm
- Wheel diameter: 108 mm
- Material of wheel: PP - Polypropylene
- Number of fixed rollers: 2
- Number of steering rollers: 2
- Total stop optional: No

Ident. No. 000

Ident. No. 001

Ident. No. 002

Ident. No. 003

	Two-sided		Three-sided		Four-sided	
With wheel lock	No		No		No	
Type	50190... Ident. No.		50190... Ident. No.		50190... Ident. No.	
Without door	000	○	001	○	-	-
With door	-	-	-	-	002	○+
With door | hinged half-flap	-	-	-	-	003	○+

Prod. Gr. 5AV

Textile tie-down straps and rubber straps

Application:
Ref. no. 008: For short-term insulation of refrigerated goods
Ref. no. 009: Prevents goods in wheeled container from falling out
Ref. no. 010-011: To secure the load

Version:
- **Ref. no. 008:**
  - Thermal cover without floor section
  - Roll-up door with 100 mm wide hook-and-loop fastener
  - Document pouch DIN A4
  - Oxford fabric inside and outside, very robust and durable in use
  - Inner lining made of Isolon, density 400 g/sqm; strong hook-and-loop fastener 100 mm wide
- **Ref. no. 009:**
  - Made from textile material including 6-point clip system
  - Centre panel black, stretch fabric
  - Outer panels in blue similar to RAL5010
  - Complete with fastening material consisting of 3 securing wedges
- **Ref. no. 010-011:** With cam buckles and a zinc-plated hook
- **Ref. no. 012-013:** 400 x 40 mm, black

Advantage:
- **Ref. no. 008:**
  - Maintains cold bridges
  - Can be cleaned and washed
  - Robust and durable

Note:
- Full product information can be found in the online shop

Ident. No. 010

Ident. No. 011

Ident. No. 012

Ident. No. 013

	Textile tie-down strap, red		Textile tie-down strap, blue		Rubber tie-down strap, one hook, one eyelet		Rubber tie-down strap with two hooks	
Length (mm)	50190... Ident. No.		50190... Ident. No.		50190... Ident. No.		50190... Ident. No.	
1025	010	●	011	●	-	-	-	-
400	-	-	-	-	012	●	013	●

Prod. Gr. 5AV

Intermediate shelves, cover and protective screen

Application:

Ident. No. 008: For short-term insulation of refrigerated goods

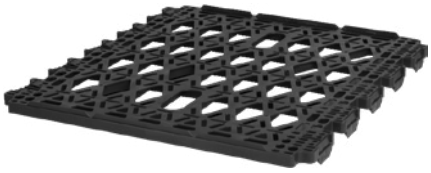
Ident. No. 009: Prevents goods in wheeled container from falling out

Execution:

- **Ident. No. 006–007:** Load capacity 150 kg
- **Ident. No. 008:**
  - Thermal cover without floor section
  - Roll-up door with 100 mm wide hook-and-loop fastener
  - Document pouch DIN A4
  - Oxford fabric inside and outside, very robust and durable in use
  - Inner lining made of Isolon, density 400 g/sqm; strong hook-and-loop fastener 100 mm wide
- **Ident. No. 009:**
  - Made from textile material including 6-point clip system
  - Centre panel black, stretch fabric
  - Outer panels in blue similar to RAL5010
  - Complete with fastening material consisting of 3 securing wedges

Advantage:

- **Ident. No. 008:**
  - Maintains cold bridges
  - Can be cleaned and washed
  - Robust and durable



Ident. No. 006–007

Ident. No. 008

Ident. No. 009

50190...	Intermediate shelf for two-sided version	Ident. No.	006 ○
50190...	Intermediate shelf for three-sided version	Ident. No.	007 ○
50190...	Thermal cover	Ident. No.	008 ○
50190...	Protective screen	Ident. No.	009 ○

Prod. Gr. 5AV

fetra Transportgeräte

Shelves for shelf trolley

Technical data:

- Total stop optional: No
- Colour of loading area: Beech
- Colour: Brilliant blue RAL 5007
- Made in: Germany
- Mandatory testing according to DGUV (UVV): No

Suitable for loading area size				850 x 500 mm	1000 x 600 mm	1000 x 700 mm	1200 x 800 mm
		Colour					
50268...	Fitted shelf	Brilliant blue RAL 5007	Ident. No.	725 ●	726 ●+	727 ●+	728 ●
50268...	Boxed shelves	Brilliant blue RAL 5007	Ident. No.	735 ●	736 ●+	737 ●+	738 ●

Prod. Gr. 5AB

fetra Transportgeräte Shelf trolley with 3 load areas (EN standard 1757-3)

Insert boxes, total load capacity 500 kg and 600 kg

Application:
For transporting round or spherical parts, for permanent use in industrial applications.

Execution:
- Module system, can be completely fixed with screws
- Steel tube/profile steel welded
- 1 firm and 2 loose removable shelves
- variable screw-in to the grid of 100 mm
- Box height 60 mm (inside 45 mm)

Delivery:
Flat-packed

Technical data:
- Design: With insert tray
- Load-carrying capacity of loading surfaces: 120 kg
- Material of loading surface: Wood
- Number of loading surfaces: 3 PCS
- Surface: Powder-coated
- Grid dimension of upper ends: 100 mm
- EN standard: 1757-3
- Suitable for transporting
- With wheel lock: Yes
- Material of wheel: TPE
- Total stop optional: Yes
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Material of wall
- Lock type

Ident. No. 662

Load-carrying capacity (kg)			500	600	600	600
Loading surface length (mm)			850	1000	1000	1200
Loading surface width (mm)			500	600	700	800
Height (mm)			1111	1152	1152	1552
Loading surface height			228 mm | 628 mm | 1028 mm	269 mm | 669 mm | 1069 mm	269 mm | 669 mm | 1069 mm	269 mm | 669 mm | 1069 mm
Wheel Ø (mm)			160	200	200	200
	Colour					
50268...	Brilliant blue RAL 5007	Ident. No.	660 ●+	661 ●+	662 ●+	663 ●+

Prod. Gr. 5AB

fetra Transportgeräte Shelves for shelf trolley

Technical data:
- Total stop optional: No
- Colour of loading area: Beech
- Colour: Brilliant blue RAL 5007
- Made in: Germany
- Mandatory testing according to DGUV (UVV): No

Suitable for loading area size				850 x 500 mm	1000 x 600 mm	1000 x 700 mm	1200 x 800 mm
		Colour					
50268...	Fitted shelf	Brilliant blue RAL 5007	Ident. No.	725 ●	726 ●+	727 ●+	728 ●
50268...	Boxed shelves	Brilliant blue RAL 5007	Ident. No.	735 ●	736 ●+	737 ●+	738 ●

Prod. Gr. 5AB

fetra Transportgeräte Shelf trolley with 4 load areas (EN standard 1757-3)

Grating on ends, total load capacity 600 kg

Application:
For transporting packages, cardboard boxes or other materials.

Execution:
- Module system, can be completely fixed with screws
- Steel tube/profile steel welded
- Front walls closed with wire grid (100 x 100 x 5 mm)
- 1 firm and 3 loose shelving levels
- variable screw-in to the grid of 100 mm
- Rigid sandwich plates

Delivery:
Flat-packed

Technical data:
- Load-carrying capacity: 600 kg
- Design: With mesh panels on front sides
- Load-carrying capacity of loading surfaces: 90 kg
- Colour: Brilliant blue RAL 5007
- Material of loading surface: Wood
- Number of loading surfaces: 4 PCS
- Height: 1800 mm
- Surface: Powder-coated
- Loading surface height: 269 mm | 669 mm | 1069 mm | 1469 mm
- Grid dimension of upper ends: 100 mm
- EN standard: 1757-3
- With wheel lock: Yes
- Wheel diameter: 200 mm
- Material of wheel: TPE
- Total stop optional: Yes
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Material of wall: Wire mesh
- Number of panels: 2 PCS
- Lock type

Ident. No. 688

Loading surface length (mm)		1000	1200
Loading surface width (mm)		700	800
50268...	Ident. No.	688 ●+	689 ●+

Prod. Gr. 5AB

Shelf trolley with 4 load areas (EN standard 1757-3)

Grating on three sides, total load capacity 600 kg

Application:
For transporting packages, cardboard boxes or other materials.

Execution:
- Module system, can be completely fixed with screws
- Steel tube/profile steel welded
- Front walls and 1 longitudinal wall closed with wire grid (100 x 100 x 5 mm)
- 1 firm and 3 loose shelving levels
- Variable screw-in options in a grid of 100 mm
- Rigid sandwich plates

Delivery:
Flat-packed

Technical data:
- Load-carrying capacity: 600 kg
- Design: With mesh panels on three sides
- Load-carrying capacity of loading surfaces: 90 kg
- Colour: Brilliant blue RAL 5007
- Material of loading surface: Wood
- Number of loading surfaces: 4 PCS
- Height: 1800 mm
- Surface: Powder-coated
- Loading surface height: 269 mm | 669 mm | 1069 mm | 1469 mm
- Grid dimension of upper ends: 100 mm
- EN standard: 1757-3
- Suitable for transporting
- With wheel lock: Yes
- Wheel diameter: 200 mm
- Material of wheel: TPE
- Total stop optional: Yes
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Material of wall: Wire mesh
- Number of panels: 3 PCS
- Lock type

Ident. No. 690

Loading surface length (mm)		1000	1200
Loading surface width (mm)		700	800
50268...	Ident. No.	690 ●	691 ●

Prod. Gr. 5AB

Package trolley with 1 load area (EN standard 1757-3)

Grating on three sides and door, total load capacity 600 kg

Application:
For transporting packages, cardboard boxes or other materials.

Execution:
- Steel tube/profile steel welded
- With end wall and 1 longitudinal wall made of wire grid (100 x 100 x 5)
- With double winged door made of steel tube frames with welded in wire grid (100 x 100 x 5)
- Door with bolt lock, lockable using a padlock (not in the scope of delivery)
- Leaf of door hinged on the front walls

Delivery:
Flat-packed

Technical data:
- Material of loading surface: Wood
- Suitable for transporting: Packages
- Load-carrying capacity: 600 kg
- Grid dimension of upper ends: 100 mm
- Number of loading surfaces: 1 PCS
- Loading surface height: 269 mm
- Height: 1800 mm
- Number of panels: 4 PCS
- Material of wall: Wire mesh
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 40 mm
- Wheel diameter: 200 mm
- Material of wheel: TPE
- Lock type: Bolt fastener
- Surface: Powder-coated
- EN standard: 1757-3

Loading surface size			1000 x 700 mm	1200 x 800 mm
	Colour			
50268...	Brilliant blue RAL 5007	Ident. No.	716 ●	717 ●

Prod. Gr. 5AB

fetra Transportgeräte **model with roof** (EN standard 1757-3)

Application:
For transporting packages, boxes or other material.

Execution:
- steel tube/profile steel welded
- with end wall and 1 longitudinal wall made of wire grid (100 x 100 x 5)
- With double winged door made of steel tube frames with welded in wire grid (100 x 100 x 5)
- Door with bolt lock, lockable using a padlock (not in the scope of delivery)
- Leaf of door hinged on the front walls

Delivery:
Disassembled

Technical data:
- Material of loading surface: Wood composite board
- Suitable for transporting: Packages | Bulky goods
- Load-carrying capacity: 600 kg
- Number of loading surfaces: 1
- Loading surface height: 269 mm
- Height: 1800 mm
- Number of panels: 4
- Material of wall: Wire mesh
- Number of fixed rollers: 2
- Number of steering rollers: 2
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 40 mm
- Wheel diameter: 200 mm
- Material of wheel: TPE
- Surface: Powder-coated
- EN standard: 1757-3
- Underride height: 230 mm
- With lid: No
- With handle: Yes
- With lock: No

Loading surface size				1000 x 600 mm	1000 x 700 mm	1200 x 800 mm
	Colour	Colour of loading area				
50268...	Brilliant blue	Beech	Ident. No.	777 ○+	778 ○+	779 ○+

Prod. Gr. 5AB

fetra Transportgeräte Shelves for shelf trolley

Technical data:
- Total stop optional: No
- Colour of loading area: Beech
- Colour: Brilliant blue RAL 5007
- Made in: Germany
- Mandatory testing according to DGUV (UVV): No

Suitable for loading area size				850 x 500 mm	1000 x 600 mm	1000 x 700 mm	1200 x 800 mm
		Colour					
50268...	Fitted shelf	Brilliant blue RAL 5007	Ident. No.	725 ●	726 ●+	727 ●+	728 ●
50268...	Boxed shelves	Brilliant blue RAL 5007	Ident. No.	735 ●	736 ●+	737 ●+	738 ●

Prod. Gr. 5AB

fetra Transportgeräte **Serving trolley with 3 load areas** (EN standard 1757-3)

Frame with Euro-standard crates, total load capacity 200 kg

Application:
For the transportation and serving of small parts or other materials in Euro crates.

Execution:
- Steel tube/profile steel welded
- With 3 plastic boxes
- 1 pcs. 600 x 400 x 145 mm, 2 pcs. 600 x 400 x 220 mm

Delivery:
Flat-packed

Technical data:
- Load-carrying capacity: 200 kg
- Design: Solid frame with Euro containers
- Load-carrying capacity of loading surfaces: 50 kg
- Colour: Brilliant blue RAL 5007
- Material of loading surface: Angle steel
- Number of loading surfaces: 3 PCS
- Loading surface length: 605 mm
- Loading surface width: 405 mm
- Length: 820 mm
- Width: 450 mm
- Height: 1282 mm
- Surface: Powder-coated
- Loading surface height: 197 mm | 652 mm | 1152 mm
- EN standard: 1757-3
- Suitable for transporting: Euro containers
- With wheel lock: Yes
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Total stop optional: No
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Material of wall
- Lock type

50268...	Ident. No.	697 ●+

Prod. Gr. 5AB

Serving trolley with 3 load areas (EN standard 1757-3)

Tilting frame with Euro-standard crates, total load capacity 200 kg

Application:
For the transportation and serving of small parts or other materials in Euro crates.

Execution:
- Steel tube/profile steel welded
- With 3 plastic boxes
- 1 pcs. 600 x 400 x 145 mm, 2 St. 600 x 400 x 220 mm
- Upper and centre loading areas can be tilted toward both sides by 15° and 30°, stopping mechanism using jack latch

Delivery:
Flat-packed

Technical data:
- Load-carrying capacity: 200 kg
- Design: Tilting frame with Euro containers
- Load-carrying capacity of loading surfaces: 50 kg
- Colour: Brilliant blue RAL 5007
- Material of loading surface: Angle steel
- Number of loading surfaces: 3 PCS
- Loading surface length: 605 mm
- Loading surface width: 405 mm
- Length: 820 mm
- Width: 450 mm
- Height: 1282 mm
- Surface: Powder-coated
- Loading surface height: 197 mm | 652 mm | 1152 mm
- EN standard: 1757-3
- Suitable for transporting: Euro containers
- With wheel lock: Yes
- Wheel diameter: 125 mm
- Material of wheel: TPE
- Total stop optional: No
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Material of wall
- Lock type

50268...	Ident. No.	698 ●+

Prod. Gr. 5AB

Cabinet trolley with 5 load areas - with total stop feature

Grating on three sides and door, total load capacity 750 kg

Application:
For the safe transport and storage of materials and goods.

Execution:
- Made of rigid sandwich plates
- 2 fixed castors and 2 swivel castors, including TOTALSTOP
- With shootbolt rod
- **No. 50258:**
  - Angular steel structure completely welded with tubular push handle
  - Front walls, 1 longitudinal wall and roof made from wire grid (40 x 40 x 4 mm)
  - With double winged door made of angular steel with welded in wire grid
  - Double winged door with vertical locking rod with swivelling lever and cylinder lock
  - 1 fixed and 4 loose bases
  - Clear floor distance 280 mm
- **No. 50268:**
  - Angle steel structure completely welded with tubular push handle
  - Front walls 1 longitudinal wall and roof made from wire grid (40 x 40 x 4 mm)
  - With double winged door made of angle steel with welded in wire grid
  - Double-folding door with vertical locking rod with swivelling lever and cylinder lock
  - 1 firm and 4 loose bottoms
  - Distance of shelf light 280 mm

Advantage:
- **No. 50258:** Convenient total stop included
- **No. 50268:** Convenient Total Stop included

Delivery:
Assembled

Technical data:
- Material of loading surface: Wood
- Suitable for transporting
- Load-carrying capacity: 750 kg
- Load-carrying capacity of loading surfaces: 90 kg
- Number of loading surfaces: 5 PCS
- Loading surface height: 292 mm | 582 mm | 882 mm | 1182 mm | 1482 mm
- Height: 1792 mm
- Number of panels: 4 PCS
- Material of wall: Wire mesh
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Totalstop
- Wheel width: 40 mm
- Wheel diameter: 200 mm
- Material of wheel: TPE
- Lock type: Cylinder lock
- Surface: Powder-coated

Total stop included

Loading surface size				1000 x 680 mm	1200 x 780 mm	1000 x 680 mm	1200 x 780 mm
EN standard				1757-3	1757-3	-	-
	Colour	Colour of loading area					
50268...	Brilliant blue RAL 5007	Beech	Ident. No.	782 ●+	783 ●+	-	-
50258...	Anthracite grey RAL 7016	Medium grey	Ident. No.	-	-	782 ○+	783 ○+

50268... = Prod. Gr. 5AB
50258... = Prod. Gr. 5AE

fetra Transportgeräte ESD pallet trolley (EN standard 1757-3)

Load capacity 750 kg

Ident. No. 046

Application:

Ident. No. 045: For transporting half pallets and Euroboxes.

Ident. No. 046: For transporting Euro pallets and crates. Suitable for transportation on commercially available tugger-train trailers.

Execution:

- Robust welded angular steel frame structure with 4 corner braces
- **Ident. No. 045:**
  - 2 castors and 2 fixed castors with TPE ESD tyres, hubs with grooved ball bearings
  - Locking device on the castors in accordance with EN 1757-3
- **Ident. No. 046:**
  - Steering rollers with total lock in forward motion, diagonally arranged
  - 1 black, electrically conductive, polypropylene roller

Advantage:

- **Ident. No. 045:**
  - Low starting, rolling and swivelling resistance
  - Quiet movement over level surfaces
  - No tracks on the tyres

Technical data:

- Load-carrying capacity: 750 kg
- Height: 329 mm
- Material of loading surface: Angle steel
- Colour: Slate grey RAL 7015
- Surface: Powder-coated
- Number of steering rollers: 2
- Number of fixed rollers: 2
- ESD-capable: Yes
- Wheel diameter: 200 mm
- Material of wheel: TPE-ESD
- Total stop optional: Yes

Length (mm)			855	1255
Width (mm)			655	855
Loading surface length (mm)			810	1210
Loading surface width (mm)			610	810
Underride height (mm)			329	230
	With wheel lock			
50267...	Yes	Ident. No.	045 ○	046 ○+

Prod. Gr. 5AB

fetra Transportgeräte ESD table trolley with 2 wooden load areas (EN standard 1757-3)

Electrically conductive, total load capacity of 300 kg

Ident. No. 505

Application:

For transporting products which must be protected against damage from electric discharges.

Execution:

- High sliding handle

Advantage:

- Reliable dissipation of electric charges thanks to continuously conductive structure

Technical data:

- Load-carrying capacity: 300 kg
- Material of loading surface: Wood, electroconductive
- Load-carrying capacity of loading surfaces: 80 kg
- Number of loading surfaces: 2 PCS
- Loading surface height: 206 mm | 827 mm
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Design: ESD-capable
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE-ESD
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): No

Loading surface size			850 x 500 mm	1000 x 600 mm
Length x width x height			986 x 511 x 1039 mm	1136 x 611 x 1039 mm
Length (mm)			986	1136
	Colour			
50268...	Slate grey RAL 7015	Ident. No.	504 ●+	505 ○+

Prod. Gr. 5AB

ESD table trolley with 3 wooden load areas (EN standard 1757-3)

Electrically conductive, total load capacity of 300 kg

Application:
For transporting products which must be protected against damage from electric discharges.

Execution:
- High sliding handle

Advantage:
- Reliable dissipation of electric charges thanks to continuously conductive structure

Technical data:
- Load-carrying capacity: 300 kg
- Material of loading surface: Wood, electroconductive
- Load-carrying capacity of loading surfaces: 80 kg
- Number of loading surfaces: 3 PCS
- Loading surface height: 206 mm | 517 mm | 827 mm
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- Design: ESD-capable
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 32 mm
- Wheel diameter: 125 mm
- Material of wheel: TPE-ESD
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): No

Ident. No. 507

Loading surface size			850 x 500 mm	1000 x 600 mm
Length x width x height			986 x 511 x 1039 mm	1136 x 611 x 1039 mm
Length (mm)			986	1136
	Colour			
50268...	Slate grey RAL 7015	Ident. No.	506 ○+	507 ○+

Prod. Gr. 5AB

ESD table trolley with 2 wooden load areas (EN standard 1757-3)

Electrically conductive, robust version, total load capacity 500 kg and 600 kg

Application:
For transporting goods and heavy materials, for heavy-duty industrial requirements. Electrically conductive design.

Execution:
- steel tube and profile steel welded, bolted construction
- Shelves made of electrically conductive wooden plate in accordance with DIN 68765, light grey.

Advantage:
- Reliable dissipation of electric charges thanks to continuously conductive structure
- Robust design and high load capacity ensure a long service life even when used for high industrial loads
- Large storage space for bulky parts incl. on lower loading surface
- High-quality frame design with rounded corners

Technical data:
- Material of loading surface: Wood, electroconductive
- With handle: Yes
- Load-carrying capacity of loading surfaces: 200 kg
- Number of loading surfaces: 2
- Number of fixed rollers: 2
- Number of steering rollers: 2
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 40 mm
- Material of wheel: TPE-ESD
- Surface: Powder-coated
- Suitable for transporting: Electrical components
- Mandatory testing according to DGUV (UVV): No

Ident. No. 646

Load-carrying capacity (kg)				500	600	600	600
Loading surface size				850 x 500 mm	1000 x 600 mm	1000 x 700 mm	1200 x 800 mm
Length x width x height				1047 x 509 x 860 mm	1197 x 609 x 900 mm	1197 x 709 x 900 mm	1397 x 809 x 900 mm
Loading surface height				235 mm | 867 mm	276 mm | 908 mm	276 mm | 908 mm	276 mm | 908 mm
Underride height (mm)				188	230	230	230
Length (mm)				1047	1197	1197	1397
Wheel Ø (mm)				160	200	200	200
	Colour	Colour of loading area					
50268...	Slate grey	Light grey	Ident. No.	644 ○+	645 ○+	646 ○+	647 ○+

Prod. Gr. 5AB

fetra Transportgeräte ESD platform trolley with push handle (EN standard 1757-3)

Electrically conductive, load capacity of up to 600 kg

Application:
For transporting products which must be protected against damage from electric discharges.

Execution:
- Modular system, entirely screwed
- Steel tube/profile steel welded

Advantage:
- Reliable dissipation of electric charges thanks to continuously conductive structure
- Robust design for extremely high load capacity
- High-quality rollers ensure outstanding mobility and very light running even under heavy loads
- Robust design and high load capacity ensure a long service life even when used for industrial loads

Technical data:
- Colour: Slate grey RAL 7015
- Material of loading surface: Wood, electroconductive
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Total stop optional: Yes
- Material of wheel: TPE-ESD
- Surface: Powder-coated
- ESD-capable: Yes

Ident. No. 637

Loading surface length (mm)			850	1000	1000	1200
Loading surface width (mm)			500	600	700	800
Load-carrying capacity (kg)			500	600	600	600
Loading surface height			235 mm	276 mm	276 mm	276 mm
Length (mm)			970	1120	1120	1320
Width (mm)			509	609	709	809
Height (mm)			950	990	990	990
Wheel Ø (mm)			160	200	200	200
	Colour					
50268...	Slate grey RAL 7015	Ident. No.	635 ○	636 ○+	637 ○+	638 ○+

Prod. Gr. 5AB

fetra Transportgeräte ESD material stand, height adjustable

Electrically conductive, load capacity of up to 150 kg

Application:
For providing materials in plastic and sheet steel boxes, wire baskets etc. directly at workstations.

Execution:
- Profile steel/tube construction with sheet steel platform
- Height-adjustable in increments of 25 mm
- **Ident. No. 013:**
  - Sheet steel platform with all-round edge 20 mm high
  - Platform does not tilt
- **Ident. No. 015–017:**
  - Sheet steel platform with support edge on one side
  - Platform tilts by 15° and 30°

Delivery:
Disassembled

Technical data:
- Material of loading surface: Steel plate
- Number of loading surfaces: 1
- Number of fixed rollers: 0
- Number of steering rollers: 4 PCS
- With wheel lock: Yes
- Total stop optional: No
- Wheel width: 25 mm
- Wheel diameter: 75 mm
- Material of wheel: TPE-ESD
- Colour: Slate grey RAL 7015
- Surface: Powder-coated

Ident. No. 013

Ident. No. 015–017

Load-carrying capacity (kg)		150	150	150
Loading surface size		605 x 405 mm	510 x 410 mm	510 x 410 mm
Min./max. height		720-995 mm	500-775 mm	755-1105 mm
50261...	Ident. No.	013 ○	015 ○	017 ○

Prod. Gr. 5AB

fetra Transportgeräte Workpiece trolley (EN standard 1757-3)

Load capacity 600 kg

Application:
Transport and provision trolley accessory material, with supports for cable, shafts, tubes etc.

Execution:
- Profile steel structure with welded wire grid 75 x 75 mm
- Construction height 1250 mm
- Continuous base

Delivery:
Flat-packed

Technical data:
- Material of loading surface: Wood
- Suitable for transporting: Workpieces
- Length x width x height: 1372 x 809 x 1536 mm
- Load-carrying capacity: 600 kg
- Loading surface size: 1200 x 800 mm
- Loading surface height
- Number of fixed rollers: 2 PCS
- Number of steering rollers: 2 PCS
- With wheel lock: Yes
- Total stop optional: Yes
- Wheel width: 40 mm
- Wheel diameter: 200 mm
- Material of wheel: TPE
- Colour: Brilliant blue RAL 5007
- Surface: Powder-coated

50268...	Ident. No.	801 ●

Prod. Gr. 5AB

fetra Transportgeräte Tool carrier for workpiece trolley

Application:
Ident. No. 805–806: Hook brackets are ideal for storing tools and workpieces on workpiece trolleys
Ident. No. 807–809: Tubular brackets are ideal for storing tools and workpieces on workpiece trolleys
Ident. No. 810: Corrugated brackets are ideal for storing tools and workpieces on workpiece trolleys
Ident. No. 811: Forked brackets are ideal for storing tools and workpieces on workpiece trolleys
Ident. No. 812: Material boxes are ideal for storing tools and workpieces on workpiece trolleys
Ident. No. 813: Material trays are ideal for storing tools and workpieces on workpiece trolleys
Ident. No. 814: Storage boxes are ideal for storing tools, workpieces and small parts on workpiece trolleys

Execution:
- **Ident. No. 805–813:** Welded steel, powder-coated, light grey RAL 7035
- **Ident. No. 814:** Made of polypropylene

Technical data:
- Colour: Light grey RAL 7035
- Surface: Powder-coated
- Made in: Germany

Ident. No. 805

Ident. No. 806

Ident. No. 807

Ident. No. 808

Ident. No. 809

Ident. No. 810

Ident. No. 811

Ident. No. 812

Ident. No. 813

Ident. No. 814

Length (mm)					200	300	300	320	300	250	1200	300
Width (mm)					-	-	-	-	-	150	250	230
Height (mm)					-	-	-	-	-	80	40	150
Ø (mm)					10	10	-	-	-	-	-	-
Clear width (mm)					-	-	-	-	50	-	-	-
		Load-carrying capacity (kg)	Workpiece carrier design									
50268...	Spike Ø10 x 200 mm	10	Pin	Ident. No.	805 ●	-	-	-	-	-	-	-
50268...	Spike Ø10 x 300 mm	10	Pin	Ident. No.	-	806 ●	-	-	-	-	-	-
50268...	Pipe Ø16 x 300 mm	15	Tube	Ident. No.	-	-	807 ●	-	-	-	-	-

Length (mm)					200	300	300	320	300	250	1200	300
Width (mm)					-	-	-	-	-	150	250	230
Height (mm)					-	-	-	-	-	80	40	150
Ø (mm)					10	10	-	-	-	-	-	-
Clear width (mm)					-	-	-	-	50	-	-	-
		Load-carrying capacity (kg)	Workpiece carrier design									
50268...	Pipe Ø22 x 300 mm	25	Tube	Ident. No.	-	-	808 ●	-	-	-	-	-
50268...	Pipe Ø27 x 300 mm	25	Tube	Ident. No.	-	-	809 ●	-	-	-	-	-
50268...	Shaft 320 mm	25	Shaft	Ident. No.	-	-	-	810 ●	-	-	-	-
50268...	Fork length 300 mm	25	Fork	Ident. No.	-	-	-	-	811 ●	-	-	-
50268...	Box 250 x 150 x 80mm	25	Box	Ident. No.	-	-	-	-	-	812 ●+	-	-
50268...	Shelf 1200 x 250 x 40 mm	50	Shelf	Ident. No.	-	-	-	-	-	-	813 ●	-
50268...	Easy-view storage bin 300 x 230 x 150 mm	2	Clear storage bin	Ident. No.	-	-	-	-	-	-	-	814 ●

Prod. Gr. 5AB

fetra Transportgeräte **Heavy-duty stake trolley** (EN standard 1757-3)

Load capacity 1,200 kg

Application:
For the transport of heavy long goods.

Execution:
- Steel tube and profile steel welded
- Platform made of non-slip waterproof plywood boards
- 4 stake wagons, screwable, effective length 600 mm

Delivery:
Flat-packed

Technical data:
- Total stop optional: Yes
- With wheel lock: Yes
- Load-carrying capacity: 1200 kg
- Design: Heavy load
- Material of loading surface: Wood
- Colour: Brilliant blue RAL 5007
- Surface: Powder-coated
- Number of steering rollers: 2 PCS
- Number of fixed rollers: 2 PCS
- Wheel diameter: 200 mm
- Material of wheel: Elastic solid rubber

Ident. No. 826

Width (mm)		700	800	800	800
Loading surface length (mm)		1000	1200	1600	2000
Loading surface width (mm)		700	800	800	800
50268...	Ident. No.	825 ●+	826 ●+	827 ●+	828 ●+

Prod. Gr. 5AB

fetra Transportgeräte **Board trolley without bracket** (EN standard 1757-3)

Load capacity 750 kg

Execution:
- Welded section steel and steel tube
- Coated plywood board
- 7 adjustment possibilities for insertable tubular supports (accessory), link spacing light 90 mm

Delivery:
Without bracket

Technical data:
- Total stop optional: Yes
- With wheel lock: Yes
- Load-carrying capacity: 750 kg
- Design: Without bracket
- Width: 800 mm
- Loading surface width: 800 mm
- Material of loading surface: Wood
- Colour: Brilliant blue RAL 5007
- Surface: Powder-coated
- Number of steering rollers: 2 PCS
- Number of fixed rollers: 2 PCS
- Wheel diameter: 200 mm
- Material of wheel: TPE

Loading surface length (mm)		1200	1600
50268...	Ident. No.	830 ●+	831 ●+

Prod. Gr. 5AB

fetra Transportgeräte — Bracket for board trolley

MADE IN

Technical data:

- Total stop optional: No

Height (mm)			300	600	900
	Length (mm)				
50268...	1200	Ident. No.	833 ●	834 ●	835 ●
50268...	1600	Ident. No.	836 ●	837 ●	838 ●

Prod. Gr. 5AB

Material stand/roller bracket

For round, flat or long materials

Application:

Ident. No. 300: Round, flat or long materials can be supplied to the machine or the workplace by means of steel/support wheels or ball bar.

Ident. No. 301: round, flat or long materials can be supplied to the machine or the workplace by means of steel/support wheels or ball bar.

Execution:

- Infinitely height adjustable
- **Ident. No. 300:**
  - Space-saving folding design
  - Galvanised support wheel diameter 60 mm
  - Easy-rotation ball bar with 8 steel balls
  - Diameter 15 mm, movable in all directions
- **Ident. No. 301:**
  - space-saving folding design
  - with 4 steel ball rollers
  - for pipes and rods from 3/4 inch to 16 inch

Technical data:

- Material: Sheet steel
- Colour: Black

Ident. No. 300

Ident. No. 301

Load-carrying capacity (kg)		200	100
Min. height (mm)		758	715
Max. height (mm)		1197	1060
Roll width (mm)		350	-
50261...	Ident. No.	300 ●	301 ●

Prod. Gr. 504

Material support stands

For round, flat or long materials

Application:

Round, flat or long material can be supplied to the machine or the workplace via the steel roller.

Execution:

- Ball bearing-mounted, plastic-coated steel roller, diameter 50 mm, with side limit stops that can be swivelled to the side

Technical data:

- Load-carrying capacity: 200 kg
- Min. height: 705 mm
- Max. height: 1210 mm
- Roll width: 400 mm
- Material: Sheet steel
- Colour: Blue

50261...	Ident. No.	305 ●

Prod. Gr. 504

Material stands

For round material

Application:

Idea when thread cutting, sawing, welding and soldering. Particularly suitable for pipes and round material.

Execution:

- Robust, infinitely height-adjustable material support with fixed underframe
- Material support with 2 chrome-plated steel balls for the easy movement of materials in all directions.
- For round materials up to Ø 115 mm

Technical data:

- Load-carrying capacity: 500 kg
- Min. height: 680 mm
- Max. height: 1155 mm
- Material: Sheet steel
- Colour: Blue

50261...	Ident. No.	400 ●

Prod. Gr. 504

fetra Transportgeräte — Transport dolly for drums

Steel, load capacity 250 kg

Application:
For transporting standing drums.

Execution:
- Welded steel construction
- **Ident. No. 140:** Outer ring internal diameter 610 mm for 200 l drums
- **Ident. No. 140, 142:** Cross struts bent downwards at a right angle, dia. 420 mm for 60-litre drums
- **Ident. No. 141: Ref. no.: 140, 142** cross struts offset downwards, 420-mm diameter for 60-l drums
- **Ident. No. 141–142:** Outer ring internal diameter 610 mm for 200-l drums

Advantage:
- Simple solution for transporting drums over short distances
- Easy to manoeuvre thanks to high-quality steering rollers

Technical data:
- Load-carrying capacity: 250 kg
- Loading surface height: 100 mm
- Number of steering rollers: 4
- With wheel lock: Yes
- Total stop optional: No
- Wheel width: 35 mm
- Wheel diameter: 80 mm
- Material of wheel: PA - Polyamide
- Colour: Brilliant blue RAL 5007
- Surface: Powder-coated

Ident. No. 140

Ident. No. 141

Ident. No. 142

Material of loading surface		Steel frame	Steel tray	Steel frame
With handle		-	-	Yes
50267...	Ident. No.	140 ●+	141 ●+	142 ●+

Prod. Gr. 5AB

ORION — Steel cylinder trucks

For 20 litre and 50 litre cylinders

Application:
Ident. No. 005: For transporting a 50-l steel cylinder.
Ident. No. 010: For transporting two 20-l steel cylinders.
Ident. No. 015: For transporting two 50-l steel cylinders.

Execution:
- With solid rubber tyres, restraining chain and support plate
- For transporting steel cylinders
- **Ident. No. 005–010:** With PVC handle
- **Ident. No. 015:**
  - With hose holder on the struts
  - 2-component synthetic resin, applied electrostatically
  - With robust, welded protective handle for injury-free shunting

Technical data:
- Surface: Lacquered

Ident. No. 005

Ident. No. 010

Ident. No. 015

Suitable for Ø (mm)		230	210	250
Wheel Ø (mm)		200	200	400
54005...	Ident. No.	005 ●+	010 ●+	015 ●

Prod. Gr. 586

Material truck for drums

Load capacity 300 kg

Execution:
- Steel tube welded
- Suitable for all 200 litre drums with rims
- Height 1600 mm/width 680 mm
- Optionally with solid rubber or pneumatic tyres, hubs with roller bearings
- Solid rubber wheels with plastic rims or pneumatic wheels with sheet steel rim, roller bearing
- Powder coating: RAL 5007, brilliant blue, durable surface protection, impact- and scratch-resistant

Technical data:
- Load-carrying capacity: 300 kg
- Height: 1600 mm
- Width: 680 mm
- Colour: Brilliant blue RAL 5007
- Surface: Powder-coated
- Total stop optional: No
- Suitable for transporting: Containers

Material of wheel		Solid rubber	Air
Wheel Ø (mm)		250	260
Wheel width (mm)		60	85
50270...	Ident. No.	376 ●	377 ●

Prod. Gr. 5AB

Ident. No. 375

Ident. No. 377

Material truck for drums

With 2 support wheels, load capacity 300 kg

Execution:
- Steel tube welded
- Suitable for all 200 litre drums with rims
- Height 1600 mm/width 680 mm
- With 2 supporting wheels made of solid rubber 160 x 40 mm
- Optionally with solid rubber or pneumatic tyres, hubs with roller bearings
- powder-coated: long-lasting surface protection, impact- and scratch-resistant

Advantage:
- With this design filled drums can be securely stacked up on pallets and collecting trays up to 360 mm high or brought down via the support wheel set

Technical data:
- Load-carrying capacity: 300 kg
- Height: 1600 mm
- Width: 680 mm
- Colour: Brilliant blue RAL 5007
- Surface: Powder-coated
- Total stop optional: No
- Suitable for transporting: Containers

Material of wheel		Solid rubber	Air
Wheel Ø (mm)		250	260
Wheel width (mm)		60	85
50270...	Ident. No.	378 ●	379 ●

Prod. Gr. 5AB

Sack truck made of steel tube, with additional folding toe plate and skids

Load capacity 300 kg, toe plate 250/500x320/250 mm

Ident. No. 305

Ident. No. 306

Application:
Ident. No. 305: Ideal for parcel handling
Ident. No. 306: Ideal for package handling

Execution:
- Wheels with plastic rims and roller bearings
- Safety handles
- Powder coating: RAL 5007, brilliant blue, durable surface protection, impact- and scratch-resistant
- **Ident. No. 305:**
  - handy steel tube truck with large steel tube folding shovel
  - Sheet steel shovel can be screwed on and is thus interchangeable
  - with interchangeable plastic skids
- **Ident. No. 306:**
  - Handy tubular steel truck with large tubular steel folding toe plate
  - Steel sheet toe plate can be screwed on and, thus, replaceable
  - With interchangeable plastic skids

Delivery:
Ident. No. 305: disassembled
Ident. No. 306: Flat-packed

Technical data:
- Total stop optional: No
- Colour: Brilliant blue RAL 5007
- Ability to climb stairs: Yes
- Toe plate width: 320/250 mm
- Toe plate depth: 250/500 mm
- Load-carrying capacity: 300 kg
- Folding: Shovel

50270...	Ident. No.	306 ●

Prod. Gr. 5AB

Sack truck

Made of steel tube or aluminium

Ident. No. 311

Ident. No. 313

Application:
Ident. No. 310, 312: For safely transporting round goods, such as rollers, cans, buckets, etc.
Ident. No. 311, 313: For safely transporting round goods, such as rolls, cans, buckets etc.

Execution:
- Safety handles
- **Ident. No. 310:**
  - Sturdy welded structure
  - Steel sheet toe plate can be screwed on and, thus, replaceable
- **Ident. No. 310, 312:** Curved upper bracket and cross braces
- **Ident. No. 310–311, 313:** Wheels with plastic rims and roller bearings
- **Ident. No. 311, 313:**
  - sturdy welded structure
  - Bolt-on and thus interchangeable steel sheet front shovel
  - Curved top bar and transverse struts
- **Ident. No. 312:**
  - Cleanly welded and 'naturally conditioned'
  - Steel sheet dustpan can be screwed on and is thus replaceable
  - Wheels either with solid rubber or air tyres on plastic rims, hubs with roller bearings

Advantage:
- **Ident. No. 312:** Very light and manageable
- **Ident. No. 313:** very light and manageable

Delivery:
Ident. No. 310, 312: Flat-packed
Ident. No. 311, 313: disassembled

Technical data:
- Total stop optional: No
- Ability to climb stairs: No
- Toe plate width: 320 mm
- Toe plate depth: 250 mm
- Folding: No

Colour		Brilliant blue RAL 5007	Silver coloured
Load-carrying capacity (kg)		200	150
50270...	Ident. No.	311 ●	313 ●

Prod. Gr. 5AB

Sack truck made of steel tube, with 3-wheel centre

Load capacity 200 kg, toe plate 250x320 mm

Application:
For the safe transport of round goods, such as rolls, cans, buckets etc.
Ideal for frequent use on stairs and acceptable ground conditions on flat surfaces.

Execution:
- Sturdy welded structure
- Safety handles
- Bolt-on toe plates can be exchanged
- Curved upper bracket and cross braces
- With 2 three-spoked tri-wheel, 3 TPE wheels each 160 mm diameter

Advantage:
- Ideal for frequent use on stairs and good ground conditions

Delivery:
Ident. No. 350: Disassembled

Technical data:
- Total stop optional: No
- Ability to climb stairs: Yes
- Toe plate width: 320 mm
- Toe plate depth: 250 mm
- Load-carrying capacity: 200 kg
- Folding: No

Ident. No. 350

Ident. No. 351

Colour				Brilliant blue RAL 5007	Aluminium coloured
Sack truck made of steel tube, with 3-wheel centre	50270...		Ident. No.	350 ●+	351 ●+
Transport accessories	50270...	Star fastener for sack truck with 3-spoke star	Ident. No.	354 ●	354 ●

Prod. Gr. 5AB

Folding sack trucks

Ready to use in seconds!

Application:
Ident. No. 000–001: Versatile and can be taken anywhere for trips and field work
Ident. No. 002: Ideal if it gets wet
Ident. No. 003: Ideal for heavy and bulky transport goods
Ident. No. 005: For packages, boxes, cases and bulky goods

Execution:
- Special, patented RuXXac folding system
- Wheels and toe plate swing out together
- Large aluminium toe plate
-
- **Ident. No. 000:** Hybrid construction of steel or stainless steel and fibreglass-reinforced plastic
- **Ident. No. 001:** Hybrid construction comprising steel or stainless steel and fibreglass-reinforced plastic
- **Ident. No. 002:** Hybrid construction of stainless steel and fibreglass-reinforced plastic
- **Ident. No. 003:**
  - Hybrid construction of steel and fibreglass-reinforced plastic
  - Ready to use in seconds!
- **Ident. No. 005:**
  - Sturdy steel construction
  - Practical back grille - ideal for small packages

Advantage:
- The original!
- Extremely space-saving
- Runs smoothly even under heavy load
- Easy to roll when folded
- **Ident. No. 000–002, 005:** Ready to use in seconds!

Ident. No. 000

Ident. No. 001

Ident. No. 002

Ident. No. 003

Ident. No. 005

Load-carrying capacity (kg)		125	125	250	125	125
Type		RuXXac-Cart Business	RuXXac-Cart Exclusive	RuXXac-Cart Jumbo	RuXXac-Cart parcel truck	RuXXac-Cart Business XL
Depth (mm)		460	620	620	620	620
Colour		Blue | Silver	Black | Silver	Black | Silver	Blue | Silver	Blue | Silver
Toe plate width (mm)		490	490	595	490	490
Toe plate depth (mm)		250	410	420	410	410
Material		Metal/Plastic	Stainless steel A4 / plastic	Metal/Plastic	Metal/Plastic	Metal/Plastic
Wheel Ø (mm)		185	185	215	185	185
Material of wheel		Polymer	Polymer	Air	Polymer	Polymer
50311...	Ident. No.	000 ○	002 ○	003 ○	005 ○	001 ●

Prod. Gr. 5AQ

Scooter - platform scooter

Load capacity 150 kg

Application:
Scooter for fast and safe movement between work-places and work stations

Execution:
- Rubberised handles provide ergonomic support
- Base plate with non-slip surface for a secure footing
- Complete with bell
- Hand brake

Advantage:
- Smooth-running and agile

Technical data:
- Load-carrying capacity: 150 kg
- Length: 1230 mm
- Width: 645 mm
- Height: 1070
- Colour: Grey
- Wheel diameter: 310 mm
- Brake: Yes

Material of wheel		Air	Polyurethane
50291...	Ident. No.	428 ○	429 ○

Prod. Gr. 5AT

Scooter - platform scooter with 3 wheels

With loading platform, load capacity 150 kg

Application:
Scooter for fast and safe movement between work-places and work stations

Execution:
- Rubberised handles provide ergonomic support
- Base plate with non-slip surface for a secure footing
- Complete with bell
- Hand brake
- Load-bearing capacity of loading surface: 50 kg

Advantage:
- Smooth-running and agile
- Tip-proof thanks to 3 wheels
- Convenient loading area

Technical data:
- Load-carrying capacity: 200 kg
- Material of wheel: Air
- Loading surface length: 697 mm
- Loading surface width: 597 mm
- Length: 1470 mm
- Width: 700 mm
- Height: 1000
- Colour: Grey
- Wheel diameter: 200 mm
- Brake: Yes

50291...	Ident. No.	430 ○+

Prod. Gr. 5AT

Forklift truck

Load capacity 2,000 kg to 2,500 kg

Application:
Ident. No. 460: Especially suitable for confined spaces and lorries.
Ident. No. 470: Pallet trucks can be used for different pallet types and sizes. This makes them extremely versatile and suitable for many industries.

Execution:
- Industrial version: Torsion-free single-shell frame and forks
- Robust steel tube drawbar with counter bearing for pushing operation
- Control lever for raise/move/lower functions
- Hydraulic hand pump, maintenance-free mounting
- Full lock: 2 x 100°
- **Ident. No. 458:**
  - Drawbar powder-coated, width across forks 540 mm
  - Polyurethane steering wheels, polyurethane single fork rollers. Low rolling resistance, non-marking
- **Ident. No. 460–486:** Rubber-encased handle
- **Ident. No. 470:** Polyurethane steering wheels, polyurethane tandem fork rollers. Low rolling resistance, elastic running. Good on sensitive floors, non-marking = no tracks. Low rolling noise.
- **Ident. No. 475:** Steering wheels, elastic solid rubber tyres, tandem fork rollers, polyurethane. Low roll resistance, smooth running, optimal operating comfort. Suitable for easily damaged and uneven floors, beneficial when frequently crossing edges and thresholds. Low rolling noise.

Advantage:
- **Ident. No. 470:**
  - Easier transport of pallets: Pallet trucks enable easy lifting and moving of pallets over short distances. They are ideal for handling pallets that are loaded with heavy or bulky goods.
  - Reduction in physical effort: Using a pallet truck reduces the need to lift heavy loads manually, which lowers the physical strain on the worker and minimises the risk of injuries such as back-ache or pulled muscles.
  - Increased efficiency: The pallet truck enables users to move pallets quickly and efficiently. This leads to increased productivity because moving pallets this way is much faster than lifting and carrying them.
  - Cost-effective: Compared to other material handling machines such as forklifts, pallet trucks are significantly cheaper to purchase and maintain. They offer great value for money.
  - Space-saving and flexible: Pallet trucks are relatively compact and don't need much space. This is particularly beneficial in confined storage rooms or in areas with limited space. They are also very flexible and can manoeuvre in narrow aisles or racks.

Notes:
Ident. No. 482–486: Reduced load capacity!

Technical data:
- Fork arm width: 160 mm
- Fork, external distance: 540 mm
- Min. lift height: 85 mm
- Lift height: 200 mm
- Castor-wheel diameter: 200 mm
- Colour: Melon yellow RAL 1028
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): No

Ident. No. 458

Ident. No. 460

Ident. No. 470

Ident. No. 482–486

Load-carrying capacity (kg)		2000	2500	2500	2500	1500	1200	1000
Fork length (mm)		1150	1150	1150	800	1500	1800	2000
Fork castor design		Single	Tandem	Tandem	Single	Tandem	Tandem	Tandem
Material of fork castor		Polyurethane	Polyurethane	Polyurethane	Nylon	Nylon	Nylon	Nylon
Material of steering wheels		Polyurethane	Polyurethane	Rubber	Rubber	Rubber	Rubber	Rubber
50262...	Ident. No.	458 ○+	470 ○+	475 ○+	460 ○+	482 ○+	484 ○+	486 ○+

Prod. Gr. 5AE

Forklift truck

Model GS 25

Application:
For lifting and carrying loads on pallets or in standardised containers

Execution:
- Entry-level model: Particularly easy to use
- Compact design
- Chrome-plated piston rod and oil seal: Prevents rust formation and oil leaks during use
- Overpressure valve: Opens in the event of overload to protect the forklift truck from damage
- On/off lowering valve
- Comfort control lifting: All functions (lower - neutral - lift) can be performed with a single lever
- Simple installation

Technical data:
- Load-carrying capacity: 2500 kg
- Fork length: 1150 mm
- Fork arm width: 150 mm
- Fork, external distance: 525 mm
- Min. lift height: 85 mm
- Lift height: 200 mm
- Fork castor design: Tandem
- Castor-wheel diameter: 200 mm
- Material of steering wheels: Polyurethane
- Steering wheel design: With nylon inner core
- With quick-lift function: No
- With weighing system: No
- Colour: Green Pantone 382
- Surface: Powder-coated
- Brake
- Mandatory testing according to DGUV (UVV): Yes

50262...	Ident. No.	300 ○+

Prod. Gr. 559

Forklift truck

Model GS EVO

Application:
For lifting and carrying loads on pallets or in standardised containers

Execution:
- For intensive use
- Compact design
- Chrome-plated piston rod and oil seal: Prevents rust formation and oil leaks during use
- Adjustable lowering speed: The lowering speed can be controlled in proportion to the lever position on the drawbar. Perfect for fragile and sensitive loads such as crystal, glass and ceramic
- Retracting and extending rollers: Facilitate entry into closed pallets
- 3D superior ergonomic control: Thanks to the two large grip side areas that ensure a perfect position, this version enables the user to enjoy an even better operating position with less force required compared to conventional handles
- Simple installation

Technical data:
- Fork arm width: 150 mm
- Fork, external distance: 525 mm
- Min. lift height: 85 mm
- Lift height: 200 mm
- Fork castor design: Tandem
- Castor-wheel diameter: 200 mm
- With quick-lift function: No
- With weighing system: No
- Colour: Green Pantone 382
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): Yes

Load-carrying capacity (kg)		2500	3000	2500	2500	2500	2500	3000
Fork length (mm)		1150	1150	1500	1800	2000	1150	1150
Material of steering wheels		Polyurethane	Polyurethane	Polyurethane	Polyurethane	Polyurethane	Rubber	Rubber
Steering wheel design		With nylon inner core	With aluminium inner core	With aluminium inner core	With aluminium inner core	With aluminium inner core	With aluminium inner core	With aluminium inner core
Brake		-	-	-	-	-	Yes	Yes
50262...	Ident. No.	302 ○+	303 ○+	304 ○+	305 ○+	306 ○+	307 ○+	308 ○+

Prod. Gr. 559

Forklift truck with quick lift function

Model GS EVO

Application:
For lifting and carrying loads on pallets or in standardised containers

Execution:
- For intensive use
- Compact design
- Chrome-plated piston rod and oil seal: Prevents rust formation and oil leaks during use
- Adjustable lowering speed: The lowering speed can
- be controlled proportionately to the lever position on the drawbar. Perfect for fragile and sensitive loads such as crystal, glass and ceramic
- Retracting and extending rollers: Facilitate entry into closed pallets
- 3D superior ergonomic control: Thanks to the two large grip side areas that ensure a perfect position, this version enables the user to enjoy an even better operating position with less force required compared to conventional handles
- With quick-lift function: For fast lifting of your loads. Only 3 pumping strokes are needed and the pallet is free from the ground. Hydraulic change-over point: 120 kg.
- Simple installation

Technical data:
- Load-carrying capacity: 2500 kg
- Fork length: 1150 mm
- Fork arm width: 150 mm
- Fork, external distance: 525 mm
- Min. lift height: 85 mm
- Lift height: 200 mm
- Fork castor design: Tandem
- Castor-wheel diameter: 200 mm
- Material of steering wheels: Polyurethane
- Steering wheel design: With nylon inner core
- With quick-lift function: Yes
- With weighing system: No
- Colour: Green Pantone 382
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): Yes

50262...	Ident. No.	309 ○+

Prod. Gr. 559

Forklift truck with scales

Load capacity 2000 kg

Execution:
- Industrial version: Torsion-free single-shell frame and forks
- Robust steel tube drawbar with counter bearing for pushing operation
- Rubber-encased handle
- Control lever for raise/move/lower functions
- Hydraulic hand pump, maintenance-free mounting
- Full lock: 2 x 100°
- Measurement range: 1-2000 kg, scale interval 1 kg, accuracy +-2 kg
- Protection class: IP65
- LCD display with 18-mm digits
- Touch panel with on/off and tare key

Advantage:
- Power supply via 4 x 1.5 V AA batteries

Technical data:
- Load-carrying capacity: 2000 kg
- Fork length: 1150 mm
- Fork arm width: 160 mm
- Fork, external distance: 540 mm
- Min. lift height: 85 mm
- Lift height: 205 mm
- Fork castor design: Tandem
- Material of fork castor: Polyurethane
- Castor-wheel diameter: 180 mm
- Material of steering wheels: Polyurethane
- Colour: Melon yellow RAL 1028
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): No

50262...	Ident. No.	515 ○+

Prod. Gr. 5AE

Manual scissorlift truck

Load capacity 1000 kg

Application:
For the transport and the lifting of palletised products on flexible working heights in manufacture, installation and dispatch.

Execution:
- Torsion-free construction, stable even under full load
- Hydraulic system with safety valve
- Double cylinder for reduced structural height and improved visibility
- One lever with 3 functions: Lower, neutral, lift
- The machine cannot be moved once a lifting height of 400 mm is exceeded
- Continuous manual lowering using handle

Advantage:
- Integrated stabilisers as standard for enhanced structural integrity

Delivery:
Installed, incl. operating instructions

Technical data:
- Load-carrying capacity: 1000 kg
- Fork length: 1150 mm
- Fork arm width: 160 mm
- Fork, external distance: 540 mm
- Min. lift height: 85 mm
- Lift height: 800 mm
- Fork castor design: Single
- Material of fork castor: Polyurethane
- Castor-wheel diameter: 200 mm
- Material of steering wheels: Polyurethane
- Steering wheel design: With nylon inner core
- Colour: Black | Green
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): Yes

50262...	Ident. No.	451 ○+

Prod. Gr. 559

Scissorlift truck, electric

Load capacity 1000 kg

Application:
For the transport and the lifting of palletised products on flexible working heights in manufacture, installation and dispatch.

Execution:
- Torsion-free construction, stable even under full load
- Hydraulic system with safety valve
- Double cylinder for reduced structural height and improved visibility
- Lift and lower using rocker switch in drawbar
- The machine cannot be moved once a lifting height of 400 mm is exceeded

Advantage:
- Integrated stabilisers as standard for enhanced structural integrity
- Ergonomic height can be electrically adjusted at the touch of a button

Delivery:
Assembled, with external charger and operating instructions

Technical data:
- Load-carrying capacity: 1000 kg
- Fork length: 1150 mm
- Fork arm width: 160 mm
- Fork, external distance: 540 mm
- Min. lift height: 85 mm
- Lift height: 800 mm
- Fork castor design: Single
- Material of fork castor: Polyurethane
- Castor-wheel diameter: 200 mm
- Material of steering wheels: Rubber
- Steering wheel design: With aluminium inner core
- Colour: Black | Green
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): No

50262...	Ident. No.	455 ○+

Prod. Gr. 559

Scissorlift platform, mobile

Load capacity up to 1,500 kg

Application:
Lift, lower and transport using just one device, for use as an adjustable serving trolley at assembly workplaces and as the ideal workshop and supply trolley with a wide range of commercial and industrial uses.

Execution:
- For loads from 150 kg up to 1500 kg, lifting heights from 225 mm to 1510 mm
- Stable scissor-type bracing
- Hand handle control, continuous height adjustment
- Lift operation via pedal
- Hydraulic pump made of high-strength steel
- 2 steering wheels with wheel block, 2 axis wheels
- Polyurethane wheels (PU) for low-noise and easy run
- Pressure relief valve for long life of the pump
- Colour: RAL 5012, light blue, powder-coated

Technical data:
- Shear design: Single
- Colour: Light blue RAL 5012
- Surface: Powder-coated

Product video: YouTube ID: I4breZHnGNc

Load-carrying capacity (kg)		150	300	500	800	1000	1500
Min. table height (mm)		225	340	340	420	380	420
Max. table height (mm)		750	900	900	1000	1000	1000
Stroke height per pedal movement (mm)		30	15	15	15	15	15
Loading surface length (mm)		740	855	855	1000	1020	1220
Loading surface width (mm)		450	500	500	515	510	600
Loading surface thickness (mm)		35	50	50	55	60	60
50262...	Ident. No.	900 ○+	905 ○+	910 ○+	920 ○+	930 ○+	940 ○+

Prod. Gr. 559

Scissorlift platform, mobile with double scissors

Load capacity up to 680 kg

Application:
Lift, lower and transport using just one device, for use as an adjustable serving trolley at assembly workplaces and as the ideal workshop and supply trolley with a wide range of commercial and industrial uses.

Execution:
- For loads from 150 kg up to 1500 kg, lifting heights from 225 mm to 1510 mm
- Stable scissor-type bracing
- Hand handle control, continuous height adjustment
- Lift operation via pedal
- Hydraulic pump made of high-strength steel
- 2 steering wheels with wheel block, 2 axis wheels
- Polyurethane wheels (PU) for low-noise and easy run
- Pressure relief valve for long life of the pump
- Colour: RAL 5012, light blue, powder-coated

Technical data:
- Shear design: Double
- Colour: Light blue RAL 5012
- Surface: Powder-coated

With double scissors

Product video: YouTube ID: I4breZHnGNc

Load-carrying capacity (kg)		150	350	680
Min. table height (mm)		330	350	460
Max. table height (mm)		1065	1320	1510
Stroke height per pedal movement (mm)		50	30	40
Loading surface length (mm)		740	900	1210
Loading surface width (mm)		450	500	610
Loading surface thickness (mm)		35	55	55
50262...	Ident. No.	902 ○+	907 ○+	912 ○+

Prod. Gr. 559

Forklift truck, manual

Load capacity 1000 kg

Application:
Hand hydraulic stacker to lift and move palletised goods

Execution:
- Stable welded, torsion-proof sectional steel structure
- Safe position even under full load
- Hydraulic lifting by means of drawbar or pedal
- Manual lowering infinitely adjustable via handle
- Safety draw bar with rubberised handle
- Hydraulic system with safety valve
- Hard chromium plated pressure piston
- With protective grating, fixed down to the bottom of the frame, against falling objects and for free sight to the front
- Quiet polyurethane rollers facilitate the work
- 2 large steering wheels with parking brakes, for optimum manoeuvring even in narrow spaces, ground clearance of fork arms 40 mm, allows bumps in the ground to be travelled over effortlessly, all forklift trucks comply both with the requirements of the regulations of the employers' liability insurance association of BGV-D27 and the Euronorm colour: RAL 5012, light blue, powder-coated

Technical data:
- Load-carrying capacity: 1000 kg
- Fork length: 1150 mm
- Material of wheel: Polyurethane
- Material of fork castor: Polyurethane
- Fork roller diameter: 83 mm
- Fork roller width: 40 mm
- Material of steering wheels: Polyurethane
- Surface: Powder-coated
- Colour: Light blue RAL 5012
- Stroke height per pedal movement: 20 mm
- Min. lift height: 90 mm
- Length: 1705 mm
- Fork, external distance: 550 mm
- Fork arm width: 170 mm
- Fork castor design: Tandem
- Travel drive: Manual
- Castor diameter: 150 mm
- Wheel width: 40 mm
- Turning radius: 1400 mm
- Mandatory testing according to DGUV (UVV): No

Illustration with platform

Min./max. lift height			90-1200 mm	90-1600 mm	90-2500 mm	90-3000 mm
Max. construction height (mm)			1750	2080	3000	3505
Min. construction height (mm)			1730	1980	1850	2090
Lift height (mm)			1200	1600	2500	3000
Max. lift height (mm)			1200	1600	2500	3000
Width (mm)			755	755	860	860
With free stroke			1085 mm	1440 mm	330 mm	330 mm
Forklift truck, manual	50262...	Ident. No.	500 O+	510 O+	520 O+	530 O+
Platform	50262...	Ident. No.	550 O+	550 O+	550 O+	550 O+

Prod. Gr. 559

Forklift truck, electro-hydraulic

Load capacity 1,200 kg

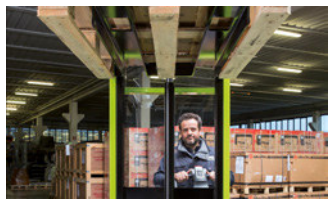
Application:
Suitable for use on long routes where electric drive provides many benefits, ideal device for semi-professional use in warehouse settings

Execution:
- torsion-free pole and frame construction, robot welding, signal green, powder coated
- With electric lifting and travel drive
- infinitely adjustable travelling speed, precise lifting and lowering processes, all functions (e.g. raising and lowering) via push buttons in drawbar
- Grip column made of sheet steel, safety knob and signal on the tiller head
- Ergonomic tow bar with large control elements for direction and speed
- The lifting shut off is designed such that in the event of 80% discharge, the lift function is blocked, however a drive to the next charging station is still possible
- Two-part plastic housing for easy access to the components
- With entry points made of special steel, forks correspond to the pallet standard
- Steering deflection 180°—compact construction ensures a manoeuvrable and quick operation, even at full load height
- starter batteries

Advantage:
- versatile and rapid operation, including at full load height with 4-point mounting, side steering and compact design

Delivery:
Including battery with low charge display, charger (24 V / 11.5 A) and operating instructions, ready to use

Technical data:
- Load-carrying capacity: 1200 kg
- Fork length: 1150 mm
- Fork arm width: 150 mm
- Fork, external distance: 560 mm
- Min. lift height: 90 mm
- Fork castor design: Single
- Castor-wheel diameter: 250 mm
- Material of steering wheels: Rubber
- Length: 1760 mm
- Width: 800 mm
- Battery voltage: 24 V
- Rechargeable battery/battery capacity: 85 Ah
- Output of lifting motor: 2.2 kW
- Stroke speed without load: 0.19 m/s
- Stroke speed at nominal load: 0.11 m/s
- Drive motor capacity: 0.7 kW
- Speed without load: 5.2 km/h
- Speed at nominal load: 4.7 km/h
- Max. surmountable tilt without load: 10 %
- Colour: Black | Green
- Max. surmountable tilt with load: 5 %
- Surface: Powder-coated
- Mandatory testing according to DGUV (UVV): Yes



Optimal view of the forks through wide window

Robust ABS casing, easy to remove

Batteries are placed at the lowest centre of gravity

Lift height (mm)		2900	3500
Min. construction height (mm)		1987	2250
Max. construction height (mm)		3392	3916
Free stroke (mm)		-	80
50262...	Ident. No.	729 ○+	735 ○+

Prod. Gr. 559

Working platform made of steel tube

Approved for 2 persons

Application:
Work platforms offer safety during repairs and maintenance works.

Execution:
- Approved for two persons
- sturdy tube structure
- anti-slip working platform
- fork pockets with anti-slippage element
- galvanised tool tray

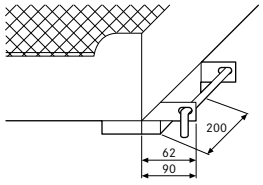
- TÜV tested in accordance with German Social Accident Insurance (DGUV)
- underrun protection ensures picking up only using the fork pockets

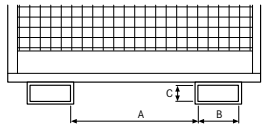
Technical data:
- Load-carrying capacity: 300 kg
- Max. number of people: 2
- Height: 1885 mm

- Material: Steel pipe
- Fork pocket width: 200 mm
- Colour: Yellow orange RAL 2000
- Fork pocket height: 80 mm
- Surface: Lacquered

Ident. No. 012

Ident. No. 013





Load-carrying capacity (kg)				300	300
Max. number of people				2	2
Fork pocket clearance (mm)				600	160
Fork pocket width (mm)				200	200
Fork pocket height (mm)				80	80
Length x width x height				1090 x 1200 x 1885 mm	1295 x 810 x 1885 mm
Surface area				800 x 1200 mm	1200 x 800 mm
Length (mm)				1090	1295
Width (mm)				1200	810
Surface area length (mm)				1200	800
Surface area width (mm)				800	1200
Fork pocket position				Wide side	Narrow side
Fork pocket clearance (mm)				600	160
Length x width x height				1090 x 1200 x 1885 mm	1295 x 810 x 1885 mm
Surface area				800 x 1200 mm	1200 x 800 mm
	Surface	Colour			
50262...	Lacquered	Yellow orange RAL 2000	Ident. No.	012 ○+	013 ○+

Prod. Gr. 5AI

Accessories for		50262 012	50262 013
50262... Castor set for working platform made of steel tube	Ident. No.	014 ○	014 ○

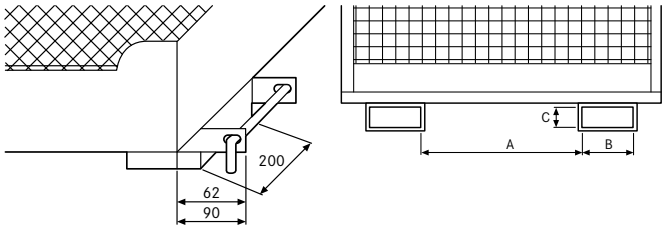
Work platform made of steel tube, reasonably priced alternative

Approved for 2 persons

Application:
Work platforms provide safety during repairs and maintenance tasks.

Execution:
- Approved for two persons
- Sturdy tube structure
- non-slip working platform
- fork pockets with anti-slippage element
- galvanised tool tray
- TÜV tested in accordance with German Social Accident Insurance (DGUV)

Technical data:
- Load-carrying capacity: 240 kg
- Max. number of people: 2
- Length: 1040 mm
- Width: 835 mm
- Height: 1900 mm
- Surface area length: 740 mm
- Surface area width: 740 mm
- Material: Steel
- Fork pocket clearance: 280 mm
- Fork pocket width: 200 mm
- Colour: Yellow orange RAL 2000
- Fork pocket height: 80 mm
- Length x width x height: 1040 x 835 x 1900 mm
- Surface area: 740 x 740 mm
- Surface: Lacquered



Load-carrying capacity (kg)				240
Max. number of people				2
Fork pocket clearance (mm)				280
Fork pocket width (mm)				200
Fork pocket height (mm)				80
Length x width x height				1040 x 835 x 1900 mm
Surface area				740 x 740 mm
	Surface	Colour		
50262...	Lacquered	Yellow orange RAL 2000	Ident. No.	027 O+

Prod. Gr. 5AI

Working platform, folding

Space-saving storage

Application:
Work platforms provide safety during repairs and maintenance tasks.

Execution:
- Transportable by forklift on wide side
- Fork pockets with slip protection
- Zinc-plated tool tray, width 1,100 mm
- TÜV tested in accordance with German Social Accident Insurance (DGUV)
- Approved for 2 persons
- Width: 1,210 mm
- Length/depth: 1,100 mm
- Height: 355 mm

Advantage:
- Ready to use in a few simple steps

Technical data:
- Load-carrying capacity: 300 kg
- Max. number of people: 2
- Length: 1100 mm
- Length (opened out): 1275 mm
- Width: 1210 mm
- Width (opened out): 1210 mm
- Height (opened out): 1995 mm
- Height: 355 mm
- Surface area length: 1200 mm
- Surface area width: 1000 mm
- Fork pocket position: Wide side
- Material: Steel
- A: 600 mm
- B: 200 mm
- Colour: Yellow orange RAL 2000
- H: 80 mm
- Length x width x height: 1100 x 1210 x 355 mm
- Surface area: 1000 x 1200 mm
- Surface: Lacquered

Load-carrying capacity (kg)				300
Max. number of people				2
A (mm)				600
B (mm)				200
H (mm)				80
Length x width x height				1100 x 1210 x 355 mm
Surface area				1000 x 1200 mm
	Surface	Colour		
50262...	Lacquered	Yellow orange RAL 2000	Ident. No.	028 O+

Prod. Gr. 5AI

Working platform 2-sided

secure mounting from 2 sides

Application:
Work platforms provide safety during repairs and maintenance tasks.

Execution:
- fork protection on the unused fork pockets
- robust square tube construction
- anti-slip working platform
- fork pockets with anti-slippage element
- galvanised tool tray
- TÜV tested in accordance with German Social Accident Insurance (DGUV)
- approved for 2 persons
- transverse and longitudinal mounting
- double-hinged protective grid

Advantage:
- Dimensions of fork pockets: A: 600| 190 mm B: 200| 200 mm H:80| 80 mm
- Can be mounted from both sides

Technical data:
- Load-carrying capacity: 300 kg
- Max. number of people: 2
- Length: 1040 mm
- Width: 1300 mm
- Height: 2155 mm
- Surface area length: 1200 mm
- Surface area width: 800 mm
- Fork pocket position: Wide side | Narrow side
- Material: Steel
- Fork pocket clearance: 600 mm
- Fork pocket width: 200 mm
- Colour: Yellow orange RAL 2000
- Fork pocket height: 80 mm
- Length x width x height: 1040 x 1300 x 2155 mm
- Surface area: 800 x 1200 mm
- Surface: Lacquered

With retraction protection on the unused fork pockets

Load-carrying capacity (kg)				300
Max. number of people				2
Fork pocket clearance (mm)				600
Fork pocket width (mm)				200
Fork pocket height (mm)				80
Length x width x height				1040 x 1300 x 2155 mm
Surface area				800 x 1200 mm
	Surface	Colour		
50262...	Lacquered	Yellow orange RAL 2000	Ident. No.	029 ○+

Prod. Gr. 5AI

Mechanical lifting device with fixed lifting lug (DIN 7355)

Execution:
- With lifting steel housing
- Tooth rack with helical teeth
- With safety crank and folding handle
- Self-locking safety crank holds loads securely at any height
- With fixed claw

Technical data:
- Adjustability of lifting strap: Not adjustable
- Lift height: 350 mm
- Application height of head: 725 mm

Load-carrying capacity (kg)		1500	3000	5000
Min. application height of lifting strap (mm)		65	70	75
77169...	Ident. No.	015 ●+	030 ●+	050 ●+

Prod. Gr. 770

Mechanical lifting device with adjustable lifting lug (DIN 7355)

Execution:
- With lifting steel housing
- Tooth rack with helical teeth
- With safety crank and folding handle
- Self-locking safety crank holds loads securely at any height
- With adjustable claw, with two adapter holes, 14 different positions, can also be set for different working levels

Technical data:
- Adjustability of lifting strap: 14x
- Lift height: 350 mm
- Application height of head: 725 mm

Load-carrying capacity (kg)		1500	3000	5000
Min. application height of lifting strap (mm)		65	70	75
77169...	Ident. No.	215 ○+	230 ○+	250 ○+

Prod. Gr. 770

Hydraulic lifting device with rotating lifting lug

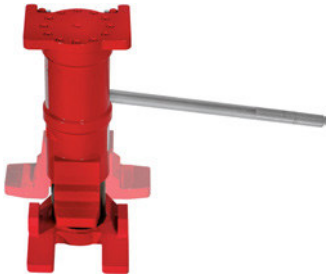
Load capacity 6,000 kg, lifting height 115 mm

Application:
Universally applicable hydraulic lifting device for horizontal and vertical tasks.

Execution:
- Sturdy welded steel construction
- Rotating housing and strap
- Optimal stability since all components are welded to each other and form one unit
- Low total weight compared to similar devices
- 5-year warranty

Advantage:
- The shape of the top plate prevents tilting when in a horizontal position
- Thanks to its low weight, the jack can also be used outdoors

Technical data:
- Load-carrying capacity: 6000 kg
- Adjustability of lifting strap: Not adjustable
- Lift height: 115 mm
- Application height of head: 265 mm
- Min. application height of lifting strap: 18 mm
- Operating pressure: 720 bar
- Length: 306 mm
- Width: 146 mm
- Height: 265 mm



50261...	Ident. No.	421 ○

Prod. Gr. 5AH

Hydraulic lifting device with adjustable lifting lug

Load capacity 5,000-10,000 kg, lifting height 140-160 mm

Application:
For trouble-free and safe lifting of machines and heavy loads.

Execution:
- Sturdy steel welded construction
- Sturdy swivel feet prevent tilting
- Forged strap
- Precision guides for exact lifting movement and long service life
- Quick-action coupling for the connection of external hydraulic pumps
- 180° rotating pumping rod
- Easily movable with solid rubber wheels in conjunction with pump lever
- 5-year warranty

Load-carrying capacity (kg)		5000	10000
Adjustability of lifting strap		3x	4x
Lift height (mm)		140	160
Application height of head (mm)		252	310
Min. application height of lifting strap (mm)		15	20
Length (mm)		266	339
Width (mm)		212	237
Height (mm)		252	310
50261...	Ident. No.	425 ○	430 ●+

Prod. Gr. 5AH

Ident. No. 425

Ident. No. 430

Rotating chassis

Load capacity 1-6 t

Application:
For transporting machines and other heavy loads. The specific characteristic is that very closely positioned heavy loads can be steered in any direction.

Execution:
- Sturdy, torsion-free steel welded construction
- Can be very easily moved and turned at 360° thanks to the special mounting
- GKS-alperfekt® roller, slightly steerable, low rolling resistance
- Support surfaces with non-slip waffle rubber
- 5-year warranty

Advantage:
- Several rotating transport trolleys can be used at the same time depending on the contact point and weight distribution of the heavy load as well as of the condition of the floor

Ident. No. 471

Ident. No. 472

Ident. No. 473

Ident. No. 474

If necessary, two rotating transport trolleys can travel in parallel when connected with a connection rod - available on request.

Load-carrying capacity (t)		1	2	4	6
Number of load rollers (PCS)		3	3	5	5
Installation height of load rollers (mm)		100	110	110	118
Wheel Ø (mm)		75	85	85	85
Wheel width (mm)		66	85	85	85
Length (mm)		376	685	760	760
Width (mm)		379	515	560	560
Height (mm)		100	110	110	118
Ø of contact surface (mm)		170	170	250	250
50261...	Ident. No.	471 ○	472 ○+	473 ○+	474 ○+

Prod. Gr. 5AH

Transport trolley

Load capacity 3-12 t

Application:
All adjustable and steerable wheel sets of the same height that can be combined and are suitable for safe transport of loads of up to 200 tons.

Execution:
- Very sturdy, torsion-free steel welded construction
- GKS-alperfekt® roller, slightly steerable, low rolling resistance
- High stability through closed cassettes
- Support surfaces with non-slip waffle rubber
- Transport wheel set with steering rod and turntable
- 5-year warranty

Advantage:
- High comfort during handling
- Material guarantees highest possible fail-safety and remains in shape, no distortion, even after years of use

Technical data:
- Design: Guidable
- Installation height of load rollers: 110 mm
- Diameter of contact surface: 170 mm

Ident. No. 480

Ident. No. 495

Ident. No. 510

Example application

Load-carrying capacity (t)		3	6	12
Number of load rollers (PCS)		4	8	16
Length (mm)		270	610	1030
Width (mm)		230	520	620
Handlebar length (mm)		950	1080	1080
50261...	Ident. No.	480 ○	495 ○+	510 ○+

Prod. Gr. 5AH

Transport trolley

Load capacity 3-12 t

Application:
For transporting machines and other heavy loads. All adjustable and steerable wheel sets of the same height that can be combined and are suitable for safe transport of loads of up to 200 tons.

Execution:
- Very sturdy, torsion-free steel welded construction
- GKS-alperfekt® roller, slightly steerable, low rolling resistance
- High stability through closed cassettes
- Support surfaces with non-slip waffle rubber
- 5-year warranty

Advantage:
- High comfort during handling
- Material guarantees highest possible fail-safety and remains in shape, no distortion, even after years of use

Technical data:
- Design: Adjustable
- Installation height of load rollers: 110 mm

Ident. No. 475

Ident. No. 490

Ident. No. 505

Load-carrying capacity (t)		3	6	12
Number of load rollers (PCS)		4	8	16
Support plate length (mm)		150	220	407
Width of support plate (mm)		150	200	200
Min. length of spacer rod (mm)		300	640	1014
Max. length of spacer rod (mm)		1000	1030	1430
50261...	Ident. No.	**475** ○	**490** ○+	**505** ○+

Prod. Gr. 5AH

DAUPHIN Indeed Operator SLP office swivel chair

Application:
Indeed meets the requirements of a new generation primarily with respect to: lightness! Its slender, subtle design is a real team player when combined with lots of different interiors. Its ergonomic features make it easy for you to flexibly adapt to the individual needs of a dynamic everyday life. And resource-conserving production satisfies today's desire for sustainability in an innovative way. Indeed brings a new lightness to every workspace.

Execution:
- Standard mechanism: Mechanical backrest tilt, individually adjustable and can be locked in any position

Advantage:
- Stable yet lightweight: Approx. 20 % lighter - can withstand up to 150 kg
- Optimal comfort when sitting: Point-elastic micro-pocket spring core
- Quick and simple: Setup time of just two minutes

Technical data:
- Adjustable in height: Yes
- Height-adjustable backrest: Yes
- Min. seat height: 400 mm
- Max. seat height: 530 mm
- Seat width: 470 mm
- Load-carrying capacity: 150 kg
- Base frame design: Five-star base with rollers
- Adjustable seat inclination: Yes
- Base frame colour: Black
- Colour of the cushion: Black
- With armrests: Yes
- Replaceable cushion
- Material of frame: Plastic
- Type: Armrests adjustable by 8 cm in height and 7 cm in width (plastic, black), standard mechanism: mechanical backrest tilt, individually adjustable and can be locked in any position
- Colour: Black
- Width: 720 mm
- Length: 720 mm

50126...	Ident. No.	027 ●

Prod. Gr. 5CF

DAUPHIN Indeed Mesh SLP office swivel chair

NEW

Application:
Indeed meets the requirements of a new generation primarily with respect to: lightness! Its slender, subtle design is a real team player when combined with lots of different interiors. Its ergonomic features make it easy for you to flexibly adapt to the individual needs of a dynamic everyday life. And resource-conserving production satisfies today's desire for sustainability in an innovative way. Indeed brings a new lightness to every workspace.

Execution:
- Standard mechanism: Mechanical backrest tilt, individually adjustable and can be locked in any position

Advantage:
- Stable yet lightweight: Approx. 20 % lighter - can withstand up to 150 kg
- Optimal comfort when sitting: Point-elastic micro-pocket spring core
- Quick and simple: Setup time of just two minutes

Technical data:
- Adjustable in height: Yes
- Height-adjustable backrest: Yes
- Min. seat height: 400 mm
- Max. seat height: 530 mm
- Seat width: 470 mm
- Load-carrying capacity: 150 kg
- Base frame design: Five-star base with rollers
- Adjustable seat inclination: Yes
- Base frame colour: Black
- Colour of the cushion: Black
- With armrests: Yes
- Replaceable cushion
- Material of frame: Plastic
- Colour: Black
- Width: 720 mm
- Length: 720 mm

Ident. No. 029

Ident. No. 028

Type		Armrests adjustable by 8 cm in height and 7 cm in width (plastic, black), standard mechanism: mechanical backrest tilt, individually adjustable and can be locked in any position	Armrests adjustable by 8 cm in height and 7 cm in width (plastic, black), with lumbar support, standard mechanism: mechanical backrest tilt, individually adjustable and can be locked in any position
50126...	Ident. No.	028 ●	029 ○

Prod. Gr. 5CF

DAUPHIN Indeed Mesh 3F office swivel chair

Application:

Indeed meets the requirements of a new generation primarily with respect to: lightness! Its slender, subtle design is a real team player when combined with lots of different interiors. Its ergonomic features make it easy for you to flexibly adapt to the individual needs of a dynamic everyday life. And resource-conserving production satisfies today's desire for sustainability in an innovative way. Indeed brings a new lightness to every workspace.

Execution:

- **Ident. No. 033:** Syncro-Evolution mechanism: Harmoniously synchronised seat and backrest movement process; synchronous movement can be locked in four different positions; including seat depth (6 cm) and seat tilt adjustment (-4°)
- **Ident. No. 034:** Motionflex®-Automatic: Synchronised seat and backrest movement process; automatic adaptation of the backrest counterpressure based on the weight of the user; incl. fine adjustment; synchronised movement can be locked in four different positions; two-level seat tilt adjustment (0°/-4°); seat depth adjustment via sliding seat (6 cm)
- **Ident. No. 035:** Ball-Balance mechanism: Seat tilt in all directions up to 4°; 3D function can be fixed; sliding seat 6 cm; adjustable by 7 cm in height

Advantage:

- Stable yet lightweight: Approx. 20 % lighter - can withstand up to 150 kg
- Optimal comfort when sitting: Point-elastic micro-pocket spring core
- Quick and simple: Setup time of just two minutes

Technical data:

- Adjustable in height: Yes
- Height-adjustable backrest: Yes
- Min. seat height: 400 mm
- Max. seat height: 530 mm
- Seat width: 470 mm
- Base frame design: Five-star base with rollers
- Adjustable seat inclination: Yes
- Base frame colour: Black
- Colour of the cushion: Black
- With armrests: Yes
- Replaceable cushion
- Material of frame: Plastic
- Colour: Black
- Width: 720 mm
- Length: 720 mm

NEW

Ident. No. 035

Ident. No. 033

Ident. No. 034

Load-carrying capacity (kg)		150	130	110
Type		Armrests adjustable by 10 cm in height, 6 cm in width and 4 cm in depth (plastic, black), mesh backrest, SE mechanism, padded lumbar support	Armrests adjustable by 10 cm in height, 6 cm in width and 4 cm in depth (plastic, black), mesh backrest, MA mechanism, padded lumbar support	Armrests adjustable by 10 cm in height, 6 cm in width and 4 cm in depth (plastic, black), mesh backrest, BB mechanism, padded lumbar support
50126...	Ident. No.	033 ○+	034 ●+	035 ○+

Prod. Gr. 5CF

DAUPHIN Indeed Operator 3F office swivel chair

Application:
Indeed meets the requirements of a new generation primarily with respect to: lightness! Its slender, subtle design is a real team player when combined with lots of different interiors. Its ergonomic features make it easy for you to flexibly adapt to the individual needs of a dynamic everyday life. And resource-conserving production satisfies today's desire for sustainability in an innovative way. Indeed brings a new lightness to every workspace.

Execution:
- **Ident. No. 036:** Syncro-Evolution mechanism: Harmoniously synchronised seat and backrest movement process; synchronous movement can be locked in four different positions; including seat depth (6 cm) and seat tilt adjustment (-4°)
- **Ident. No. 037:** Motionflex®-Automatic: Synchronised seat and backrest movement process; automatic adaptation of the backrest counterpressure based on the weight of the user; incl. fine adjustment; synchronised movement can be locked in four different positions; two-level seat tilt adjustment (0°/-4°); seat depth adjustment via sliding seat (6 cm)
- **Ident. No. 038:** Ball-Balance mechanism: Seat tilt in all directions up to 4°; 3D function can be fixed; sliding seat 6 cm; adjustable by 7 cm in height

Advantage:
- Stable yet lightweight: Approx. 20 % lighter - can withstand up to 150 kg
- Optimal comfort when sitting: Point-elastic micro-pocket spring core
- Quick and simple: Setup time of just two minutes

Technical data:
- Adjustable in height: Yes
- Height-adjustable backrest: Yes
- Min. seat height: 400 mm
- Max. seat height: 530 mm
- Seat width: 470 mm
- Base frame design: Five-star base with rollers
- Adjustable seat inclination: Yes
- Base frame colour: Black
- Colour of the cushion: Black
- With armrests: Yes
- Replaceable cushion
- Material of frame: Plastic
- Colour: Black
- Width: 720 mm
- Length: 720 mm

NEW

Ident. No. 038

Ident. No. 036

Ident. No. 037

Load-carrying capacity (kg)		150	130	110
Type		Armrests adjustable by 10 cm in height, 6 cm in width and 4 cm in depth (plastic, black), padded backrest, SE mechanism, lumbar support	Armrests adjustable by 10 cm in height, 6 cm in width and 4 cm in depth (plastic, black), padded backrest, MA mechanism, lumbar support	Armrests adjustable by 10 cm in height, 6 cm in width and 4 cm in depth (plastic, black), padded backrest, BB mechanism, lumbar support
50126...	Ident. No.	036 ○+	037 ●+	038 ○+

Prod. Gr. 5CF

DAUPHIN Lordo Flex

NEW

Application:
Dynamic and fatigue-free sitting during the working day - that's what Lordo has been developed for in a unique and distinctive design by Martin Ballendat. Due to alternative mechanism concepts and sophisticated movement technologies for the backrests, the chair anatomy follows the user's movements in a perfectly synchronous and ergonomic way. This ensures that the body is always kept in balance.

Execution:
- Syncro®-Dynamic Advanced mechanism: The seat and backrest follow the movement of the seated user synchronously at the correct angle. Continuous, immediately noticeable adjustment of the constant backrest counterpressure in all working positions (for approx. 40-125 kg body weight). Patented automatic weight compensation for a permanent upright seated posture (patent no. EP 06 35 228 B1). Synchronous movement can be locked in four different positions (SD I). Optional: Synchronous movement can be locked in any position (SD II). Integrated seat tilt adjustment up to -4° during the movement process due to a seat shell that is divided into three sections (active pelvic support). Standard seat depth adjustment via sliding seat (5 cm; can be locked in five different positions).
-

Advantage:
- Semi-transparent and fully flexible: Backrest with elasticated mesh fabric
- adjustable by up to 10 cm in height
- Natural movement impulses: Active sitting with significant relief
- High quality: Selected materials for even greater comfort and aesthetics

Technical data:
- Adjustable in height: Yes
- Height-adjustable backrest: Yes
- Min. seat height: 400 mm
- Max. seat height: 530 mm
- Seat width: 470 mm
- Load-carrying capacity: 110 kg
- Base frame design: Five-star base with rollers
- Adjustable seat inclination: Yes
- Base frame colour: Black
- Colour of the cushion: Black
- With armrests: Yes
- Replaceable cushion
- Material of frame: Plastic
- Type: Armrests adjustable by 10 cm in height and 6 cm in width (plastic, black), mesh backrest, Syncro®-Dynamic Advanced mechanism, 2F armrest
- Colour: Black
- Width: 720 mm
- Length: 720 mm

50126...	Ident. No.	039 O+

Prod. Gr. 5CF

DAUPHIN Shape Mesh Comfort

NEW

Application:
Shape allows you to create your perfect workplace - this swivel chair adapts to your individual needs. Whether big or small, our Balance ergonomics concept allows everyone to sit with the correct posture. Our technologies are patented, have proven their worth millions of times and bear the AGR (Healthy Back Campaign) seal of approval for especially back-friendly products.

Execution:
- Syncro-3D-Balance® mechanism: Synchronous movement can be locked in any position; fast, fine adjustment of the backrest counterpressure with just a few rotations; automatic tilt adjustment of the seat (up to -8° forwards) and backrest (82° to 128° backwards); automatic movement of the seat and backrest to both sides (+/-6°); the Syncro-3D-Balance® mechanism can be locked in the zero setting or at -6° forward tilt; seat depth adjustment via sliding seat (6 cm)

Advantage:
- Always moving: Active, dynamic sitting in all working positions
- Greater freedom of movement: Healthy, fatigue-free sitting with the correct posture
- AGR (Aktion Gesunder Rücken - Healthy Back Campaign) seal of approval: This product is back-friendly!

Technical data:
- Adjustable in height: Yes
- Height-adjustable backrest: No
- Min. seat height: 400 mm
- Max. seat height: 530 mm
- Seat width: 500 mm
- Load-carrying capacity: 150 kg
- Base frame design: Five-star base with rollers
- Adjustable seat inclination: Yes
- Base frame colour: Black
- Colour of the cushion: Black
- With armrests: Yes
- Replaceable cushion
- Material of frame: Plastic
- Type: Armrests adjustable by 10 cm in height, 6 cm in width and 4 cm in depth (plastic, black), radially adjustable by 30° (on both sides), mesh backrest, Syncro-3D-Balance® mechanism, lumbar support
- Colour: Black
- Width: 720 mm
- Length: 720 mm

50126...	Ident. No.	040 O+

Prod. Gr. 5CF

DAUPHIN AdJust Evo Operator SLP office swivel chair

Application:
@Just evo is the ideal product family when it comes to ergonomics, timeless design, user-friendliness and optimal value for money. The chairs are deliberately timeless in design, focused on your individual requirements as a user. And with a few, simple movements, you can adjust your chair so that even sitting for long periods is no problem.

Execution:
- Standard mechanism: Mechanical backrest tilt, individually adjustable and can be locked in any position

Advantage:
- Individual: User-friendly adjustment options
- Comfortable support: Height-adjustable upholstered or mesh backrests
- AGR (Aktion Gesunder Rücken - Healthy Back Campaign) seal of approval: This product is back-friendly!

Technical data:
- Adjustable in height: Yes
- Height-adjustable backrest: Yes
- Min. seat height: 400 mm
- Max. seat height: 530 mm
- Seat width: 470 mm
- Load-carrying capacity: 150 kg
- Base frame design: Five-star base with rollers
- Adjustable seat inclination: Yes
- Base frame colour: Black
- Colour of the cushion: Black
- With armrests: Yes
- Replaceable cushion
- Material of frame: Plastic
- Type: Armrests adjustable by 8 cm in height and 7 cm in width (plastic, black), standard mechanism: mechanical backrest tilt, individually adjustable and can be locked in any position
- Colour: Black
- Width: 720 mm
- Length: 720 mm

NEW

50126...	Ident. No.	030 ●

Prod. Gr. 5CF

DAUPHIN AdJust Evo Mesh SLP office swivel chair

Application:
@Just evo is the ideal product family when it comes to ergonomics, timeless design, user-friendliness and optimal value for money. The chairs are deliberately timeless in design, focused on your individual requirements as a user. And with a few, simple movements, you can adjust your chair so that even sitting for long periods is no problem.

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- Comfortable support: Height-adjustable upholstered or mesh backrests
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- Max. seat height: 530 mm
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- Load-carrying capacity: 150 kg
- Base frame design: Five-star base with rollers
- Adjustable seat inclination: Yes
- Colour of the cushion: Black
- With armrests: Yes
- Replaceable cushion
- Material of frame: Plastic
- Type: Armrests adjustable by 8 cm in height and 7 cm in width (plastic, black), standard mechanism: mechanical backrest tilt, individually adjustable and can be locked in any position
- Colour: Black
- Width: 720 mm
- Length: 720 mm

NEW

Ident. No. 031

Ident. No. 032

Base frame colour		Black	Light grey RAL 7035
50126...	Ident. No.	031 ●	032 ●

Prod. Gr. 5CF

Bosse Desk

Height-adjustable, in various colours

Application:
The MSMP-24 desk with electronic height adjustment proactively promotes a healthy working posture. The controls can be used to intuitively adjust the desk to a suitable working height.

Execution:
- Frame colour: black

Advantage:
- High-quality workmanship
- Available in various colours
- Quick and easy assembly

Delivery:
Disassembled

Technical data:
- Type: Height adjustable
- Design: Electrically adjustable
- Width: 1600 mm
- Depth: 800 mm
- Adjustable in height: Yes
- Min. height adjustment: 625 mm
- Max. height adjustment: 1260 mm
- Material: Wood
- Min./max. height adjustment: 625-1260 mm
- Surface: High-gloss polished
- ESD-capable: No
- Mandatory testing according to DGUV (UVV): No

NEW

Ident. No. 101

Ident. No. 102

Ident. No. 103

Ident. No. 104

Colour		White	Basalt grey RAL 7012	Light grey (bright grey)	Brown
50311...	Ident. No.	101 ●+	102 ●+	103 ●+	104 ●+

Prod. Gr. 5CF

AUTOSTAT Positioner load capacity 0.5-6.0 kg

Type 5250, cable extension 1,500 mm

Execution:
- Housing made of extremely impact-resistant special plastic
- The load is attached via a safe screw snap hook
- Braking force adjustable using lateral adjusting screw
- Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, riveted special spring for retracting the load-bearing cable, insulated suspension, highly shape-stabilised structure

Technical data:
- Model: 5250 0000 01
- Type: 5250
- Min./max. load-carrying capacity: 2-7 kg
- Spring design: Riveted special mainspring
- Max. cable pull-out length: 1500 mm
- Cord in-feed restriction: Rubber ball, absorbs impacts
- Replaceable cord: No
- Material of cable drum: Plastic
- Material of cord: PA - Polyamide
- Material of housing: Plastic
- With automatic locking: No
- Suspension type: Freely rotating and pivot screw karabiner hook
- Adjustable cord length: No
- Load attachment: Screw Karabiner hook
- Spring breakage protection: No
- Colour of housing: Orange
- Housing height: 150 mm
- Housing width: 105 mm
- Housing thickness: 53 mm
- Height: 330 mm

77005...	Ident. No.	255 ●

Prod. Gr. 786

ORION® Spring balancers load capacity 0.5-2.0 kg

Type 5200, cable extension 2,000 mm

Application:
For the ergonomic support of assembly operations. Spring pullers keep tools close at hand at all times during assembly and at the same time ensure that the workplace is tidy. The spring balances are designed in such a way that each work tool is automatically pulled back to the original position after use. Suitable for lightweight tools.

Execution:
- Housing made of impact-resistant plastic
- Carrying capacity easy to adjust via hand wheel
- Suspension with robust steel eyelet, riveted special spring
- Polyamide cable
- 2000 mm cable extension

Advantage:
- Effortless work
- Saves space, lightweight design
- Low cost

Technical data:
- With overrotation protection: No
- Number of springs: 1 PCS
- Spring design: Special mainspring
- Spring breakage protection: No
- Max. cable pull-out length: 2000 mm
- Adjustable cord length: No
- Wire cable diameter: 2 mm
- Replaceable cord: No
- Cord in-feed restriction: Rubber ball, absorbs impacts
- Material of cable drum: Abrasion-proof plastic
- With automatic locking: No
- Suspension type: Ring grommet
- Load attachment: Karabiner hook
- Material of housing: Plastic
- Housing width: 112 mm
- Housing thickness: 55 mm
- Height: 225 mm

Min./max. load-carrying capacity	Model	77005... Ident. No.	
0.5-1.2 kg	5200/1	010	●
1-2 kg	5200/2	020	●

Prod. Gr. 794

AUTOSTAT counterweights (balancers) and spring balancers (retrievers)

For a wide range of uses in industry and trade

“The ultimate solution has a name: AUTOSTAT!

When it comes to handling tools, equipment or auxiliary devices, AUTOSTAT series devices are unsurpassed. These devices successfully rise to every challenge — even under the most difficult conditions.

Spring balance (retractor)

Spring balances are designed so that the retraction force increases as more and more rope is pulled out. The workload is thus returned to its initial position after use by the spring balance. This keeps the workstation clear for other tools or devices. The extremely flat increase in the spring force ensures precise work.

Counterweights (balancers)

The characteristic feature of AUTOSTAT counterweights is their conical cable drum. This produces an almost uniform retraction force across the entire cable extraction. The result is that once the suspended load has been inserted, the position is retained. Furthermore, no increase in the retraction force is observed, particularly for extremely precise and sensitive work. Using Autostat counterweights facilitates effortless work, even over longer periods of time.

Automatic lock

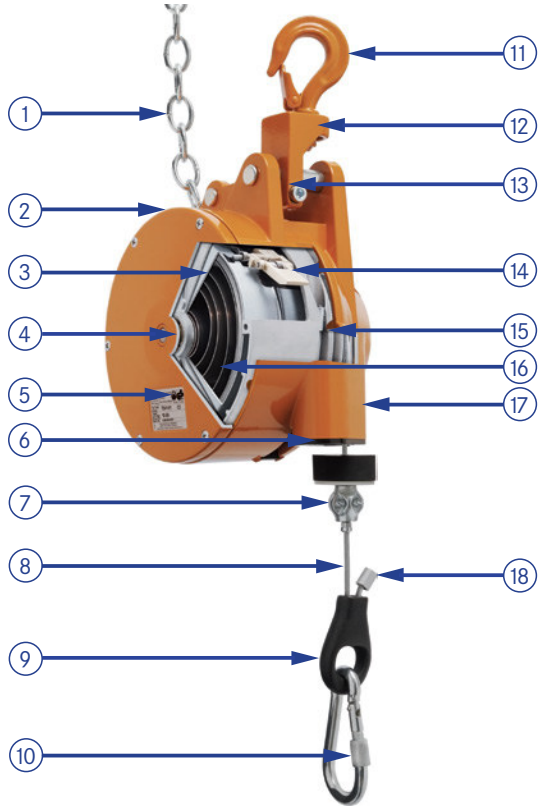
The automatic lock causes early retraction stops at predetermined positions. It is activated by retracting the workload slowly. If the work load is returned quickly, the lock does not engage. This significantly improves work ergonomics for some applications , for example, if you do not wish to return the attached load to the initial position between different work steps. The automatic lock is available for different spring balances and counterweights. Please refer to the corresponding product descriptions.

Patented freewheel

Our patented freewheel is a control guard against incorrect operation for counterweights of types 7241, 7248, 7251 and 7261. The freewheel prevents undesirable spring fractures when the spring is relaxed. It is now impossible for the device to relax too far, and this is no longer transferred to the spring. This prevents unintentional incorrect operation and significantly increases service life. This device is integrated as standard in all our devices in model series 7241, 7248, 7251 and 7261.”

Advantages at a glance:

- Trouble-free workflow
- Effortless work
- Less wear on personnel and machines
- Extremely high operational safety
- Extremely easy maintenance
- Very high durability
- Fast procurement channels
- Continuous further development of our product range
- Local point of contact



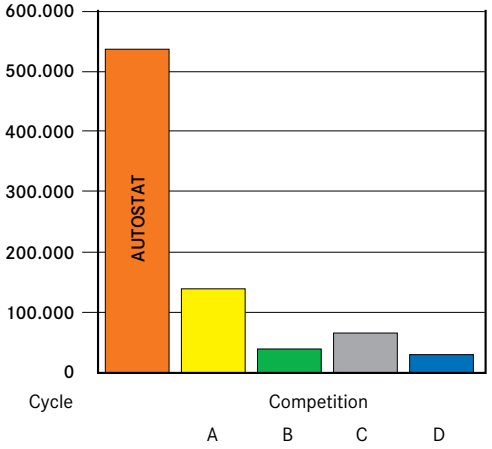
① Safety chain as separate fall protection device
② High-strength aluminium alloy or impact-resistant plastic
③ Strapped or riveted suspension spring
④ Double ball bearing cable drum
⑤ GS mark, 5-fold safety factor throughout
⑥ Cable guide nozzle
⑦ Adjustable cable retraction limit
⑧ Twist-resistant cable
⑨ Cable clamp for infinite adjustment of cable length
⑩ High-quality screw-on snap hook
⑪ High-strength forged hook
⑫ Ball bearing suspension
⑬ Infinitely adjustable suspension to prevent wear
⑭ Protection against spring fracture as standard from 3 kg load capacity
⑮ Patented over-twist safeguard on the suspension spring
⑯ High-strength special suspension spring
⑰ Easy and safe load adjustment
⑱ Free cable end for extending cable – special lengths on request

AUTOSTAT counterweights (balancers) and spring balancers (retrievers)
For a wide range of uses in industry and trade

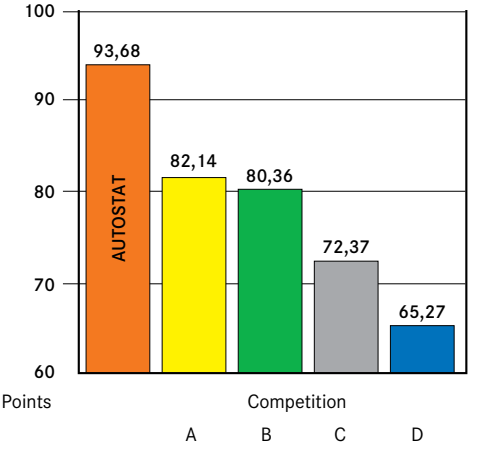
Unmatched performance

A neutral product comparison test was conducted at the University of Esslingen during research for a thesis.
AUTOSTAT spring balances and balancers lead the field by far - why settle for less?

Evaluation of the service life until failure due to fatigue occurs:



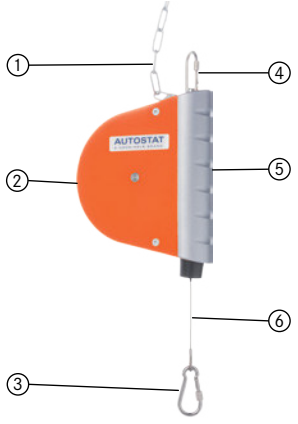
Overall evaluation:



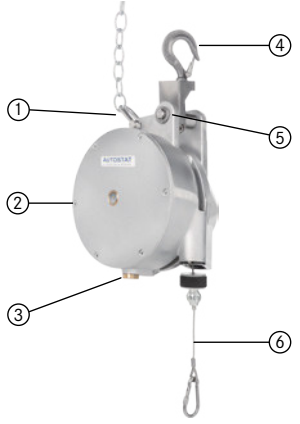
Evaluation criteria:
- Load-carrying range
- Pulling diagram
- Life
- Cable extraction
- Safety options
- Service life of cable / drum
- Life of the spring
- Availability of spare parts
- Delivery time
- Repair friendliness
- Materials used
- Product documentation
- Scope of delivery

AUTOSTAT rustproof design
of spring balances and counterweights

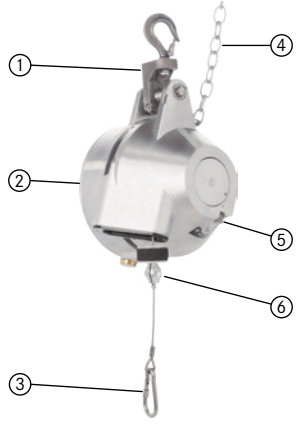
HAHN+KOLB has expanded its range for the food industry with handling systems and offers versions made entirely of rustproof material with the AUTOSTAT spring balances and counterweights (balancers). whereas aggressive cleaning agents and high-pressure cleaners for disinfection – for example in the meat-processing industry – attack the paint on systems as they age, the AUTOSTAT solutions feature a high-strength aluminium alloy. the installed moulded parts, screws, cables and snap hooks are made of stainless steel. the safety hooks and all bolts are also made of stainless steel.
this makes the systems totally safe to use, while also ensuring a significantly longer period of use.



① stainless steel safety chain
② extremely impact-resistant special plastic housing
③ stainless steel carabiner hook
④ stainless steel safety hook
⑤ stainless steel bracket
⑥ stainless steel rope



① stainless steel shackle
② stainless steel fittings
③ brass stop
④ stainless steel safety hook
⑤ stainless steel bolt, pipe, washer and split pin
⑥ stainless steel rope



① plain aluminium holder
② plain high-strength aluminium alloy
③ stainless steel carabiner hook
④ stainless steel safety chain
⑤ stainless steel screw
⑥ aluminium clip

AUTOSTAT Spring balancers load capacity 0.0-2.5 kg (DIN 15112)

type 7200

Application:

For the ergonomic support of assembly operations. Spring pullers keep tools close at hand at all times during assembly and at the same time ensure that the workplace is tidy. The spring balances are designed in such a way that each work tool is automatically pulled back to the original position after use. Suitable for lightweight tools.

Execution:

- Housing made of extremely shock-resistant special plastic
- Cable drum is made of non abrasive plastic
- High-strength special motive spring
- Simple load setting secured against incorrect operation
- Cable feed limitation is impact absorbing and adjustable
- The load is attached via a safe snap hook
- Suspension with screw snap hook
- Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, insulated suspension, shape-stabilised structure
- Working area: Cable extraction: 1600 mm, ropes in special lengths available on request

Advantage:

- Effortless work

Technical data:

- With overrotation protection: No
- Number of springs: 1 PCS
- Spring design: Special mainspring
- Spring breakage protection: No
- Max. cable pull-out length: 1600 mm
- Adjustable cord length: No
- Wire cable diameter: 2 mm
- Replaceable cord: No
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Abrasion-proof plastic
- Material of cord: Steel
- With automatic locking: No
- Suspension type: Freely rotating and pivot screw karabiner hook
- Load attachment: Karabiner hook
- Material of housing: Plastic
- Housing height: 134.3 mm
- Housing width: 108 mm
- Housing thickness: 36.7 mm
- Design: Standard
- Height: 420 mm

Ident. No. 300
Type 7200 0800

		Colour of housing	Orange	
Min./max. load-carrying capacity	Model		77001... Ident. No.	
0-0.5 kg	7200/0		300	●
0.3-1.5 kg	7200/1		301	●
1.2-2.5 kg	7200/2		302	●

Prod. Gr. 772

AUTOSTAT Rustproof version (DIN 15112)

Min./max. load-carrying capacity	Model	77001... Ident. No.	
0-0.5 kg	7200/0	593	○
0.3-1.5 kg	7200/1	594	●
1.2-2.5 kg	7200/2	595	○

Prod. Gr. 7EB

AUTOSTAT Spring balancers load capacity 0.5-5.5 kg (DIN 15112)

Types 7211 and 7212

Application:

For the ergonomic support of assembly operations. Spring pullers keep tools close at hand at all times during assembly and at the same time ensure that the workplace is tidy. The spring balances are designed in such a way that each work tool is automatically pulled back to the original position after use. Suitable for lightweight tools.

Execution:

- Housing made of extremely shock-resistant special plastic
- Cable drum is made of non abrasive plastic
- High-strength special motive spring
- Simple load setting secured against incorrect operation
- Cable feed limitation is impact absorbing and adjustable
- The load is attached via a safe snap hook
- Suspension with screw snap hook
- Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, insulated suspension, shape-stabilised structure
- **Ident. No. 321–323:** The automatic cable retraction stop allows the device to be locked. Locking not to be used for load change!

Advantage:

- Effortless work

Technical data:

- With overrotation protection: No
- Spring design: Special mainspring
- Spring breakage protection: No
- Adjustable cord length: No
- Wire cable diameter: 2 mm
- Replaceable cord: No
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Abrasion-proof plastic
- Material of cord: Steel
- Suspension type: Freely rotating and pivot screw karabiner hook
- Load attachment: Screw Karabiner hook
- Material of housing: Plastic
- Housing height: 166.5 mm
- Housing width: 133 mm
- Housing thickness: 45 mm
- Design: Standard
- Height: 363 mm

Ident. No. 311, 321

					Colour of housing	Orange
Min./max. load-carrying capacity	Model	Number of springs (PCS)	Max. cable pull-out length (mm)	With automatic locking	77001... Ident. No.	
0.5-2 kg	7211/1	1	2500	No	311	●
1.5-3 kg	7211/2	1	2500	No	312	●
3.0-5.5 kg	7211/5	1	1800	No	313	●
0.5-2 kg	7212/1	1	2500	Yes	321	●
1.5-3 kg	7212/2	1	2500	Yes	322	●
3-5.5 kg	7212/5	1	1800	Yes	323	●

Prod. Gr. 772

AUTOSTAT Rustproof version (DIN 15112)

Min./max. load-carrying capacity	Model	With automatic locking	77001... Ident. No.	
0.5-2 kg	7211/1	No	584	●
1.5-3 kg	7211/2	No	585	●
0.5-2 kg	7212/1	Yes	586	○
1.5-3 kg	7212/2	Yes	587	○

Prod. Gr. 7EB

AUTOSTAT Spring balancers with load capacity of 2.0-14.0 kg (DIN 15112)

Types 7221 and 7222

Application:

Can be used for following tools and devices, e. g.: Electrical and compressed air hand machines, engravers, exhaust hoses, compressed air devices, paint spray guns, film welding devices

Execution:

- Housing made of extremely shock-resistant special plastic
- Suspension via a freely turning and swivelling safety snap hook
- Infinitely variable load setting via an adjusting screw with over-twist safeguard
- The load is attached via a safe screw snap hook
- Cable feed limitation is impact absorbing and adjustable
- Rope is infinitely variable in its length via a rope clamp
- If required, the cable can be replaced very easily
- Safety device: Fall arrester according to DIN 15112 included in scope of delivery, spring breakage protection, high-strength and bandaged special mainspring, lockable cable drum
- **Ident. No. 411–414:** The automatic cable retraction stop allows the device to be locked. Locking not to be used for load change!

Advantage:

- Effortless work

Technical data:

- With overrotation protection: Yes
- Number of springs: 1 PCS
- Spring design: Special mainspring
- Spring breakage protection: Yes
- Max. cable pull-out length: 3000 mm
- Adjustable cord length: Yes
- Wire cable diameter: 2.5 mm
- Replaceable cord: Yes
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Abrasion-proof plastic
- Material of cord: Steel
- Suspension type: Freely rotating and pivot screw karabiner hook
- Load attachment: Screw Karabiner hook
- Material of housing: Plastic
- Housing height: 259.4 mm
- Housing width: 211.5 mm
- Housing thickness: 70 mm
- Design: Standard
- Height: 550 mm

Ident. No. 401, 411–414

		Colour of housing	Orange	
Min./max. load-carrying capacity	Model	With automatic locking	77001... Ident. No.	
2-5 kg	7221/1	No	401	●
4-8 kg	7221/2	No	402	●
7-10 kg	7221/3	No	403	●
10-14 kg	7221/4	No	404	●
2-5 kg	7222/1	Yes	411	●
4-8 kg	7222/2	Yes	412	●
7-10 kg	7222/3	Yes	413	●
10-14 kg	7222/4	Yes	414	●

Prod. Gr. 772

AUTOSTAT Rustproof version (DIN 15112)

Min./max. load-carrying capacity	Model	With automatic locking	77001... Ident. No.	
2-5 kg	7221/1	No	568	●
4-8 kg	7221/2	No	569	●
7-10 kg	7221/3	No	570	●
10-14 kg	7221/4	No	571	●
2-5 kg	7222/1	Yes	572	○
4-8 kg	7222/2	Yes	573	○
7-10 kg	7222/3	Yes	574	○
10-14 kg	7222/4	Yes	575	○

Prod. Gr. 7EB

AUTOSTAT Spring balancers with pneumatic spiral hose, load capacity 0.5-3.0 kg (DIN 15112)

Type 7211, cable extension 2,500 mm

Application:
Particularly suited for compressed air tools with high air consumption.

Execution:
- Larger load-bearing ranges
- Housing made of extremely shock-resistant special plastic
- Cable drum is made of non abrasive plastic
- Riveted load-bearing spring made from high-strength special steel
- Suspension with screw snap hook
- Cable feed limitation is impact absorbing and adjustable
- The load is attached via a safe screw snap hook
- Spiral hose: made of PU, 9 x 13 mm, colour yellow or 11 x 16 mm, colour blue, including straight inlets and outlets of 500 mm, operating pressure up to max. 10 bar, without compressed air connections
- Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, insulated suspension, shape-stabilised structure
- Working area: Cable extraction: 2500 mm

Delivery:
Without compressed air connections and couplings, deliverable on request: with automatic locking

Technical data:
- Spring design: Special mainspring
- Spring breakage protection
- Max. cable pull-out length: 2500 mm
- Adjustable cord length: No
- Wire cable diameter: 2 mm
- Replaceable cord: No
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Plastic
- With automatic locking: No
- Connection thread: Without
- Max. hose extension length: 2500 mm
- Max. operating pressure: 10 bar
- Suspension type: Freely rotating and pivot screw karabiner hook
- Load attachment: Screw Karabiner hook
- Housing height: 166.5 mm
- Housing width: 133 mm
- Housing thickness: 45 mm
- Height: 420 mm

Ident. No. 501–502

Min./max. load-carrying capacity	Model	Inner hose Ø (mm)	Outer Ø of hose (mm)	Material of housing	77001... Ident. No.	
0.5-2 kg	7211/101	9	13	Plastic	501	○
1.5-3 kg	7211/102	9	13	Plastic	502	○
0.5-2 kg	7211/111	11	16	Plastic	511	○
1.5-3 kg	7211/112	11	16	-	512	○

Prod. Gr. 772

AUTOSTAT Spring balancers with pneumatic spiral hose, load capacity 2.0-14.0 kg (DIN 15112)

Type 7221, cable extension 3,000 mm

Application:
Particularly suited for compressed air tools with high air consumption. For large working areas (cable extension 3000 mm) and heavy compressed air tools (carrying capacity up to 14 kg).

Execution:
- Larger load-bearing ranges
- Housing made of extremely shock-resistant special plastic
- Suspension with screw snap hook
- The load is attached via a safe screw snap hook
- Cable feed limitation is impact absorbing and adjustable
- Rope is infinitely variable in its length via a rope clamp
- If required, the cable can be replaced very easily
- Spiral hose: made of PU, 9 x 13 mm, colour yellow or 11 x 16 mm, colour blue, including straight inlets and outlets of 500 mm, operating pressure up to max. 10 bar, without compressed air connections
- Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, spring safety device, hooped special motive spring, cable drum, can be blocked, push clamp for securing the cable end
- Working area: Cable extraction: 3000 mm

Delivery:
Without compressed air connections and couplings, deliverable on request: with automatic locking

Technical data:
- Spring design: Special mainspring
- Spring breakage protection
- Max. cable pull-out length: 3000 mm
- Adjustable cord length: Yes
- Wire cable diameter: 3 mm
- Replaceable cord: Yes
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Plastic
- With automatic locking: No
- Connection thread: Without
- Max. hose extension length: 3000 mm
- Max. operating pressure: 10 bar
- Suspension type: Freely rotating and pivot screw karabiner hook
- Load attachment: Screw Karabiner hook
- Material of housing: Plastic
- Housing height: 259.4 mm
- Housing width: 211.5 mm
- Housing thickness: 70 mm
- Height: 550 mm

Ident. No. 611–614

Min./max. load-carrying capacity	Model	Inner hose Ø (mm)	Outer Ø of hose (mm)	77001... Ident. No.	
2-5 kg	7221/101	9	13	601	○
4-8 kg	7221/102	9	13	602	●
7-10 kg	7221/103	9	13	603	○
10-14 kg	7221/104	9	13	604	○
2-5 kg	7221/111	11	16	611	○
4-8 kg	7221/112	11	16	612	○
7-10 kg	7221/113	11	16	613	○
10-14 kg	7221/114	11	16	614	○

Prod. Gr. 772

AUTOSTAT ATEX balancer with load capacity of 15.0-55.0 kg (DIN 15112)

Type 7235 EX, cable extension 2,000 mm, rustproof

Application:
For use in explosive atmospheres containing gases and dusts. Can be used for following tools and devices, e. g.: compressed air devices, electrical devices, paint spray guns, cable-binding pliers, nailing devices, flue gas swivelling arms, robot power supply line, welding pliers, packaging devices, etc.

Execution:
- Housing and housing cover made of gravity-die-cast aluminium
- Cable drum ball-bearing
- Suspension via a freely turning and swivelling safety snap hook
- Carrying force is infinitely variable via adjusting screw
- Load is attached via a screw snap hook
- cable feed limitation is impact absorbing and adjustable
- If required, the cable can be replaced very easily
- Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, spring safety device, riveted special motive spring, cable drum, can be blocked with integrated locking device
- Working area: Cable extension: 2000 mm, ropes in special lengths available on request
- Integrated earth connection

Advantage:
- Effortless work, even over extended periods
- Easy positioning of loads in potentially explosive atmospheres
- Protects employees from being overloaded
- Reduce costs by reducing throughput times thanks to ergonomic workplace design
- Increases productivity thanks to improved handling of applications

Notes:
Application areas for flammable gases: II 2/2G EXH LLA + ethanol T6 GB/GB; for combustible dusts: II2/2D Ex h IIIC T85°C DB/DB

Technical data:
- Type: 7235 EX
- With automatic locking: No
- Max. cable pull-out length: 2000 mm
- Adjustable cord length: No
- Material of cord: Stainless Steel
- Wire cable diameter: 3 mm
- Replaceable cord: Yes
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Gravity die-cast aluminium
- Suspension type: Freely rotating and pivot screw karabiner hook
- Load attachment: Screw Karabiner hook
- Material of housing: Gravity die-cast aluminium
- Surface: Uncoated
- Housing width: 223 mm
- Housing thickness: 150.5 mm
- Design: All external components made of non-rusting material
- Height: 530 mm
- Spring design: Riveted special mainspring
- With overrotation protection: No
- Spring breakage protection: Yes
- Number of springs: 1 PCS
- DIN: 15112
- Mandatory testing according to DGUV (UVV): No

Ident. No. 025

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	77001... Ident. No.	
7235/1 EX	15-25 kg	15	25	025	○
7235/2 EX	25-35 kg	25	35	035	○
7235/3 EX	35-45 kg	35	45	045	○
7235/4 EX	45-55 kg	45	55	055	○

Prod. Gr. 772

AUTOSTAT Balancer with extending pneumatic hose, load capacity 0.4-3.0 kg (DIN 15112)

Type 7223, 800 mm hose extension

Execution:
- Air supply via the AIR spring balance by installed compressed air hose directly to the compressed air machine
- Rate of air flow is identical in inserted and extracted hose
- Rotating joint for air connection is integrated in the device
- hose reel is particularly soft and free-moving
- Housing and hose drum made of extremely shock-resistant and abrasion-proof special plastic
- Safety device: freely rotating and swivelling suspension with a screw snap hook, fall protection in line with DIN 15112 included in scope of delivery, carrying capacity adjusted via notches, tools attached using quick-action coupling provided, adjustable elastic cable retraction limiter, riveted special motive spring
- Working area: Hose extension: 800 mm

Delivery:
Available upon request: Hose extensions

Technical data:
- Spring design: Special mainspring
- Spring breakage protection
- Adjustable cord length
- Replaceable cord
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Plastic
- With automatic locking: No
- Connection thread
- Max. hose extension length: 800 mm
- Inner hose diameter: 6 mm
- Outer diameter of hose: 8 mm
- Max. operating pressure: 10 bar
- Suspension type: Freely rotating and pivot screw karabiner hook
- Load attachment: Screw Karabiner hook
- Material of housing: Plastic
- Housing width: 141 mm
- Housing thickness: 71 mm
- Height: 385 mm

Min./max. load-carrying capacity	Model	77000... Ident. No.	
0.4-1.2 kg	7223/1	651	●
1.2-2.2 kg	7223/2	652	●
2.2-3 kg	7223/3	653	●

Prod. Gr. 772

AUTOSTAT Balancer with load capacity of 0.4-6.5 kg (DIN 15112)

Type 7228, cable extension 1,600 mm

Application:
Can be used with the following tools and devices, e.g. compressed air devices, electric devices, paint spray guns, cable-binding pliers, nailing devices, flue gas swivelling arms, robot power supply line, welding pliers, packaging devices etc.

Execution:
- Housing made of extremely shock-resistant special plastic
- Suspended with rotating screw snap hooks
- Infinitely adjustable load, via notches
- The load is attached via a safe screw snap hook
- Cable feed limitation is impact absorbing and adjustable
- Rope is infinitely variable in its length via a rope clamp
- If required, the cable can be replaced very easily
- Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, spring safety device, riveted special motive spring, cable drum, can be blocked, push clamp for securing the cable end
- Working area: Cable extraction: 1600 mm, ropes in special lengths available on request

Advantage:
- Effortless work

Technical data:
- Type: 7228
- With automatic locking: No
- Max. cable pull-out length: 1600 mm
- Adjustable cord length: Yes
- Wire cable diameter: 3 mm
- Replaceable cord: Yes
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Highly abrasion-proof plastic
- Suspension type: Freely rotating and pivot screw karabiner hook
- Load attachment: Screw Karabiner hook
- Material of housing: Plastic
- Housing width: 141 mm
- Housing thickness: 71 mm
- Colour of housing: Orange
- Height: 460 mm
- Spring design: Riveted special mainspring
- With overrotation protection: No
- Number of springs: 1 PCS
- DIN: 15112
- Mandatory testing according to DGUV (UVV): No

Ident. No. 586

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	Spring breakage protection	77000... Ident. No.	
7228/1	0.4-1.2 kg	0.4	1.2	No	586	●
7228/2	1.2-2.6 kg	1.2	2.6	No	587	●
7228/3	2.6-3.8 kg	2.6	3.8	Yes	588	●
7228/4	3.8-5.2 kg	3.8	5.2	Yes	589	●
7228/5	5.2-6.5 kg	5.2	6.5	Yes	001	●

Prod. Gr. 772

AUTOSTAT Balancer with load capacity of 3.0-21.0 kg (DIN 15112)

Types 7230 and 7231

Application:

Can be used for following tools and devices, e. g.: compressed air devices, electrical devices, paint spray guns, cable-binding pliers, nailing devices, flue gas swivelling arms, robot power supply line, welding pliers, packaging devices, etc.

Execution:

- Housing made of extremely shock-resistant special plastic
- Infinitely adjustable load, via adjusting screw
- The load is attached via a safe screw snap hook
- Cable feed limitation is impact absorbing and adjustable
- Rope is infinitely variable in its length via a rope clamp
- If required, the cable can be replaced very easily
- Working area: Cable extraction: 2000 mm, ropes in special lengths available on request
- **Ident. No. 590, 600, 610, 620, 630, 640:**
  - Suspension via a freely turning and swivelling safety hook
  - Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, spring safety device, riveted special motive spring, cable drum, can be blocked (with integrated locking device), push clamp for securing the cable end
- **Ident. No. 594, 604, 614, 624, 634, 644:**
  - suspension via a freely turning and swivelling safety hook
  - Safety device: Protection against falling in line with DIN 15112 included in scope of delivery, spring safety device, riveted special motive spring, cable drum, can be blocked (with integrated locking device), push clamp for securing the cable end
  - Automatic stop allows the device to be locked. Locking not to be used for load change!

Advantage:

- Effortless work

Technical data:

- Max. cable pull-out length: 2000 mm
- Adjustable cord length: Yes
- Material of cord: Steel
- Wire cable diameter: 3 mm
- Replaceable cord: Yes
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Highly abrasion-proof plastic
- Suspension type: Freely rotating and pivot safety hook
- Load attachment: Screw Karabiner hook
- Material of housing: Plastic
- Housing width: 180 mm
- Housing thickness: 130 mm
- Design: Standard
- Colour of housing: Orange
- Height: 520 mm
- Spring design: Riveted special mainspring
- With overrotation protection: No
- Spring breakage protection: Yes
- Number of springs: 1 PCS
- DIN: 15112
- Mandatory testing according to DGUV (UVV): No

Ident. No. 590–594

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	Type	With automatic locking	77000... Ident. No.	
7230/1	3-5 kg	3	5	7230	No	590	●
7230/2	4.5-7 kg	4.5	7	7230	No	600	●
7230/3	6-10 kg	6	10	7230	No	610	●
7230/4	9-14 kg	9	14	7230	No	620	●
7230/5	13-17 kg	13	17	7230	No	630	●
7230/6	16-21 kg	16	21	7230	No	640	●
7231/1	3-5 kg	3	5	7231	Yes	594	●
7231/2	4.5-7 kg	4.5	7	7231	Yes	604	●
7231/3	6-10 kg	6	10	7231	Yes	614	●
7231/4	9-14 kg	9	14	7231	Yes	624	●
7231/5	13-17 kg	13	17	7231	Yes	634	●
7231/6	16-21 kg	16	21	7231	Yes	644	●

Prod. Gr. 772

AUTOSTAT Rustproof version (DIN 15112)

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	Type	With automatic locking	77001... Ident. No.	
7230/1	3-5 kg	3	5	7230	No	546	●
7230/2	4.5-7 kg	4.5	7	7230	No	547	●
7230/3	6-10 kg	6	10	7230	No	548	●
7230/4	9-14 kg	9	14	7230	No	549	●
7230/5	13-17 kg	13	17	7230	No	550	●
7230/6	16-21 kg	16	21	7230	No	551	●
7231/1	3-5 kg	3	5	7231	Yes	526	○
7231/2	4.5-7 kg	4.5	7	7231	Yes	527	○
7231/3	6-10 kg	6	10	7231	Yes	528	○
7231/4	9-14 kg	9	14	7231	Yes	529	○
7231/5	13-17 kg	13	17	7231	Yes	530	○
7231/6	16-21 kg	16	21	7231	Yes	531	○

Prod. Gr. 7EB

AUTOSTAT Balancer with load capacity of 15.0-55.0 kg (DIN 15112)

Types 7235 and 7236

Application:
Areas of application e. g.: Meat packing machines, welding tongs, sawing machines, etc.

Execution:
- Housing and the cable drum made of aluminium sand cast
- Cable drum ball-bearing
- Suspension via a freely turning and swivelling safety snap hook
- Carrying force is infinitely variable via adjusting screw
- Load is attached via a screw snap hook
- Cable feed limitation is impact absorbing and adjustable
- If required, the cable can be replaced very easily
- Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, spring safety device, riveted special motive spring, cable drum, can be blocked with integrated locking device
- Working area: Cable extraction: 2000 mm, ropes in special lengths available on request
- **Ident. No. 681–684:** Automatic stop allows the device to be locked. Locking not to be used for load change!

Advantage:
- Effortless work
- **Ident. No. 671–674:** Can be used as a spring balance

Technical data:
- Max. cable pull-out length: 2000 mm
- Adjustable cord length: No
- Material of cord: Steel
- Wire cable diameter: 3 mm
- Replaceable cord: Yes
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Gravity die-cast aluminium
- Suspension type: Freely rotating and pivot screw karabiner hook
- Load attachment: Screw Karabiner hook
- Material of housing: Gravity die-cast aluminium
- Surface: Powder-coated
- Housing width: 223 mm
- Housing thickness: 150.5 mm
- Design: Standard
- Colour of housing: Orange
- Height: 530 mm
- Spring design: Riveted special mainspring
- With overrotation protection: No
- Spring breakage protection: Yes
- Number of springs: 1 PCS
- DIN: 15112
- Mandatory testing according to DGUV (UVV): No

Ident. No. 671–672

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	Type	With automatic locking	77000... Ident. No.	
7235/1	15-25 kg	15	25	7235	No	671	●
7235/2	25-35 kg	25	35	7235	No	672	●
7235/3	35-45 kg	35	45	7235	No	673	●
7235/4	45-55 kg	45	55	7235	No	674	●
7236/1	15-25 kg	15	25	7236	Yes	681	○
7236/2	25-35 kg	25	35	7236	Yes	682	●
7236/3	35-45 kg	35	45	7236	Yes	683	●
7236/4	45-55 kg	45	55	7236	Yes	684	○

Prod. Gr. 772

AUTOSTAT Rustproof version (DIN 15112)

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	Type	With automatic locking	77001... Ident. No.	
7235/1	15-25 kg	15	25	7235	No	675	●
7235/2	25-35 kg	25	35	7235	No	676	●
7235/3	35-45 kg	35	45	7235	No	677	●
7235/4	45-55 kg	45	55	7235	No	678	●
7236/1	15-25 kg	15	25	7236	Yes	685	○
7236/2	25-35 kg	25	35	7236	Yes	686	○
7236/3	35-45 kg	35	45	7236	Yes	687	○
7236/4	45-55 kg	45	55	7236	Yes	688	○

Prod. Gr. 7EB

AUTOSTAT Balancer with load capacity of 12.0-100.0 kg (DIN 15112)

Type 7241, cable extension 2,000 mm

MADE IN

Application:
Can be used for following tools and devices, e. g.: Multi-purpose screwdriver, butcher's machines, welding tongs, X-ray equipment, monitor suspensions, measuring robots, riveting machines.

Execution:
- Housing and the cable drum made of high-pressure die cast aluminium
- Cable drum double ball bearings
- Suspension can be positioned to the load which is done by a safety hook in free rotating and swivelling design with hook mouth securing
- Carrying force is infinitely variable via adjusting screw
- Load is attached via a screw snap hook
- Cable feed limitation is impact absorbing and adjustable
- Rope is infinitely variable in its length via a rope clamp
- If required, the cable can be replaced very easily
- Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, patented over-twist safeguard of suspension spring, spring safety device, fully encapsulated special motive spring, cable drum, can be blocked with integrated locking device, push clamp for securing the cable end
- Working area: Cable extraction: 2000 mm, cables in special lengths available on request. Special design with manual cable retraction lock deliverable upon request. This allows the cable to be blocked with a single movement when working. Locking not to be used for load change!

Advantage:
- Effortless work

Technical data:
- Type: 7241
- With automatic locking: No
- Max. cable pull-out length: 2000 mm
- Adjustable cord length: Yes
- Material of cord: Steel
- Wire cable diameter: 5 mm
- Replaceable cord: Yes
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Die-cast aluminium
- Suspension type: Freely rotating and pivot safety hook, positionable
- Load attachment: Screw Karabiner hook
- Material of housing: Die-cast aluminium
- Surface: Powder-coated
- Housing width: 249 mm
- Housing thickness: 202 mm
- Height: 750 mm
- Spring design: Riveted special mainspring in separate spring housing
- With overrotation protection: Yes
- Spring breakage protection: Yes
- Number of springs: 1 PCS
- Mandatory testing according to DGUV (UVV): No

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	DIN	77000... Ident. No.	
7241/1	12-20 kg	12	20	15112	701	●
7241/2	20-30 kg	20	30	-	702	●
7241/3	30-45 kg	30	45	-	703	●
7241/5	60-75 kg	60	75	-	705	●
7241/7	90-100 kg	90	100	-	707	●

Prod. Gr. 772

AUTOSTAT Rustproof version (DIN 15112)

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	DIN	77001... Ident. No.	
7241/1	12-20 kg	12	20	15112	711	○
7241/3	30-45 kg	30	45	-	713	●
7241/4	45-60 kg	45	60	-	714	●
7241/5	60-75 kg	60	75	-	715	○
7241/6	75-90 kg	75	90	-	716	○
7241/7	90-100 kg	90	100	-	717	○

Prod. Gr. 7EB

AUTOSTAT Balancer with load capacity of 15.0-100.0 kg (DIN 15112)

Type 7251, cable extension 3,000 mm

Application:

Can be used for following tools and devices, e. g.: multi-purpose screwdrivers, butcher's machines, welding tongs, measuring robots, packaging machines, riveting tongs, assembly devices etc.

Execution:

- Housing and the cable drum made of aluminium sand cast
- Cable drum double ball bearings
- Suspension can be positioned to the load which is done by a safety hook in free rotating and swivelling design with hook mouth securing
- Carrying force is infinitely variable via adjusting screw
- Load is attached via a screw snap hook
- Cable feed limitation is impact absorbing and adjustable
- Rope is infinitely variable in its length via a rope clamp
- If required, the cable can be replaced very easily
- Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, patented over-twist safeguard of suspension spring, spring safety device, fully encapsulated special motive spring, cable drum, can be blocked with integrated locking device, push clamp for securing the cable end
- Working area: Cable extraction: 3000 mm, ropes in special lengths available on request

Technical data:

- Type: 7251
- With automatic locking: No
- Max. cable pull-out length: 3000 mm
- Adjustable cord length: Yes
- Material of cord: Steel
- Wire cable diameter: 5 mm
- Replaceable cord: Yes
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Gravity die-cast aluminium
- Suspension type: Freely rotating and pivot safety hook, positionable
- Load attachment: Screw Karabiner hook
- Material of housing: Gravity die-cast aluminium
- Surface: Powder-coated
- Housing width: 290 mm
- Housing thickness: 258 mm
- Design: Standard
- Height: 800 mm
- Spring design: Riveted special mainspring in separate spring housing
- With overrotation protection: Yes
- Spring breakage protection: Yes
- Number of springs: 1 PCS
- DIN: 15112
- Mandatory testing according to DGUV (UVV): No

Advantage:

- Effortless work

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	77000... Ident. No.	
7251/1	15-25 kg	15	25	861	○+
7251/2	25-35 kg	25	35	862	○+
7251/3	35-50 kg	35	50	863	○+
7251/4	50-65 kg	50	65	864	○+
7251/5	65-80 kg	65	80	865	○+
7251/6	80-90 kg	80	90	866	○+
7251/7	90-100 kg	90	100	867	○+

Prod. Gr. 772

AUTOSTAT Rustproof version (DIN 15112)

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	77001... Ident. No.	
7251/1	15-25 kg	15	25	881	○
7251/2	25-35 kg	25	35	882	○
7251/3	35-50 kg	35	50	883	●
7251/4	50-65 kg	50	65	884	●
7251/5	65-80 kg	65	80	885	○
7251/6	80-90 kg	80	90	886	●+
7251/7	90-100 kg	90	100	887	●+

Prod. Gr. 7EB

AUTOSTAT Balancer with load capacity of 100.0-200.0 kg (DIN 15112)

Type 7251 with 2 springs, cable extension 3,000 mm

Application:

Can be used for following tools and devices, e. g.: multi-purpose screwdrivers, butcher's machines, welding tongs, measuring robots, packaging machines, riveting tongs, assembly devices etc.

Execution:

- Housing and the cable drum made of aluminium sand cast
- Cable drum double ball bearings
- Suspension can be positioned to the load which is done by a safety hook in free rotating and swivelling design with hook mouth securing
- Carrying force is infinitely variable via adjusting screw
- Load is attached via a screw snap hook
- Cable feed limitation is impact absorbing and adjustable
- Rope is infinitely variable in its length via a rope clamp
- If required, the cable can be replaced very easily
- Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, patented over-twist safeguard of suspension spring, spring safety device, fully encapsulated special motive spring, cable drum, can be blocked with integrated locking device, push clamp for securing the cable end
- Working area: Cable extraction: 3000 mm, ropes in special lengths available on request

Technical data:

- Type: 7251
- With automatic locking: No
- Max. cable pull-out length: 3000 mm
- Adjustable cord length: Yes
- Material of cord: Steel
- Wire cable diameter: 5 mm
- Replaceable cord: Yes
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Gravity die-cast aluminium
- Suspension type: Freely rotating and pivot safety hook, positionable
- Load attachment: Screw Karabiner hook
- Material of housing: Gravity die-cast aluminium
- Surface: Powder-coated
- Housing width: 290 mm
- Housing thickness: 348 mm
- Design: Standard
- Height: 800 mm
- Spring design: Riveted special mainspring in separate spring housing
- With overrotation protection: Yes
- Spring breakage protection: Yes
- Number of springs: 2 PCS
- DIN: 15112
- Mandatory testing according to DGUV (UVV): No

Advantage:

- Effortless work

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	77000... Ident. No.	
7251/8	100-115 kg	100	115	868	●+
7251/9	115-130 kg	115	130	869	●+
7251/10	130-140 kg	130	140	870	○+
7251/11	140-150 kg	140	150	871	○+
7251/12	150-170 kg	150	170	872	○+
7251/13	170-180 kg	170	180	873	○+
7251/14	180-190 kg	180	190	874	○+
7251/15	190-200 kg	190	200	875	●+

Prod. Gr. 772

AUTOSTAT Rustproof version (DIN 15112)

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	77001... Ident. No.	
7251/8	100-115 kg	100	115	888	○+
7251/9	115-130 kg	115	130	889	○+
7251/10	130-140 kg	130	140	890	○+
7251/11	140-150 kg	140	150	891	○+
7251/12	150-170 kg	150	170	892	○+
7251/13	170-180 kg	170	180	893	●+
7251/14	180-190 kg	180	190	894	○+
7251/15	190-200 kg	190	200	895	○+

Prod. Gr. 7EB

AUTOSTAT Balancer with load capacity of 12.0-100.0 kg, with 2 load cables (DIN 15112)

Type 7248, cable extension 2,000 mm

Application:
Can be used for following tools and devices, e. g.: Installing in devices, X-ray equipment, welding templates, in the automobile industry, multi-purpose screwdrivers, measuring arms etc.

Execution:
- Highest safety due to double bearing rope
- Product protection for very expensive tools, gauges and workpieces
- Personal protection in case of installations above the head
- Double load-bearing cable infinitely length-adjustable via cable clamps, cable very easy to replace when necessary
- Housing and cable drum made of high-pressure die cast aluminium, cable drum with double ball bearings
- Suspension can be positioned to the load which is done by a safety hook in free rotating and swivelling design with hook mouth securing, loads attached using screw snap hooks
- Carrying force is infinitely variable via adjusting screw
- Cable feed limitation is impact absorbing and adjustable
- Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, patented over-twist safeguard of suspension spring, spring safety device, fully encapsulated special motive spring, cable drum, can be blocked with integrated locking device, push clamp for securing the cable end
- Working area: Cable extraction: 2000 mm, cables in special lengths available on request. Special design with manual cable retraction lock deliverable upon request. This allows the cable to be blocked with a single movement when working. Locking not to be used for load change!

Advantage:
- Effortless work

Technical data:
- Type: 7248
- With automatic locking: No
- Max. cable pull-out length: 2000 mm
- Adjustable cord length: Yes
- Material of cord: Steel
- Wire cable diameter: 5 mm
- Replaceable cord: Yes
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Die-cast aluminium
- Suspension type: Freely rotating and pivot safety hook, positionable
- Load attachment: Screw Karabiner hook
- Material of housing: Die-cast aluminium
- Surface: Powder-coated
- Housing width: 249 mm
- Housing thickness: 231 mm
- Height: 1080 mm
- Spring design: Riveted special mainspring in separate spring housing
- With overrotation protection: Yes
- Spring breakage protection: Yes
- Number of springs: 1 PCS
- Mandatory testing according to DGUV (UVV): No

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	77000... Ident. No.	
7248/1	12-20 kg	12	20	796	○
7248/2	20-30 kg	20	30	797	○
7248/3	30-45 kg	30	45	798	○
7248/5	60-75 kg	60	75	800	○
7248/6	75-90 kg	75	90	801	○

Prod. Gr. 772

AUTOSTAT Balancer with load capacity of 150.0-300.0 kg (DIN 15112)

Type 7261, cable extension 1,500 mm

Application:
Can be used for following tools and devices, e. g.: Riveting tongs, butcher's machines etc.

Execution:
- Housing and the cable drum made of aluminium sand cast
- Cable drum double ball bearings
- Suspension can be tilted and positioned to the load
- Carrying force is infinitely variable via adjusting screw
- Load is attached via a safety hook with hook mouth protection on an encapsulated deflection roller
- Cable feed limitation is impact absorbing and adjustable
- Rope is infinitely variable in its length via a rope clamp
- If required, the cable can be replaced very easily
- Safety device: Fall arrester in line with DIN 15112 included in scope of delivery, patented over-twist safeguard of suspension spring, spring safety device, fully encapsulated special motive spring, cable drum, can be blocked with integrated locking device, push clamp for securing the cable end
- Working area: Cable extraction: 1500 mm, ropes in special lengths available on request

Advantage:
- Effortless work

Technical data:
- Type: 7261
- With automatic locking: No
- Max. cable pull-out length: 1500 mm
- Adjustable cord length: Yes
- Wire cable diameter: 5 mm
- Replaceable cord: Yes
- Cord in-feed restriction: Absorbs impacts, adjustable
- Material of cable drum: Gravity die-cast aluminium
- Suspension type: Freely rotating and pivot safety hook, positionable
- Load attachment: Screw Karabiner hook
- Material of housing: Gravity die-cast aluminium
- Housing width: 290 mm
- Housing thickness: 348 mm
- Height: 2500 mm
- Spring design: Riveted special mainspring in separate spring housing
- With overrotation protection: Yes
- Spring breakage protection: Yes
- Number of springs: 2 PCS
- DIN: 15112
- Mandatory testing according to DGUV (UVV): No

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	77000... Ident. No.	
7261/1	150-175 kg	150	175	901	○+
7261/2	175-200 kg	175	200	902	○+

Model	Min./max. load-carrying capacity	Min. load-carrying capacity (kg)	Max. load-carrying capacity (kg)	77000... Ident. No.	
7261/3	200-225 kg	200	225	903	○+
7261/4	225-250 kg	225	250	904	○+
7261/5	250-275 kg	250	275	905	○+
7261/6	275-300 kg	275	300	906	○+

Prod. Gr. 772

Yale Manual chain hoist (EN standard 818-7)

Made of sheet steel

Application:
For the ergonomic lifting of heavy materials and products.

Execution:
- Robust housing made entirely of steel
- Galvanised load chain in line with DIN EN 818-7 (quality class T)
- Galvanised manual chain
- 360° rotating hook
- High-quality enclosed bearings
- Reinforced handwheel lid
- Continuous stud bolts between the side panels and the lid fastening
- Precision-manufactured guide rollers
- Ball bearings and needle bearings in the gears, in the side panels and in the load chain wheel

Advantage:
- Increased stability
- Manual chain runs smoothly without catching or sticking
- Load chain wheel and driving pinion run faultlessly
- Long service life, extremely maintenance-friendly

Delivery:
Optionally deliverable with friction coupling and chain storer or with shorter or longer load and manual chain

Notes:
Optionally available with chain storer and overload protection. All technical specifications relate to a hook displacement of 3 m.

Technical data:
- Lift height: 3000 mm
- Mandatory testing according to DGUV (UVV): No

Load-carrying capacity (kg)		500	1000	2000	3000
Nominal chain thickness (mm)		15	18	18	24
Chain Ø (mm)		5	6	6	8
Stroke force at nominal load (daN)		21	24	29	37
Lift height every 1 m hand chain is uncoiled (mm)		26	24	15	10
Min. hook spacing (mm)		350	380	490	580
Number of load chains (PCS)		1	1	2	2
77166...	Ident. No.	050 ●	060 ●	070 ●	080 ○

Prod. Gr. 7EE

Yale 360° hand chain hoist (EN standard 818-7)

With 360° rotating hand chain guide

Application:
For the ergonomic lifting of heavy materials and products. Suitable for the most extreme of applications and outdoor use.

Execution:
- Robust steel housing (powder-coated)
- Galvanised load chain in line with DIN EN 818-7 (quality class T)
- Galvanised manual chain
- 360° rotating carrying and load hook
- 360° rotating manual chain
- Hook guard

Advantage:
- Can be used from all directions, even from above
- Side work outside the danger zone
- Horizontal drawing and clamping
- high operational reliability, low maintenance requirements
- Optimum sealing for protection against external soiling and damage

Technical data:
- Lift height: 3000 mm
- Number of load chains: 1 PCS
- Mandatory testing according to DGUV (UVV): No

Load-carrying capacity (kg)		500	1000	2000	3000
Nominal chain thickness (mm)		15	18	24	30
Chain Ø (mm)		5	6	8	10
Stroke force at nominal load (daN)		21	30	32	38
Lift height every 1 m hand chain is uncoiled (mm)		33	20	14	12
Min. hook spacing (mm)		300	335	395	520
77165...	Ident. No.	410 ●	420 ●	430 ○	440 ○

Prod. Gr. 7EE

PLANETA PREMIUM PRO chain hoist

Application:
The PREMIUM PRO chain hoist is the next development stage in the proven PREMIUM series and is a state-of-the-art product. Compared to its predecessors, it weighs considerably less and offers improved handling thanks to its more compact design. Despite its reduced weight, working stability has been improved thanks to its sophisticated design.

Advantage:
- Compact and lightweight
- Galvanised load chain in accordance with DIN EN 818-7-T
- Ball bearing-mounted chain sprocket shaft and cast hook safety mechanism

Technical data:
- Lift height: 3000 mm
- Length of lever: 2500 mm
- Mandatory testing according to DGUV (UVV): Yes

Ident. No. 073

Load-carrying capacity	Chain Ø (mm)	Stroke force at nominal load	Min. hook spacing (mm)	Number of load chains	77000... Ident. No.	
250	12	22	259	1	073	○
500	15	24	309	1	074	●
1000	18	30.5	373	1	075	●
1500	24	36	460	1	076	○
2000	24	36	460	1	077	○
3000	30	37	553	1	078	○
5000	30	39	630	2	079	○
10000	30	39.5	900	3	080	○
20000	30	40.5	1033	8	081	○

Prod. Gr. 7EQ

PLANETA PULLMASTER II chain hoist

Application:
The PLANETA PULLMASTER II chain hoist is the next development stage in the PULLMASTER series. It boasts a sturdy design combined with very compact dimensions. The asbestos-free safety brake features a reliable grip and retains the load securely in any position. The forged suspension and load hooks made from heat-treated, quenched and tempered steel are equipped with spring-loaded, zinc-plated hook safety mechanisms.

Advantage:
- Freely rotating hooks
- Load chain in accordance with EN-818-7-T
- Asbestos-free safety brake and sturdy steel housing

Technical data:
- Lift height: 3000 mm
- Length of lever: 2500 mm
- Mandatory testing according to DGUV (UVV): Yes

Ident. No. 082

Load-carrying capacity	Nominal chain thickness (mm)	Chain Ø (mm)	Stroke force at nominal load	Min. hook spacing (mm)	Number of load chains	77000... Ident. No.	
500	5	15	19	285	1	082	●
1000	6	18	24	332	1	083	●
1500	8	24	33	410	1	084	○
2000	6	18	24	455	2	085	○
3000	8	24	33	530	2	086	○
5000	10	30	32	620	2	087	○
10000	10	30	32	737	4	088	○

Prod. Gr. 7EQ

PLANETA PREMIUM PRO-E chain hoist

Application:
The new PLANETA PREMIUM PRO-E series is the next development stage in our reliable PREMIUM PRO chain hoist. Instead of using a hand chain, this chain hoist is powered by a cordless screwdriver. The material and corrosion protection remain at the same high standard. Work can now be completed with even less effort.

Advantage:
- Powered by cordless screwdriver
- Enclosed housing to protect against dust and dirt, zinc-plated load chain in accordance with EN 818-7-T
- 360° freely rotating suspension and load hooks, made of quenched and tempered steel

Delivery:
Cordless screwdriver not included

Notes:
Only operate in rechargeable battery or battery mode! Cannot be operated using pneumatic, hydraulic or mains powered means.

Technical data:
- Number of load chains: 1
- Mandatory testing according to DGUV (UVV): Yes

Ident. No. 089

Load-carrying capacity	Nominal chain thickness (mm)	Chain Ø (mm)	Lift height (mm)	Min. hook spacing (mm)	77000... Ident. No.	
250	5	15	3000	318	089	○
500	6	18	3000	390	090	○
1000	8	24	3000	417	091	○

Prod. Gr. 7EQ

Yale Lever chain hoist (EN standard 818-7)

Made of sheet steel

Application:
For tensioning, hoisting, pulling and tying down.

Execution:
- Compact and robust sheet steel housing
- Smooth-running free-chaining feature for rapid load attachment
- 360° rotating carrying hook
- Chain end made of shatter-proof plastic
- Automatic threaded mechanical brake
- **Ident. No. 005–008:** Galvanised load chain in line with DIN EN 818-7 (quality class T)
- **Ident. No. 050–080:** Zinc-plated load chain in line with DIN EN 818-7 (quality class T)

Advantage:
- Requires low lifting power
- **Ident. No. 005–008:** Low tare weight
- **Ident. No. 050–080:** low tare weight

Technical data:
- Lift height: 1500 mm
- Mandatory testing according to DGUV (UVV): No

Ident. No. 005–008

Ident. No. 050–080

Model		Yalehandy 250	Yalehandy 500	UNOplus 750	UNOplus 1500	UNOplus 3000	UNOplus 6000
Load-carrying capacity (kg)		250	500	750	1500	3000	6000
Nominal chain thickness (mm)		12	12	18	24	30	30
Chain Ø (mm)		4	4	6	8	10	10
Stroke force at nominal load (daN)		25	25	20	35	40	40
Length of lever (mm)		160	160	250	330	380	380
Stroke height per lever revolution (mm)		80	40	20	22	17	9
Min. hook spacing (mm)		240	282	340	410	510	690
Number of load chains (PCS)		1	1	1	1	1	2
77157...	Ident. No.	005 ●	008 ●	050 ●	060 ●	070 ●	080 ●+

Prod. Gr. 7EE

Lever chain hoist with ratchet mechanism (EN standard 818-7)

Made of sheet steel

Application:
For tensioning, hoisting, pulling and tying down.

Execution:
- Robust sheet steel housing (powder-coated)
- Galvanised load chain in line with DIN EN 818-7 (quality class T)
- Free-chaining feature for rapid passage of the unloaded chain
- Automatic operation, fully enclosed load pressure brake
- Reinforced hook protection

Advantage:
- Rapid passage of unloaded chain
- Suitable in industrial settings for lifting, pulling and tensioning
- Can also be used as a lashing device on lorries
- Vibration-resistant brakes
- Easy-release brakes, particularly when used as a lashing device

Technical data:
- Lift height: 1500 mm
- Number of load chains: 1 PCS
- Mandatory testing according to DGUV (UVV): No

Load-carrying capacity (kg)		800	1600	3200
Nominal chain thickness (mm)		15.8	20.1	28.1
Chain Ø (mm)		5.6	7.1	10
Stroke force at nominal load (daN)		25	30	32
Length of lever (mm)		245	265	415
Stroke height per lever revolution (mm)		29	22	19
Min. hook spacing (mm)		280	335	395
77158...	Ident. No.	080 ●	160 ○	320 ○

Prod. Gr. 7EH

Yale Lever chain hoist YaleERGO 360

Hand lever with fold-out handle

Application:
the YaleERGO 360 ® redefines the world of hoists. the design of its revolutionary hand lever with an integrated foldable handle makes it possible to work efficiently in tight spaces for both lifting and pulling applications.

Execution:
- hand lever with integrated folding handle
- operating direction displayed on the lever
- smooth free-chaining feature
- reliable load management

Advantage:
- safe and comfortable body posture
- up to 30% reduction in pull force
- work up to 12 times faster
- functional design and maximum safety
- easy to maintain and inspect

Technical data:
- Lift height: 1500 mm
- Number of load chains: 1
- Mandatory testing according to DGUV (UVV): No

Model		YaleERGO 360 750	YaleERGO 360 1500	YaleERGO 360 3000
Load-carrying capacity (kg)		750	1500	3000
Nominal chain thickness (mm)		17.1	21	28
Chain Ø (mm)		5.6	7.1	10
Stroke force at nominal load (daN)		20	26.5	36
Length of lever (mm)		327	327	377
Stroke height per lever revolution (mm)		27.2	21.7	20.1
Weight at normal stroke (kg)		6.6	9.5	16.8
Min. hook spacing (mm)		320	375	445
77165...	Ident. No.	301 ●	302 ●	303 ○

Prod. Gr. 7EE

PLANETA PREMIUM PRO lever hoist

Application:
The PREMIUM PRO is the next development stage in the reliable PREMIUM lever chain hoist. Thanks to significantly reduced weight compared to its predecessor, it offers improved handling. The short hand lever allows for safe working even in confined spaces. Despite all of this, the frame has been reinforced compared to the predecessor model. The tried and proven quality also continues to ensure a long service life and its construction makes it highly robust.

Advantage:
- Industrial quality, robust and compact
- Ergonomic handle, additionally secured by screws
- With free-wheeling mechanism, chain end, powder coating and 1.5 m lift.

Technical data:
- Lift height: 1500 mm
- Mandatory testing according to DGUV (UVV): Yes

Ident. No. 058

Load-carrying capacity		800	1600	3200	5000	6400	9600
Nominal chain thickness (mm)		5.6	7.1	9	13	9	9
Chain Ø (mm)		17	21	27	36	27	27
Stroke force at nominal load		22	24	33	37	36	38
Length of lever (mm)		239	259	374	400	374	374
Stroke height per lever revolution (mm)		19	15	16	9	8	5
Number of load chains		1	1	1	1	2	3
Weight		6.3	8.8	16.4	32.5	24.9	42.1
77000...	Ident. No.	058 ●	059 ●	060 ○	061 ○	062 ○	063 ○

Prod. Gr. 7EQ

PLANETA PLX-III lever hoist

Application:
The PLX-III lever chain hoist is a versatile lifting and anchoring device and is also simple to operate. It can be used in the industrial sector, in the transport of goods, as an assembly tool and in construction and trade applications. The device excels with a high level of quality realised in series production and a long service life, even when subject to high loads.

Execution:
- **Simple free-wheeling mode**: Positioning the selector switch in the central position allows the unloaded chain to be pulled freely through the hoist
- **Practical chain end piece**: In addition to its function as a grip for positioning the chain, it also functions as an additional safety mechanism, as it cannot be pulled through the device with the chain
- **Robustness:** Galvanised screws, nuts and bolts prevent corrosion, even when used outdoors. The easy-grip, cast steel handwheel further enhances the robustness of the PLX-III lever chain hoist.
- **Rotating hooks**: The forged suspension and load hooks made from heat-treated, quenched and tempered steel are freely rotating and are equipped with spring-loaded, zinc-plated hook safety mechanisms.

Advantage:
- Industrial quality, completely zinc-plated and powder-coated
- With free-wheeling mechanism, chain end, powder coating and 1.5 m lift.
- Load chain in accordance with EN 818-7-T, integrated free-wheeling mechanism with precise guidance

Technical data:
- Mandatory testing according to DGUV (UVV): Yes

Ident. No. 064

Load-carrying capacity		-	1500	3000	6000
Nominal chain thickness (mm)		-	8	10	10
Chain Ø (mm)		-	24	30	30
Stroke force at nominal load		-	24	32	34
Length of lever (mm)		-	415	415	415
Stroke height per lever revolution (mm)		-	21	17	8
Lift height (mm)		-	1500	1500	1500
Number of load chains		-	1	1	2
Weight		-	11	19	35.5
77000...	Ident. No.	064 ●	065 ●	066 ○	067 ○

Prod. Gr. 7EQ

PLANETA PAH lever hoist

Application:
Thanks to its compact and lightweight design, the new PLANETA PAH aluminium lever chain hoist is an indispensable tool in industry and service. A closed, visually appealing die-cast aluminium housing protects the internal components from dirt. Equipped with two robust hook fasteners, the PAH meets all safety requirements and ensures safe working. The new robust chain end piece provides additional safety, as it prevents the chain from being pulled through the device. A release lever allows the chain to be pulled through quickly when not under load. Can be used in ambient temperatures from -20 °C to +60 °C. Hand lever with rubber handle (only for load capacities of 250 kg/500 kg). Standard lift is 1.5 m.

Advantage:
- Extremely lightweight and suitable for mobile use
- Closed aluminium die-cast housing with rotating load and carrying hook
- The upper and lower hooks are equipped with safety flaps

Delivery:
Incl. storage bag (for 250 and 500 kg versions)

Technical data:
- Lift height: 1500 mm
- Number of load chains: 1
- Mandatory testing according to DGUV (UVV): Yes

Ident. No. 068

Load-carrying capacity		250	500	800	1600	3200
Nominal chain thickness (mm)		3	4	5.6	7.1	9
Chain Ø (mm)		9	12	17	21	27
Stroke force at nominal load		17	20	22	25	34
Length of lever (mm)		142	175	233	233	350
Weight		1.6	2.7	5.1	7.6	14.7
77000...	Ident. No.	068 ●	069 ●	070 ○	071 ○	072 ○

Prod. Gr. 7EQ

EEPOS ONE - the flexible crane system
Light. Flexible. Innovative

With the eepos crane systems from the eepos one aluminium modular system, loads of up to 2000 kg can be transported manually or mechanically with speed and accuracy.
Each eepos crane is made of standard elements and can be perfectly adapted to each individual workplace. Due to the high level of quality, an eepos crane system offers unparalleled smooth running and improves workplace ergonomics with lasting effect.
For transporting suspended loads in manufacturing plants, assembly halls or complete production lines, an eepos crane presents a fast and flexible solution that is 'made in Germany'.

Advantages of EEPOS ONE:
- Ergonomic, effortless work
- Low noise emissions
- Smooth running
- Intelligent modular system with a wide range of accessories
- Ensures that the highest level of quality and profitability is retained
- Acceleration of production, shortening of lead times and increase in operating speeds
- 5-year guarantee

Your eepos crane system in just a few steps:

Specify the number of single and double bridges.
Add up the total sum of the lifting load of all intended bridges.
Then select the appropriate starter module for the crane runway and supplement it with expansion modules until you have reached your desired length.
- Each starter module consists of 2 crane runway profiles with suspensions.
- Each expansion module consists of two crane runway profiles with suspensions and butt connections.
- 2.5 metres is specified as suspension distance. Other suspension distances are to be calculated again statically based on local conditions.

Rule of thumb: Note that a crane runway of at least 2 metres should be allowed for per bridge.

Overhead conveyors and suspension cranes from the KBK modular crane kit

From individual workstations to a complex material flow solution: With the Demag KBK system, your specific requirements can be precisely implemented. Quickly and efficiently. This modular system facilitates the combination of suspension cranes, overhead conveyors, pillar and wall-mounted slewing cranes. Due to the high flexibility of the system, KBK systems can also be integrated easily into any production infrastructure and can be retrofitted at any time.

KBK-Aluline

KBK-Steel

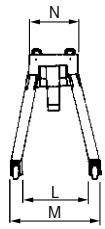
Workshop crane, hydraulic
Portable and collapsible

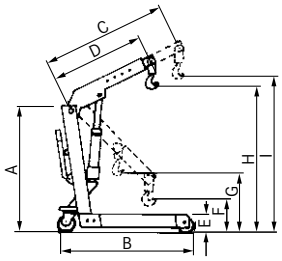
Application:
For lifting heavy loads in small spaces if the crane can move below the load. Ideal for removing and installing engines and for in-house transport.

Execution:
- Collapsible
- Collapsed storage area 350 x 400 mm
- No free overhang in front of wheels
- Mobile
- Load hook guard
- Pressure relief valve
- Drain valve with dead man's switch
- 2 steering rollers, 2 runners

Advantage:
- Extremely easy to store thanks to small collapsed dimensions
- Easy to move, 360° rotating steering wheels
- Crane boom adjustable in just a few simple steps

Technical data:
- Colour: Flame red RAL 3000





Min./max. load-carrying capacity		250-500 kg	300-1000 kg
Min./max. throat depth (D/C)		1010-1320 mm	1000-1300 mm
Min./max. construction height		1540-2390 mm	1560-2620 mm
Min./max. lift height with minimum throat depth (G/H)		400-2040 mm	400-2240 mm
Min./max. lift height with maximum throat depth (F/I)		100-2190 mm	110-2420 mm
Inner running gear width (L) (mm)		730	880
Outer running gear width (M) (mm)		860	1000
Running gear length (B) (mm)		1530	1600
Underclearance (E) (mm)		143	170
Load-carrying capacity (kg)		500	1000
Max. construction height (mm)		2390	2620
77139...	Ident. No.	**010** ○+	**020** ○+

Prod. Gr. 770

Workshop crane, hydraulic

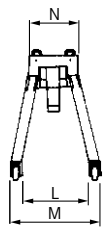
Portable and collapsible, with extra-flat running gear

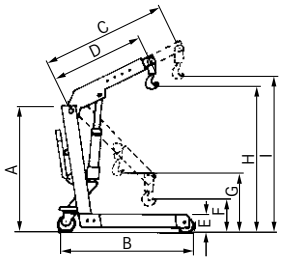
Application:
For lifting heavy loads in small spaces if the crane can move below the load. Ideal for removing and installing engines and for in-house transport. Particularly suitable for Euro pallets.

Execution:
- Collapsible
- Collapsed storage area 350 x 400 mm
- No free overhang in front of wheels
- Mobile, with extra flat running gear
- Load hook guard
- Pressure relief valve
- Drain valve with dead man's switch
- 2 steering rollers, 2 runners

Advantage:
- Extremely easy to store thanks to small collapsed dimensions
- Easy to move, 360° rotating steering wheels
- Crane boom adjustable in just a few simple steps
- Versatile use thanks to flat running gear

Technical data:
- Underclearance (E): 80 mm
- Colour: Flame red RAL 3000





Min./max. load-carrying capacity		250-500 kg	300-1000 kg
Min./max. throat depth (D/C)		1010-1320 mm	1000-1300 mm
Min./max. construction height		1490-2340 mm	1480-2540 mm
Min./max. lift height with minimum throat depth (G/H)		400-1990 mm	400-2160 mm
Min./max. lift height with maximum throat depth (F/I)		100-2140 mm	110-2340 mm
Inner running gear width (L) (mm)		730	880
Outer running gear width (M) (mm)		860	1000
Running gear length (B) (mm)		1530	1600
Load-carrying capacity (kg)		500	1000
Max. construction height (mm)		2340	2540
77139...	Ident. No.	**015** ○+	**025** ○+

Prod. Gr. 770

Workshop crane, hydraulic

mobile

Application:
For lifting heavy loads if the crane can move below the load.

Execution:
- Robust design
- Safe oil hydraulics with industry-standard engine oil
- No free overhang in front of wheels
- Mobile
- Load hook guard
- Pressure relief valve
- Drain valve with dead man's switch
- 2 steering rollers, 2 runners

Advantage:
- Robust design
- Easy to move, 360° rotating steering wheels
- Crane boom adjustable in just a few simple steps

Technical data:
- Colour: Flame red RAL 3000

Min./max. load-carrying capacity		250-500 kg	300-1000 kg	500-1500 kg	700-2000 kg
Min./max. throat depth (D/C)		1040-1350 mm	1210-1510 mm	1370-1820 mm	1470-1920 mm
Min./max. construction height		1620-2560 mm	1750-2450 mm	1885-3300 mm	1960-3345 mm
Min./max. lift height with minimum throat depth (G/H)		650-2160 mm	670-2100 mm	850-2750 mm	900-2800 mm
Min./max. lift height with maximum throat depth (F/I)		410-2360 mm	450-2250 mm	600-3100 mm	650-3145 mm
Inner running gear width (L) (mm)		750	930	835	985
Outer running gear width (M) (mm)		885	1060	1050	1200
Running gear length (B) (mm)		1260	1520	1800	2000
Underclearance (E) (mm)		143	170	200	240
Load-carrying capacity (kg)		500	1000	1500	2000
Max. construction height (mm)		2560	2450	3300	3345
77140...	Ident. No.	**010** ○+	**020** ○+	**030** ○+	**040** ○+

Prod. Gr. 770

Ident. No. 030–040

Ident. No. 010

Yale Roller trolley

Application:
Suitable for the insertion in all manual lifting devices.

Execution:
- Calculated in line with DIN 15018
- Complies with BGV D6 cranes
- Can be adjusted for various profiles (INP, IPE, IPB and other beam ranges)
- Low design height
- Accurate positioning thanks to lug arm with counter-thread
- Central suspension, permanently lubricated runners, sealed and mounted on ball bearing
- Anti-tipping mechanism and wheel failure supports fitted as standard

Technical data:
- Max. flange width: 220 mm

Load-carrying capacity (kg)		500	1000	2000
Min. flange width (mm)		50	50	66
Min. curve radius (m)		0.9	0.9	1.15
77167...	Ident. No.	**100** ●	**110** ●	**120** ●

Prod. Gr. 7EE

Yale Support clip

Application:
Attachment point for lifting devices, cable return pulleys and loads on supports.

Execution:
- Spindle mechanism allows rapid and simple attachment to the support flange with fixed, secure positioning

Load-carrying capacity (kg)		1000	2000	3000
Min. flange width (mm)		75	75	80
Max. flange width (mm)		230	230	320
77141...	Ident. No.	**010** ●	**020** ●	**030** ●

Prod. Gr. 7EE

Yale Roller clamp

Application:
Easy-mount assembly aids for attaching and moving loads on support profiles. Ideal for assembly and repair work. Easy to fix and remove.

Execution:
- Rapid adjustment to arm width by turning the central spindle
- Secure locking thanks to counter-lever
- Spindle and attachment straps galvanised for corrosion protection

Load-carrying capacity (kg)		1000	2000	3000
Min. flange width (mm)		60	75	75
Max. flange width (mm)		150	200	200
Min. curve radius (m)		0.6	0.9	1.15
77141...	Ident. No.	210 ●	220 ●	230 ○

Prod. Gr. 7EE

Drum grippers

Application:
For the safe gripping, lifting, transportation and loading of standard roll hoop and metal channel drums.

Notes:
For collection trays and transportation devices for drums, see chapter "Environment".

Technical data:
- Load-carrying capacity: 500 kg
- Colour: Yellow orange

Ident. No. 010

Ident. No. 100

Max. gripping width (mm)		640	910
77180...	Ident. No.	010 ●	100 ○

Prod. Gr. 770

Lever clamp for vertical lifting
Load capacity up to 300 kg

Application:
For the safe lifting and transporting of sheet metal, supports and profiles.

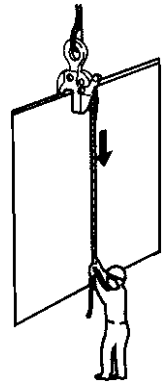
Execution:
- Safety lever which can be remotely unlocked with the supplied cable
- Corrosion-resistant
- All parts can be replaced
- High-quality materials and special steels
- Surface hardness up to a maximum of 30 HRC (300 HB)

Advantage:
- Optimum safety
- Low tare weight and high carrying capacity

Delivery:
Cable included

Notes:
Hoisting clamps with larger carrying capacities deliverable upon request.

Technical data:
- Colour: Yellow orange



Max. gripping width (mm)		19	25	30
Load-carrying capacity (kg)		1000	2000	3000
77180...	Ident. No.	310 ●	320 ○	330 ○

Prod. Gr. 770

Lever clamp for turning and vertical lifting
Load capacity up to 2000 kg

Application:
For the safe turning, lifting and transporting of sheet metal, supports and profiles, particularly suitable for use together (2 or more hoisting clamps).

Execution:
- Multi-directional suspension eyes
- Low tare weight and large gripping range
- Safety locking thanks to folding bolt mechanism with large operating ring
- Die-forged clamp body
- Toothed segment, counter-bearing and all additional functional parts made of alloyed special steel
- Surface hardness up to a maximum of 30 HRC (300 HB)

Advantage:
- Optimum safety
- Continues to function even if the clamps are not positioned in the pulling direction
- Can be used for many different purposes, user-friendly thanks to compact design
- Extremely durable

Notes:
The carrying capacity is reduced by 50% for oblique lifts of over 45°.

Technical data:
- Max. gripping width: 19 mm
- Load-carrying capacity: 1000 kg
- Colour: Yellow orange

77180...	Ident. No.	410 ○

Prod. Gr. 770

Round-nose pliers for gripping round bars

Load capacity up to 1000 kg

Application:
For the safe lifting and transporting of round steel bars, pipes etc.

Execution:
- Sturdy steel structure
- Safety lever for stopping the open pliers

Technical data:
- Colour: Yellow orange

Max. gripping width (mm)		250	200	250
Load-carrying capacity (kg)		250	500	1000
77179...	Ident. No.	010 ○+	020 ○+	030 ○+

Prod. Gr. 770

Spreader beam

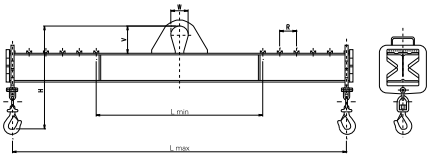
Load capacity up to 5000 kg

Application:
For the safe and regulatory-compliant lifting of loads.

Execution:
- With 2 adjustable safety swivel hooks
- One-point suspension, suitable for load hooks in line with DIN 15401 etc.

Notes:
Non-adjustable; other lengths, higher carrying capacity and load turning devices for workpieces up to 10,000 kg deliverable upon request.

Technical data:
- Colour: Yellow orange



Load-carrying capacity (kg)	Max. hook spacing (L max) (mm)	Min. hook spacing (L min) (mm)	Grid dimension (mm)	Overall height (H) (mm)	Eyelet height (V) (mm)	Eyelet Ø (W) (mm)	77421... Ident. No.	
1000	1000	500	125	430	110	50	110	○+
1000	2000	1000	100	450	110	50	120	○+
1000	3000	1500	150	430	110	50	130	○+
2000	2000	1000	100	460	120	60	220	○+
2000	3000	1500	150	480	120	60	230	○+
2000	4000	2000	200	500	120	60	240	○+
3000	2000	1000	100	515	150	70	320	○+
3000	3000	1500	150	530	150	70	330	○+
3000	4000	2000	200	550	150	70	340	○+
5000	3000	1500	150	630	180	85	530	○+
5000	4000	2000	200	650	180	85	540	○+
5000	5000	2500	250	670	180	85	550	○+

Prod. Gr. 771

Further information, advice and quotations available on request.

Permanent NEO lifting magnet

Threefold safety

Application:
For the secure lifting of sheet metals, profiles, panels, round- and bar-shaped parts or for loading and unloading machines.

Execution:
- With 2 longitudinal poles and vee block
- High-quality neodymium magnetic material
- Large load lug

Advantage:
- Large lifting capacity with low tare weight and small dimensions
- Robust, low-maintenance, user-friendly
- Easy to switch on and off using the hand lever, with safety lock

Delivery:
With test certificate

Technical data:
- Colour: Orange

Ident. No. 011

Ident. No. 013

Ident. No. 015

Ident. No. 017

Load-carrying capacity (kg)		150	300	600	1200	2000
Load-carrying capacity for round materials (kg)		65	150	300	600	1000
Tear-off weight certified (kg)		470	1000	1900	3600	6000
For min./max. round material Ø		40-100 mm	60-200 mm	65-270 mm	100-300 mm	150-350 mm
Suitable for min. sheet metal thickness (mm)		2	4	6	10	15
Surface area length (mm)		93	152	246	306	480
Surface area width (mm)		60	100	120	146	165
Height up to load hook (mm)		110	164	164	216	253
77301...	Ident. No.	011 ●	013 ●	015 ●	017 ●+	020 ○+

Prod. Gr. 706

Manual pick-up magnet

High magnetic force for unlimited period of time

Application:
For the safe manual transport of sheet metal and steel parts.

Execution:
- **Ref. no. 010** for thin sheets and small pieces.
- **Ref. no. 020** particularly for medium- and large-sized sheets (most popular model).
- **Ref. no. 030** for thick plates, heavily scaled plates, heavy workpieces.

Advantage:
- Entirely maintenance-free
- Permanently high magnetic force
- No magnetisation of workpieces

Notes:
Full adhesive force is only possible on workpieces with a smooth, flat and clean surface, easily magnetisable substances and sufficient thickness. Only around 1/3 of the adhesive force will be achieved for scaled surfaces.

Load-carrying capacity (kg)		120	170	300
Suitable for min./max. sheet metal thickness		1-2 mm	1-4 mm	-
Surface area length (mm)		140	140	160
Surface area width (mm)		84	116	180
77350...	Ident. No.	010 ○	020 ○	030 ○

Prod. Gr. 7EF

Crane pick-up magnet

High magnetic force for unlimited period of time

Application:
For the safe transport of sheet metal and steel parts by crane.

Execution:
- With a crane lug for crane operation
- For horizontal and vertical lifting
- Attached sheets of metal can be swivelled from a vertical position to a horizontal position and vice versa
- Board format 1000 x 2000 mm requires only 1 magnetic claw, board format 1500 x 3000 mm requires 2 pieces together with one spreader. When working with stacks of metal sheets, only 1 sheet may be lifted at a time.

Advantage:
- Entirely maintenance-free
- Permanently high magnetic force
- No magnetisation of workpieces

Notes:
Full adhesive force is only possible on workpieces with a smooth, flat and clean surface, easily magnetisable substances and sufficient thickness. Only around 1/3 of the adhesive force will be achieved for scaled surfaces.

Technical data:
- Suitable for min. sheet metal thickness: 4 mm
- Surface area length: 290 mm

Load-carrying capacity (kg)		250	300
Surface area width (mm)		125	180
77350...	Ident. No.	040 ○	050 ○

Prod. Gr. 7EF

GRABO® Nemo Grabo Plus

Cordless vacuum lifter

Application:
For holding or carrying tiles, glass panes, metal sheets, chipboard and plasterboard as well as furniture and large appliances

Execution:
- The seal is made from a special chloroprene
- The vacuum pump installed in the handle generates the required vacuum pressure to hold the workpiece
- The installed manometer is used for monitoring

Advantage:
- Seal can be replaced quickly and cost-effectively if worn
- Additionally installed plastic pads provide more retention force when handling vertically

Delivery:
Grabo Plus, 1 battery, 1 charger, 1 rubber foam seal and 1 air filter

Technical data:
- Throughput: 16
- Number of suction heads: 1 PCS
- Max. battery operating time: 1.5 h
- Mandatory testing according to DGUV (UVV): Yes

Number of pieces in assortment/set (PCS)			4	6
77179...	NEMO GRABO PLUS (bag)	Ident. No.	910 ●	-
77179...	NEMO GRABO PLUS (hard case)	Ident. No.	-	920 ●

Prod. Gr. 786

Bohle Pump vacuum lifter

www.bohle-group.com

With vacuum safety indicator

Application:
For large loads up to 120 kg. Suitable for all materials and objects with gas-tight surfaces.

Execution:
- A true design highlight – in terms of both layout and convenience
- Vacuum safety indicator is clearly visible, even from a distance
- High-quality pump mechanism for particularly fast vacuum formation
- Large valve button for faster ventilation
- Wide grip for maximum comfort

Advantage:
- High load-bearing capacity
- Ergonomic
- Optimised vacuum display
- Robust plastic
- TÜV-GS certified

Technical data:
- Load-carrying capacity: 120 kg
- Direction of force: Parallel
- Material: Plastic
- Number of suction heads: 1 PCS
- Suction head diameter: 214 mm
- Number of pieces in assortment/set: 1 PCS

77178...	Ident. No.	070 ●

Prod. Gr. 7EM

Hand vacuum lifter with a single aluminium suction head

www.bohle-group.com

Load capacity 30 kg

Application:
For the safe and secure lifting, carrying and holding of lightweight discs, sheets and panels.

Execution:
- Lever-type vacuum lifter

Advantage:
- One-handed operation possible
- For rapid and efficient working procedures
- Ergonomic handle
- "red dot" design award winner

Technical data:
- Load-carrying capacity: 30 kg
- Direction of force: Perpendicular
- Material: Aluminium
- Number of suction heads: 1 PCS
- Suction head diameter: 120 mm
- Number of pieces in assortment/set: 1 PCS

77178...	Ident. No.	021 ●

Prod. Gr. 7EM

Manual vacuum lifter with 2 aluminium suction heads

www.bohle-group.com

Transverse handle, load capacity 70 kg

Application:
For the safe and secure lifting, carrying and holding of discs, sheets and panels.

Execution:
- Lever-type vacuum lifter
- 2 aluminium suction heads
- Handle mounted crossways to the suction heads

Advantage:
- Ergonomic handle
- Robust aluminium body

Technical data:
- Load-carrying capacity: 70 kg
- Direction of force: Parallel
- Material: Aluminium
- Number of suction heads: 2 PCS
- Suction head diameter: 120 mm
- Number of pieces in assortment/set: 1 PCS

Manual vacuum lifter with 2 aluminium suction heads	77178...	Ident. No.	025 ●
Rubber discs for manual vacuum lifters	77178...	Ident. No.	525 ●

Prod. Gr. 7EM

Veribor® aluminium 2-head vacuum lifter

www.bohle-group.com

Longitudinal handle, load capacity 60 kg

Application:
For the safe and secure lifting, carrying and holding of discs, sheets and panels.

Execution:
- Veribor® quality vacuum lifter with two suction heads
- 60 kg load capacity with double safety factor
- For all gas-tight surfaces
- Body made of lead-free aluminium
- PAH-free rubber disc
- Tilt lever for vacuum lifter

Advantage:
- Ergonomic handle

Technical data:
- Load-carrying capacity: 60 kg
- Direction of force: Parallel
- Material: Aluminium
- Number of suction heads: 2 PCS
- Suction head diameter: 120 mm
- Number of pieces in assortment/set: 1 PCS

77178...	Ident. No.	135 ●

Prod. Gr. 7EM

Manual vacuum lifter with 3 aluminium suction heads

www.bohle-group.com

Load capacity 100 kg

Application:
For the safe and secure lifting, carrying and holding of heavy discs, sheets and panels. Suitable for all materials with flat and gas-tight surfaces such as glass, plastic, metal, coated wood, marble etc.

Execution:
- Lever-type vacuum lifter
- 3 aluminium suction heads

Technical data:
- Load-carrying capacity: 100 kg
- Direction of force: Parallel
- Material: Aluminium
- Number of suction heads: 3 PCS
- Suction head diameter: 120 mm
- Number of pieces in assortment/set: 1 PCS

Manual vacuum lifter with 3 aluminium suction heads	77178...	Ident. No.	041 ●
Rubber discs for manual vacuum lifters	77178...	Ident. No.	525 ●

Prod. Gr. 7EM

Manual vacuum lifter with 2 suction heads

www.bohle-group.com

Load capacity 60 kg

Application:
For the safe and secure lifting, carrying and holding of discs, sheets and panels.

Execution:
- Bell-shaped vacuum lifter
- 2 suction discs

Advantage:
- One-handed operation possible
- For rapid and efficient working procedures

Technical data:
- Load-carrying capacity: 60 kg
- Direction of force: Perpendicular
- Material: Aluminium
- Number of suction heads: 2 PCS
- Suction head diameter: 130 mm
- Number of pieces in assortment/set: 1 PCS

77178...	Ident. No.	045 ●

Prod. Gr. 7EM

Manual vacuum lifter set

www.bohle-group.com

Case contains 2 manual vacuum lifters with 1 aluminium suction head

Application:
For the safe and secure lifting, carrying and holding of lightweight discs, sheets and panels. With additional sealing lip for slightly convex or textured surfaces.

Execution:
- 2 manual vacuum lifters with 1 aluminium suction head
- Lever-type vacuum lifter
- Robust case

Advantage:
- Handy for protecting and storing vacuum lifters
- Vacuum lifter with ergonomic handle design
- One-handed operation possible
- For rapid and efficient working procedures

Technical data:
- Load-carrying capacity: 30 kg
- Direction of force: Perpendicular
- Material: Aluminium
- Suction head diameter: 120 mm
- Number of pieces in assortment/set: 2 PCS

77178...	Ident. No.	621 ●

Prod. Gr. 7EM

Manual vacuum lifter set

www.bohle-group.com

Case contains 2 manual vacuum lifters with 2 aluminium suction heads

Application:
For the safe and secure lifting, carrying and holding of discs, sheets and panels.

Execution:
- 2 manual vacuum lifters with 2 aluminium suction heads
- Lever-type vacuum lifter
- Robust case

Advantage:
- Handy for protecting and storing vacuum lifters
- Vacuum lifter with ergonomic handle design

Technical data:
- Load-carrying capacity: 60 kg
- Direction of force: Parallel
- Material: Aluminium
- Suction head diameter: 120 mm
- Number of pieces in assortment/set: 2 PCS

77178...	Ident. No.	635 ●

Prod. Gr. 7EM

Tilt lever vacuum lifter

www.bohle-group.com

1-head vacuum lifter that can be operated using one hand

Application:
Ideal solution for small areas. Suitable for all materials and objects with gas-tight surfaces.

Execution:
- Tilt lever system can be operated using one hand
- High-quality, PAH-free rubber washer
- Retains its shape, but is just flexible enough to adapt to the surface under vacuum

Advantage:
- Simple, extremely fast handling
- Robust plastic
- Made in Germany

Technical data:
- Load-carrying capacity: 25 kg
- Direction of force: Perpendicular
- Material: Plastic
- Number of suction heads: 1 PCS
- Suction head diameter: 120 mm
- Number of pieces in assortment/set: 1 PCS

77178...	Ident. No.	031 ●

Prod. Gr. 7EM

Tilt lever vacuum lifter

www.bohle-group.com

2-head vacuum lifter with secure retention

Application:
Carries loads up to 50 kg. Suitable for all materials and objects with gas-tight surfaces.

Execution:
- Large, non-slip gripping area
- Optimum power transmission thanks to a tilt lever with a wide surface – ergonomic and user-friendly
- High-quality, PAH-free rubber washer
- Retains its shape, but is just flexible enough to adapt to the surface under vacuum

Advantage:
- Ergonomic
- Robust plastic
- Non-slip grip covering
- Made in Germany

Technical data:
- Load-carrying capacity: 50 kg
- Direction of force: Parallel
- Material: Plastic
- Number of suction heads: 2 PCS
- Suction head diameter: 120 mm
- Number of pieces in assortment/set: 1 PCS

77178...	Ident. No.	032 ●

Prod. Gr. 7EM

Bohle Tilt lever vacuum lifter

www.bohle-group.com

3-head vacuum lifter with secure retention

Application:
Carries loads up to 90 kg. Suitable for all materials and objects with gas-tight surfaces.

Execution:
- 80% higher load capacity compared to the dual-headed vacuum lifter
- Large, non-slip gripping area
- Optimum power transmission thanks to a tilt lever with a wide surface – ergonomic and user-friendly
- High-quality, PAH-free rubber washer
- Retains its shape, but is just flexible enough to adapt to the surface under vacuum

Advantage:
- High load-bearing capacity
- Ergonomic
- Robust plastic
- Non-slip grip covering
- Made in Germany

Technical data:
- Load-carrying capacity: 90 kg
- Direction of force: Parallel
- Material: Plastic
- Number of suction heads: 3 PCS
- Suction head diameter: 120 mm
- Number of pieces in assortment/set: 1 PCS

77178...	Ident. No.	051 ●

Prod. Gr. 7EM

VERIBOR Tilt lever vacuum lifter, for curved surfaces

With two mobile swivel heads

Application:
Ideal solution for transporting or inserting curved materials such as front or rear windows in the automotive industry.

Execution:
- Slots in the swivel heads for very curved surfaces
- Large, non-slip gripping area
- Optimum power transmission thanks to a tilt lever with a wide surface – ergonomic and user-friendly
- High-quality, PAH-free rubber washer
- Retains its shape, but is just flexible enough to adapt to the surface under vacuum

Advantage:
- For curved surfaces
- Ergonomic
- Robust plastic
- Made in Germany

Technical data:
- Load-carrying capacity: 35 kg
- Direction of force: Parallel
- Material: Plastic
- Number of suction heads: 2 PCS
- Suction head diameter: 120 mm
- Number of pieces in assortment/set: 1 PCS

77178...	Ident. No.	033 ●

Prod. Gr. 7EM

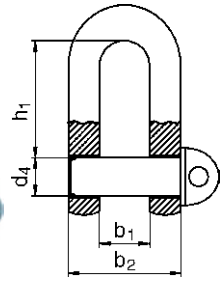
Shackles

Straight with eyebolts

Application:
For the absorption of tensile forces at the transition between ropes, wire cables or chains and solid components.

Execution:
- Forged
- Galvanised
- Straight design
- With threaded bolts

Technical data:
- Surface: Zinc plated



Load-carrying capacity (kg)	d_1 (mm)	d_4 (mm)	h_1 (mm)	b_1 (mm)	b_2 (mm)	b_3 (mm)	77174... Ident. No.	
100	4	5	15.5	7	15	7	010	●
160	5	6	18	8	18	8	020	●
250	7	8	24	11	25	11	030	●
400	8	10	30	14	30	14	040	●
600	10	12	36	17	37	17	050	●
1000	13	16	49	21	47	21	060	●
1600	17	20	61	27	61	27	070	●
2000	19	22	67	30	68	30	080	●
2500	21	24	73	33	75	33	090	●
4000	27	30	91	42	96	42	110	●
5000	30	36	111	47	107	47	120	●
6000	34	39	119.5	53	121	53	130	●
8000	38	45	139.5	60	136	60	140	○
10000	42	48	147	66	150	66	150	○+

Prod. Gr. 775

Shackle with high load capacity

Straight with eyebolts

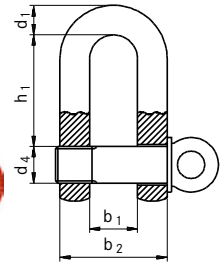
Application:
For the absorption of tensile forces at the transition between ropes, wire cables or chains and solid components.

Execution:
- Straight design
- High strength
- With threaded bolts

- Small dimensions

Advantage:
- Lightweight and easy to handle with a high carrying capacity

Technical data:
- Surface: Zinc plated



Load-carrying capacity (kg)	d_1 (mm)	d_4 (mm)	h_1 (mm)	b_1 (mm)	b_2 (mm)	b_3 (mm)	77174... Ident. No.	
750	8	10	26	13.5	29.5	13.5	200	●
1000	10	11	32	17	37	17	210	●
1500	11	13	37	19	41	19	220	●
2000	13	16	41	20	46	20	230	●
3250	16	19	51	27	59	27	240	●
4750	19	22	60	32	70	32	250	●
6500	22	25	71	36	80	36	260	●
8500	25	28	81	43	93	43	270	●
12000	32	35	100	51	115	51	290	●

Prod. Gr. 775

Shackles

Bow shackle with eyebolts

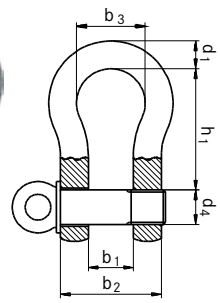
Application:
For the absorption of tensile forces at the transition between ropes, wire cables or chains and solid components.

Execution:
- Curved design
- High strength
- With threaded bolts

- Small dimensions

Advantage:
- Lightweight and easy to handle with a high carrying capacity

Technical data:
- Surface: Zinc plated



Load-carrying capacity (kg)	d_1 (mm)	d_4 (mm)	h_1 (mm)	b_1 (mm)	b_2 (mm)	b_3 (mm)	77174... Ident. No.	
750	8	10	31	13.5	29.5	21	300	●
1000	10	11	37	17	37	26	310	●
1500	11	13	43	19	41	29	320	●
2000	13	16	48	20	46	33	330	●
3250	16	19	60	27	59	43	340	●
4750	19	22	71	32	70	50	350	●
6500	22	25	84	36	80	58	360	●
8500	25	28	95	43	93	68	370	●
12000	32	35	119	51	115	82	390	●

Prod. Gr. 775

Swivel

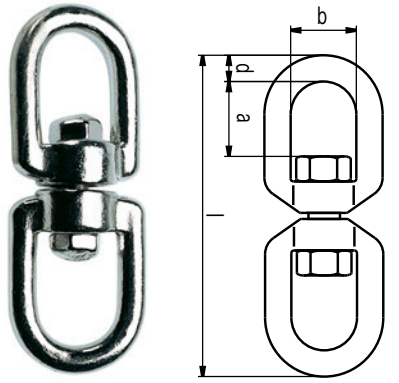
With 2 eyes (twist interceptor)

Application:
For rotating loads; prevents the rotation of the wire cables or chains being transferred while a load is being lifted.

Execution:
- Stainless steel
- 4-fold safety

Load-carrying capacity (kg)	a (mm)	b (mm)	d (mm)	l (mm)	77176... Ident. No.	
170	13	13	5	60	050	●
250	15	15	6	65	060	●
650	22	20	8	90	080	●
1000	27	24	10	115	100	●
1400	32	32	13	154	130	●

Prod. Gr. 775



Snap hooks (DIN 5299)

Zinc-plated

Application:
For the securing of loads and fixing of materials, as an accessory for wire cables and steel chains.

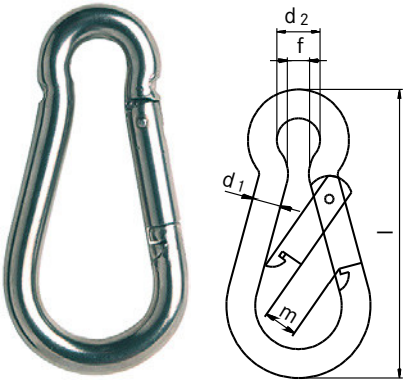
Execution:
- Galvanised

Notes:
Must not be used in conjunction with slings and must not be used for lifting loads!

Technical data:
- Surface: Zinc plated

l (mm)	d_1 (mm)	d_2 (mm)	f (mm)	m (mm)	77174... Ident. No.	
50	5	8	4	8	500	●
60	6	9	5	8	511	●
70	7	10	8	8	521	●
80	8	10	8	9	531	●
100	10	15	10	11	541	●
120	11	18	11	16	551	●
140	12	20	13	19	561	●
160	13	22	15	25	571	●
180	14	22	15	35	580	●

Prod. Gr. 775



Without screw locking device

Snap hook with screw locking device (DIN 5299)

Zinc-plated

Application:
For the securing of loads and fixing of materials, as an accessory for wire cables and steel chains.

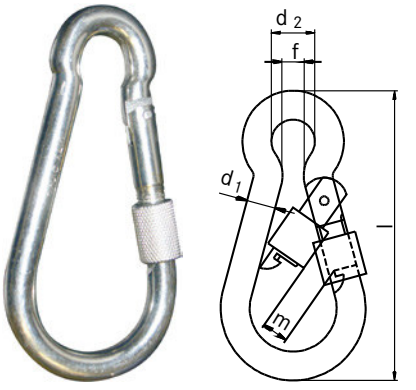
Execution:
- Galvanised
- With screw locking device

Notes:
Must not be used in conjunction with slings and must not be used for lifting loads!

Technical data:
- Surface: Zinc plated

l (mm)	d_1 (mm)	d_2 (mm)	f (mm)	m (mm)	77174... Ident. No.	
60	6	9	5	8	670	●
70	7	10	8	8	601	●
80	8	10	8	9	611	●
100	10	15	10	12	621	●
120	11	18	11	16	631	●
140	12	20	13	19	641	●

Prod. Gr. 775



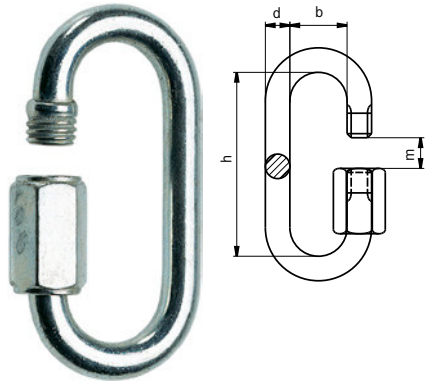
With screw locking device

Chain quick-action closures

Application:
Allows chains to be connected and extended without fuss.

Execution:
- **Ident. No. 100–180:** Galvanised
- **Ident. No. 200–280:** Stainless steel

Notes:
Not to be used in connection with slings.



Load-carrying capacity (kg)	b (mm)	d (mm)	h (mm)	m (mm)	Surface	77175... Ident. No.	
50	10	4	29	5	Zinc plated	100	●
140	13	5	39	6.5	Zinc plated	130	●
200	14	6	45	7.5	Zinc plated	140	●
275	16	7	54	8	Zinc plated	160	●
350	18	8	60	10	Zinc plated	180	●
140	13	5	39	6.5	-	230	●
200	14	6	45	7.5	-	240	●
350	18	8	58	10	-	280	●
50	10	4	29	5	-	200	●

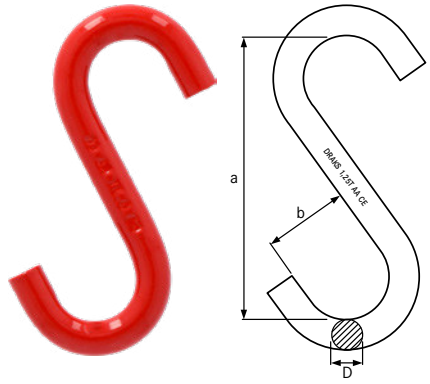
Prod. Gr. 775

High-strength round steel hooks

S hook with open ends

Application:
For the safe lifting and fastening of loads when protection against accidental unhooking is not required.

Execution:
- Tested
- Similar to materials in quality class 8
- With open ends
- Without safety catch
- Painted red



			Shape of the hook	S hook	
Load-carrying capacity (kg)	D (mm)	a (mm)	b (mm)	77210... Ident. No.	
200	10	80	25	101	●
300	13	100	30	102	●
500	16	130	40	103	●
750	18	160	50	104	●
1250	22	200	60	105	●
1500	26	220	65	106	●
2000	32	260	80	107	●

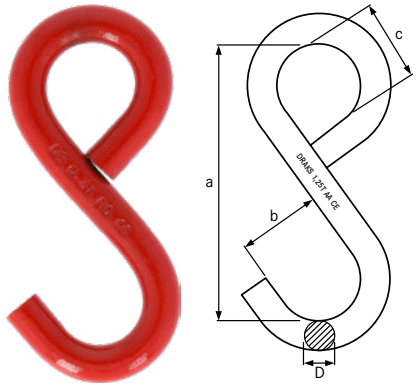
Prod. Gr. 775

High-strength round steel hooks

S hook with one closed end

Application:
For the safe lifting and fastening of loads when protection against accidental unhooking is not required.

Execution:
- Tested
- Similar to materials in quality class 8
- With one closed end
- Without safety catch
- Painted red



				Shape of the hook	S hook with eye	
Load-carrying capacity (kg)	D (mm)	a (mm)	b (mm)	c (mm)	77210... Ident. No.	
200	10	80	25	25	301	●
300	13	100	30	30	302	●
500	16	130	40	40	303	●
750	18	160	50	50	304	●
1250	22	200	60	60	305	●
1500	26	220	65	65	306	●
2000	32	260	80	80	307	●

Prod. Gr. 775

CARTEC Joker safety load hook

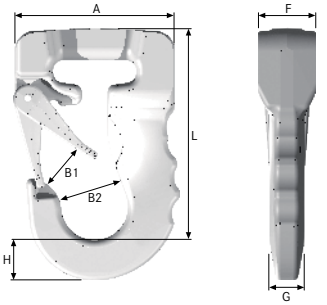
For round slings and hoisting slings

Application:
for connecting two slings or as the end sling point hook.

Execution:
- forged steel
- with a safety catch
- colour corresponds to CEN colour coding for textile slings
- hook opening designed to fit the usual sling points

Advantage:
- simple to use thanks to design and colour
- no risk of confusion
- particularly robust
- protects fabric lifting gear

Ident. No. 011



Load-carrying capacity (kg)		1000	2000	3000	4000	5000	6000
Colour		Purple	Green	Yellow	Grey	Red	Brown
A (mm)		78	91	113	133	133	133
B_1 (mm)		26	31	37	43	43	43
B_2 (mm)		31	40	50	59.5	59.5	59.5
F (mm)		16	17	25	36	36	36
G (mm)		17	21	25	36	36	36
H (mm)		20	26	32	40	40	40
L (mm)		123	148	175	223	223	223
77203...	Ident. No.	011 ●	021 ●	031 ●	041 ●	051 ●	061 ●

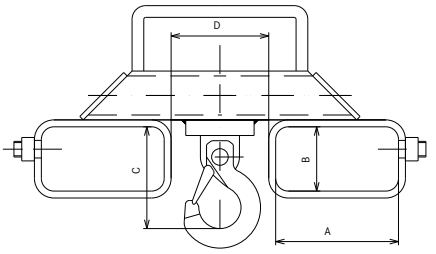
Prod. Gr. 775

Forklift hook, double

Application:
As an add-on unit for all types of stacker.

Execution:
- The rotating and pivoting compact hooks are attached outside the dovetail opening. Thereby, the dovetail opening can be fully utilised and there is no jamming of the stacker dovetail on inclined pulling
- Effortless conversion into a safe lifting device
- Double, can be locked on both fork arms via cross arms, load can be divided into 2 fork arms

Technical data:
- Design: Double
- B: 65 mm
- D: 100 mm
- Colour: Orange



Fork-lift hooks, double

Load-carrying capacity (kg)		2000	3150
A (mm)		127	145
77185...	Ident. No.	120 ○	132 ○

Prod. Gr. 7EH

CARTEC Ring bolt

Screw-in anchor point, can be rotated 360°

Application:
For the safe attachment of loads.

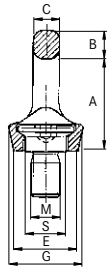
Execution:
- Forged, high-strength annealed
- 100% Magnaflux crack-tested in accordance with DIN EN 1677-1
- captive hexagon socket screw,
- can be rotated 360°
- designed for up to 20,000 strokes at full load
- Powder-coated surface: salmon-coloured

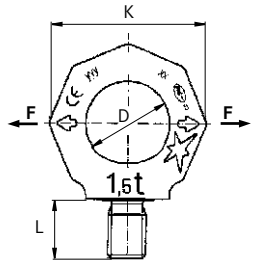
Advantage:
- 4-fold safety
- Can be set in the direction of force to avoid accidental unscrewing or overscrewing
- **Ident. No. 208–248:** Tool-free assembly

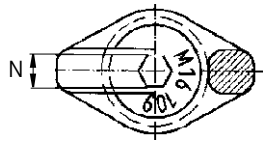
Delivery:
Ident. No. 208–248: Includes Key

Ident. No. 108–148

Ident. No. 208–248







Thread dimension			M8	M10	M12	M16	M20	M24	M30	M36	M42	M48
L (mm)			12	15	18	24	30	36	45	55	65	72
W.L.L. (t)			0.3	0.4	0.75	1.5	2.3	3.2	4.5	7	9	12
A (mm)			33.7	33.7	41.5	49.5	58	69	86	105	118	137
C (mm)			9.8	9.8	11.5	15.7	18	22	28	30	37	38
B (mm)			10	10	12.5	14.5	16	20.5	25.5	32	38	43
D (mm)			25	25	30	35	40	49	60	74	82	95
E (mm)			25.5	25.5	30.6	36.5	42	50	66	77	87	102
	Design											
77232...	Without key	Ident. No.	108 ●	110 ●	112 ●	116 ●	120 ●	124 ●	130 ●	136 ●	142 ●	148 ●
77232...	With key	Ident. No.	208 ●	210 ●	212 ●	216 ●	220 ●	224 ●	230 ●	236 ●	242 ●	248 ●

Prod. Gr. 775

RUD® Vario ring bolt, Starpoint type VRS-F

Screw-in anchor point, can be rotated 360°

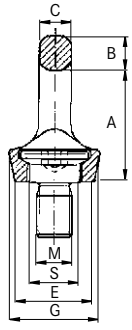
Application:
For the safe attachment of loads.

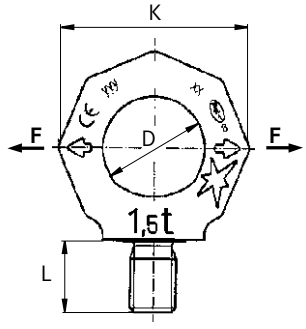
Execution:
- Forged, high-strength annealed
- 100% electromagnetically crack-tested in accordance with DIN EN 1677-1
- Patented 100% crack-tested hexagon socket screw, non-detachable
- can be rotated 360°
- Stated carrying capacity for adverse load area F
- Powder-coated surface: pink, fluorescent

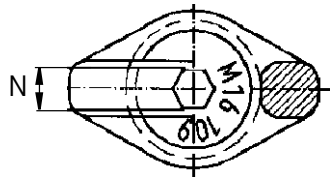
Advantage:
- 4-fold safety
- Can be set in the direction of force to avoid accidental unscrewing or overscrewing
- Tool-free assembly

Delivery:
Includes annealed star profile key for tool-free assembly. Special lengths and other threads upon request.

Technical data:
- Colour: Pink







Thread dimension		M6	M8	M10	M12	M16	M20	M24	M30	M36
L (mm)		9	12	15	18	24	30	36	45	54
W.L.L. (kg)		100	300	400	750	1500	2300	3200	4500	7000
A (mm)		28	35	35	42	49	58	70	87	103
D (mm)		20	25	25	30	35	40	49	60	72
E (mm)		23	25	25	30	36	41	51	66	76
Type		M6	M8	M10	M12	M16	M20	M24	M30	M36
77232...	Ident. No.	006 ●	008 ●	010 ●	012 ●	016 ●	020 ●	024 ●	030 ●	036 ●

Prod. Gr. 781

CARTEC Sling swivel, quality class 8

Screw-in anchor point with ball bearing

Application:
Screw-on, rotating attachment point for lifting heavy loads that need to be rotated or turned. Suitable for safe lifting in accordance with Machinery Directive 2006/42/EC.

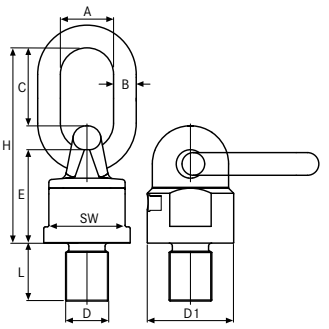
Execution:
- quality class 8 - compact, lightweight design, with DGUV certification
- with ball bearing for easier loading, loadable in all directions
- Can be rotated by 360°, swivel range of bracket max. 180°
- Red, powder-coated surface
- permanent rotation under full load not permitted

Advantage:
- 4-way safety in every load direction
- constructed, tested and certified according to GS-OA 15-04 – EN 1677

Delivery:
Carrying capacities up to 35 t and other dimensions deliverable upon request.

Notes:
with special thread or special thread length upon request.

Technical data:
- Colour: Red



Thread dimension		M10	M12	M16	M20	M24	M30	M30	M36	M42
L (mm)		18	18	20	30	30	35	35	50	63
W.L.L. (kg)		300	500	1120	2000	3150	5300	8000	10000	8000
A (mm)		30	30	30	34	40	45	50	50	50
B (mm)		13	13	13	16	18	22	23	23	23
C (mm)		46	46	46	57	70	65	95	95	95
D_1 (mm)		38	38	38	50	58	75	85	85	85
E (mm)		50	50	50	61	68	80	95	95	95
H (mm)		105	105	105	131	153	165	205	205	205
Width across flats		30 mm	30 mm	30 mm	40 mm	48 mm	65 mm	75 mm	75 mm	75 mm
77236...	Ident. No.	010 ●	012 ●	016 ●	020 ●	024 ●	030 ●	032 ●	036 ●	042 ●

Prod. Gr. 775

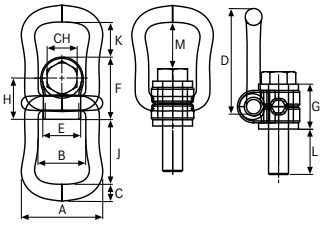
CARTEC Hoist ring, quality class 10

Application:
Attachment point for lifting loads.

Execution:
- Suitable for secure raising of loads according to Machinery Directive
- 2006/42/EC
- constructed, tested and certified according to GS-OA 15-04 – EN 1677
- DGUV certification
- Magnaflux crack tested to 100%
- can be rotated 360°

Advantage:
- load direction 90°, with minimal space requirement
- Durable corrosion protection of screw
- designed for a load of 20,000 load changes

Notes:
Caution: Anchor point not suitable for rotating under load! Articles are also available with special thread and special thread length.



Thread dimension		M8	M10	M16	M24	M27	M30	M36	M36	M42	M42	M48
L (mm)		15	15	24	37	37	45	50	59	75	63	71
W.L.L. (t)		0.5	0.63	1.5	4	4	6.7	7	8	10	15	20
A (mm)		57	57	66	87	109	109	109	136	136	169	169
B (mm)		34	34	38	55	66	66	66	78	78	97	97
I (mm)		25	25	32	45	60	60	60	70	70	85	95
C (mm)		10	10	13.5	16	22.5	22.5	22.5	28	28	36	36
D (mm)		78	78	85	111	145	145	145	190	190	242	242
Width across flats		13 mm	17 mm	24 mm	36 mm	41 mm	46 mm	50 mm	55 mm	65 mm	65 mm	75 mm
77239...	Ident. No.	108 ●	110 ●	116 ●	124 ●	127 ●	130 ●	136 ●	137 ●	142 ●	143 ●	148 ●

Prod. Gr. 775

RUD Vario hoist ring thread, type VLBG

Screw-in anchor point with folding, rotating load ring

Application:
For the safe attachment of loads in every load direction.

Execution:
- Patented 100% crack-tested, hexagonal bolt, BG tested, non-detachable
- Load bracket collapsible, rotates in all direction
- Integrated heat indicator: during inadmissible overheating over 350 °C the colour changes from pink to jet black

Advantage:
- 4-way safety in every load direction
- Load bracket carries the full load in every installation position

Delivery:
Carrying capacities up to 20 t and screws in special lengths deliverable upon request.

Notes:
On the construction side a thread or through hole suitable for the power line is necessary. Not suitable for rotating movements under load.

Technical data:
- Colour: Pink

Ident. No. 008

Thread dimension		M8	M10	M12	M16	M20	M24	M30	M36
L (mm)		11	15	18	22	32	37	49	63
W.L.L. (t)		0.63	0.9	1.35	2	3.5	4.5	6.7	8
A (mm)		54	54	54	56	82	82	103	122
B (mm)		34	34	34	36	54	54	65	82
I (mm)		24	24	26	30	45	45	60	70
M (mm)		40	39	38	39	55	67	67	97
C (mm)		12	12	12	13.5	16.5	18	22.5	26.5
G (mm)		29	29	29	36	43	43	61	77
77239...	Ident. No.	**008** ●	**010** ●	**012** ●	**016** ●	**020** ●	**024** ●	**030** ●	**036** ○

Prod. Gr. 781

HALDER Lifting pins, self-locking

Application:
Quick pick-up of loads for safe transport by crane

Version:
- steel, manganese phosphate-plated
- stainless steel 1.4542, precipitation-hardened

Advantage:
- no thread required on the workpiece. can be used with bore holes H11
- locking bar on shackle to prevent accidental release
- fast load changes, efficient work

Technical data:
- W.L.L.: 275 kg
- Material of shackles: Steel tempered
- Surface of the shackle: Manganese phosphated
- Material of bolt: Steel tempered
- Material of spring: Corrosion resistant steel
- Material of push knop: Aluminium
- Locating bore hole diameter: 10 mm
- Max. temperature: 250 °C
- Design: Self-locking
- Operation: By pressing the button
- With corrosion protection: Yes

Ident. No. 015

l_1 (mm)		15	25	35	50
77241...	Ident. No.	**015** ●	**025** ●	**035** ●	**050** ●

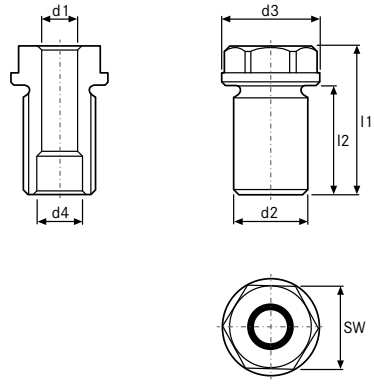
Prod. Gr. 7EC

HALDER Mounting bush for lifting pins

Application:
The mounting bushes are a safe and fast mounting option for lifting pins.

Version:
- Can be installed in different base materials.
- Can be used on thin-walled parts and on blind holes.
- Corrosion-resistant and low-wear

Technical data:
- W.L.L.: 275 kg
- Material: Steel, stainless
- Width across flats: 24 mm
- d_1: 10 mm
- d_3: 28 mm



Suitable for lifting pins		Lifting pins 77241025	Lifting pins 77241050
Suitable for nominal length (mm)		25	50
Max. tightening torque (Nm)		145	130
l_1 (mm)		35.5	65.00
l_2 (mm)		24	49
d_2		M20 x 1.5	M20
77240...	Ident. No.	**025** ●	**050** ○

Prod. Gr. 7EC

HALDER Self-locking threaded support bolt

Quick and easy-to-use anchor point

Application:
For lifting loads. The threaded support bolt is inserted into a threaded hole and secures itself. In contrast to a ring screw, this eliminates time-consuming screwing and unscrewing.

Execution:
- Stop point with self-locking thread
- Shackles made of heat-treated steel, tempered, manganese phosphate-coated
- Stainless steel 1.4542 thread element, precipitation-hardened
- Movable shackle
- Loosen the safety bar to prevent accidental release
- High-strength, precipitation-hardened bolts
- Aluminium press stud
- TÜV tested – in accordance with DIN EN 13155

Advantage:
- Time savings of up to 95% compared to conventional ring bolts

Technical data:
- Material of shackles: Steel tempered
- Surface of the shackle: Manganese phosphated
- Material of bolt: Steel tempered
- Material of spring: Corrosion resistant steel
- Material of push knop: Aluminium
- Max. temperature: 250 °C
- Design: Self-locking
- Operation: By pressing the button
- With corrosion protection: Yes

Ident. No. 100–106

Ident. No. 111–115

Thread dimension			M10	M10	M12	M12	M14	M16	M16	M20	M24	M24	M8
L (mm)			10	10	12	12	12	12	12	17	22	22	8
l_1 (mm)			14	14	17	17	17	17	17	22	27	27	12
W.L.L. (kg)			397	390	632	620	780	856	840	1660	2300	1850	210
77241...	rigid	Ident. No.	100 ●	-	101 ●	-	104 ●	102 ●	-	105 ●	106 ●	-	103 ●
77241...	rotatable	Ident. No.	-	111 ●	-	112 ●	-	-	113 ●	114 ●	-	115 ●	-

Prod. Gr. 7EC

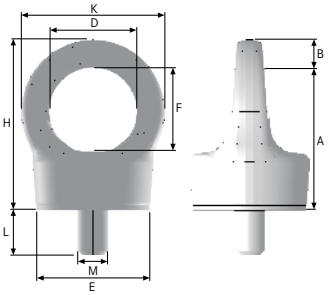
CARTEC Ring bolt, rotating and mounted on ball bearing

Application:
Suitable for continuous rotary motion under full weight in axial tensile direction.

Execution:
- Suitable for secure raising of loads according to Machinery Directive
- 2006/42/EC
- constructed, tested and certified according to GS-MO 1504 – EN 1677
- DGUV certification
- can be rotated 360°
- 4-way safety in all load directions
- Magnaflux crack tested to 100%

Advantage:
- designed for a load of 20,000 load changes
- suitable for continual rotary motion

Notes:
maximum rotation speed under load-bearing capacity 50 rpm



Thread dimension		M12	M16	M20	M24	M30
L (mm)		18	24	30	38.5	44
W.L.L. (t)		0.75	1.5	2.3	3.2	4.5
A (mm)		53.5	56.5	67	80	101
B (mm)		11	13	14	18	22
D (mm)		34	39	42	52	62
K (mm)		56	65	70	88	106
E (mm)		44	56	58	73	80
F (mm)		32	33	40	44.5	53
77233...	Ident. No.	712 ●	716 ●	720 ●	724 ●	730 ●

Prod. Gr. 775

CARTEC Ring nut quality class 8

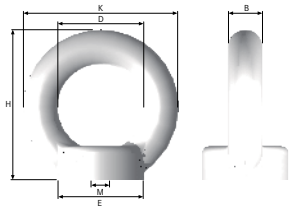
Forged, high-strength annealed

Execution:

- Much higher load capacity compared to DIN 580/582 (with vertical load)

Thread dimension	W.L.L. (t)	H (mm)	B (mm)	D (mm)	K (mm)	E (mm)	77233... Ident. No.	
M6	0.4	45	10	25	45	25	506	●
M8	0.8	45	10	25	45	25	508	●
M10	1.0	45	10	25	45	25	510	●
M12	1.6	62	14	35	63	35	512	●
M14	3.0	62	14	35	63	35	514	●
M16	4.0	62	14	35	63	35	516	●
M18	5.0	90	20	50	90	50	518	●
M20	6.0	90	20	50	90	50	520	●
M24	8.0	90	20	50	90	50	524	●
M27	10.0	109	24	60	108	65	527	●
M30	12.0	109	24	60	108	65	530	●

Prod. Gr. 775



CARTEC Ring bolt quality class 8

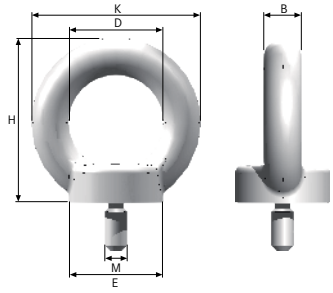
Forged, high-strength annealed

Execution:

- Much higher load capacity compared to DIN 580/582 (with vertical load)

Thread dimension	L (mm)	W.L.L. (t)	H (mm)	B (mm)	D (mm)	K (mm)	E (mm)	77233... Ident. No.	
M6	13	0.4	45	10	25	45	25	106	●
M8	13	0.8	45	10	25	45	25	108	●
M10	17	1.0	45	10	25	45	25	110	●
M12	21	1.6	62	14	35	63	35	112	●
M16	27	4.0	62	14	35	63	35	116	●
M20	30	6.0	90	20	50	90	50	120	●
M24	36	8.0	90	20	50	90	50	124	●
M30	45	12.0	109	24	60	108	65	130	●
M36	54	16.0	128	28	70	126	75	136	●

Prod. Gr. 775



Chain slings quality class 8 (EN standard 818-2)

2-leg

Application:
For the safe and regulatory-compliant lifting of heavy loads.

Execution:

- High-strength, hardened and tempered chain, quality class 8
- Complete with safety load hooks

Advantage:

- High strength
- low tare weight
- High wear resistance
- Large range of accessories

Stop chain design			2 threads	2 threads	2 threads
Chain Ø (mm)			6	8	10
Load-carrying capacity at 0-45° tilt angle (kg)			1600	2800	4250
Load-carrying capacity at 45-60° tilt angle (kg)			1120	2000	3150
	Effective length (m)				
77208...	1	Ident. No.	000 ○	001 ○	002 ○
77208...	2	Ident. No.	006 ○	008 ○	011 ○
77208...	3	Ident. No.	007 ○	009 ○	012 ○

Prod. Gr. 7EG

Chain slings quality class 8 (EN standard 818-2)

4-leg

Application:
For the safe and regulatory-compliant lifting of heavy loads.

Execution:
- High-strength, hardened and tempered chain, quality class 8
- Complete with safety load hooks

Advantage:
- High strength
- low tare weight
- High wear resistance
- Large range of accessories

Stop chain design			4 threads	4 threads	4 threads
Chain Ø (mm)			6	8	10
Load-carrying capacity at 0-45° tilt angle (kg)			2360	4250	6700
Load-carrying capacity at 45-60° tilt angle (kg)			1700	3000	4750
	Effective length (m)				
77208...	1	Ident. No.	026 ○	027 ○	028 ○
77208...	2	Ident. No.	033 ○	035 ○	037 ○
77208...	3	Ident. No.	034 ○	036 ○	038 ○

Prod. Gr. 7EG

Chain slings quality class 8, with shortening hooks (EN standard 818-2)

2-leg

Application:
For the safe and regulatory-compliant lifting of heavy loads.

Execution:
- High-strength, hardened and tempered chain, quality class 8
- Complete with safety load hooks
- Chain strands may be shortened using the hook

Advantage:
- High strength
- low tare weight
- High wear resistance
- Large range of accessories

Stop chain design			2 threads	2 threads	2 threads
Chain Ø (mm)			6	8	10
Load-carrying capacity at 0-45° tilt angle (kg)			1600	2800	4250
Load-carrying capacity at 45-60° tilt angle (kg)			1120	2000	3150
	Effective length (m)				
77208...	1	Ident. No.	003 ○	004 ○	005 ○
77208...	2	Ident. No.	013 ○	015 ○	017 ○
77208...	3	Ident. No.	014 ○	016 ○	018 ○

Prod. Gr. 7EG

Chain slings quality class 8, with shortening hooks (EN standard 818-2)

4-leg

Application:
For the safe and regulatory-compliant lifting of heavy loads.

Execution:
- High-strength, hardened and tempered chain, quality class 8
- Complete with safety load hooks
- Chain strands, can be shortened with claws

Advantage:
- High strength
- low tare weight
- High wear resistance
- Large range of accessories

Stop chain design			4 threads	4 threads	4 threads
Chain Ø (mm)			6	8	10
Load-carrying capacity at 0-45° tilt angle (kg)			2360	4250	6700
Load-carrying capacity at 45-60° tilt angle (kg)			1700	3000	4750
	Effective length (m)				
77208...	2	Ident. No.	019 ○	022 ○	024 ○
77208...	3	Ident. No.	021 ○	023 ○	025 ○+
77208...	1	Ident. No.	029 ○	031 ○	032 ○

Prod. Gr. 7EG

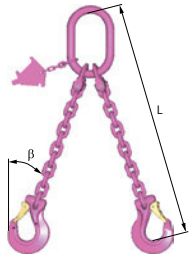
RUD VIP attachment chains

Application:
For the safe and regulatory-compliant lifting of heavy loads.

Design:
- CrNiMo stainless steel, special tempering, quality class 10
- Bright fluorescent pink powder coating (VIP)
- VIP identification tag with integrated chain test gauge, to check the three discard criteria for attachment chains (diameter wear, pitch elongation and overloading)
- VIP Cobra safety hook with patented wear marks showing the legal discard state without measuring, gauge marks for measuring the width of the hook opening
- Integrated heat indicator: in the event of inadmissible overheating above 400°C, the colour changes to jet back and small bubbles form

Advantage:
- Up to 30% higher load-bearing capacity compared to quality class 8 with the same nominal chain thickness
- No confusion with other quality classes
- Resistant to external mechanical wear and damage
- Longer service life

Delivery:
1-stranded or longer designs, stronger chain diameter, carrying capacities up to 56 t upon request.



RUD® VIP chain slings quality class 10 (EN standard 818-2)
2-leg

Stop chain design			2 threads	2 threads	2 threads
Chain Ø (mm)			6	8	10
Load-carrying capacity at 0-45° tilt angle (kg)			2100	3500	5600
Load-carrying capacity at 45-60° tilt angle (kg)			1500	2500	4000
	Effective length (m)				
77208...	1	Ident. No.	600 ○	602 ○	604 ○
77208...	2	Ident. No.	612 ○	614 ○	616 ○

Prod. Gr. 775

RUD® VIP chain slings quality class 10 (EN standard 818-2)
4-leg

Stop chain design			4 threads	4 threads	4 threads
Chain Ø (mm)			6	8	10
Load-carrying capacity at 0-45° tilt angle (kg)			3150	5250	8400
Load-carrying capacity at 45-60° tilt angle (kg)			2250	3750	6000
	Effective length (m)				
77208...	1	Ident. No.	606 ○	608 ○	610 ○
77208...	2	Ident. No.	618 ○	620 ○	622 ○

Prod. Gr. 775

RUD® VIP chain slings, quality class 10, with shortening clutches (EN standard 818-2)
2-leg

Stop chain design			2 threads	2 threads	2 threads
Chain Ø (mm)			6	8	10
Load-carrying capacity at 0-45° tilt angle (kg)			2100	3500	5600
Load-carrying capacity at 45-60° tilt angle (kg)			1500	2500	4000
	Effective length (m)				
77208...	1	Ident. No.	624 ○	626 ○	628 ○
77208...	2	Ident. No.	636 ○	638 ○	640 ○

Prod. Gr. 775

RUD® VIP chain slings, quality class 10, with shortening clutches (EN standard 818-2)

4-leg

Stop chain design			4 threads	4 threads	4 threads
Chain Ø (mm)			6	8	10
Load-carrying capacity at 0-45° tilt angle (kg)			3150	5250	8400
Load-carrying capacity at 45-60° tilt angle (kg)			2250	3750	6000
	Effective length (m)				
77208...	1	Ident. No.	630 ○	632 ○	634 ○
77208...	2	Ident. No.	642 ○	644 ○	646 ○+

Prod. Gr. 775

Hoisting sling with reinforced loops (EN standard 1492-1)

Made of polyester fabric

Application:
For the safe and regulatory-compliant lifting of loads.

Execution:
- Additionally printed with load capacity specification
- Tear-proof, double label sewn in
- Complies with EN 1492-1
- GS-tested
- Can be used between -40°C and +100°C
- with reinforced loops
- Two-ply lifting strap (B2)

Advantage:
- Low tare weight
- Versatile
- Durable and flexible fabric construction

Delivery:
including instructions for use and declaration of conformity

			Length (mm)	1000		2000		4000		6000	
Material thickness (mm)	Width (mm)	W.L.L. (t)	Colour	77187... Ident. No.		77187... Ident. No.		77187... Ident. No.		77187... Ident. No.	
5.2	30	1	Purple	110	●	120	●	140	●	-	-
5.0	60	2	Green	210	●	220	●	240	●	260	●
5.0	90	3	Yellow	310	●	320	●+	340	●	360	●

Prod. Gr. 7EJ

Round slings

for universal use

Execution:
- Additionally labelled with load capacity and marked with woven-in barrel strips
- Tear-proof, double label sewn in
- Complies with EN 1492-2
- GS-tested
- Can be used between -40°C and +100°C

Advantage:
- low tare weight
- Versatile

Delivery:
Includes operating instructions and declaration of conformity

Technical data:
- Material: PES - Polyester
- Approval mark: GS - TÜV Rheinland

				Length (mm)	500		1000		1500		2000		3000		4000	
WLL kg	WLL kg	WLL kg	Colour	77199... Ident. No.		77199... Ident. No.		77199... Ident. No.		77199... Ident. No.		77199... Ident. No.		77199... Ident. No.	
1000	2000	800	Purple	105	●	110	●	115	●	120	●	130	●	140	●
2000	4000	1600	Green	205	●	210	●	215	●	220	●	230	●	240	●
3000	6000	2400	Yellow	-	-	310	●	315	●	320	●	330	●	340	●
4000	8000	3200	Grey	-	-	410	●	415	●	420	●	430	●	440	●

Prod. Gr. 7EJ

Round sling pack special price

Comprising 10 round slings

Application:
For lifting various loads.

Execution:
- Additionally labelled with load capacity and marked with woven-in barrel strips
- Tear-proof, double label sewn in
- Complies with EN 1492-2
- GS-tested
- Can be used between -40°C and +100°C
- 2 x 1000 kg, useful length L1 = 1 m
- 2 x 1000 kg, useful length L1 = 2 m
- 2 x 2000 kg, useful length L1 = 2 m
- 2 x 2000 kg, useful length L1 = 3 m
- 2 x 3000 kg, useful length L1 = 3 m

Advantage:
- Cost-effective set
- Always have the right round sling to hand

Delivery:
Includes operating instructions and declaration of conformity

77199...	Ident. No.	600 ●

Prod. Gr. 786

SpanSet® SupraPlus round sling with extremely robust hose cover (EN standard 1492-2)

Made of polyester fabric

Application:
For the safe and regulatory-compliant lifting of loads, for daily use and extreme usage conditions.

Execution:
- Textile wire-reinforced hose sleeve
- Ribbed reinforcement of hose sleeve made of high-performance polyester
- Embossed weaving in of carrying capacity

Advantage:
- Compact, long service life thanks to low wrinkle formation and small support area
- Significantly higher usage time: double the resistance to wear and multiple resistance to cuts thanks to ribbed reinforcement
- Special hose sleeve prevents almost all damage or tearing
- Increased working safety thanks to embossed weaving in of carrying capacity

Delivery:
Other lengths deliverable on request.

Notes:
Return or exchange of goods excluded for product liability reasons.

Technical data:
- Material: PES - Polyester
- Approval mark: GS certified safety

Ident. No. 023, 133, 243, 363, 483

Material thickness (mm)	WLL kg	Colour	Length (mm) 2000		1000		1500		3000		4000	
			77201... Ident. No.		77201... Ident. No.		77201... Ident. No.		77201... Ident. No.		77201... Ident. No.	
4	1000	Purple	251	●	-	-	-	-	-	-	-	-
6	1000	Purple	-	-	021	●	131	●	361	●	481	○
8	2000	Green	242	●	022	●	132	●	362	●	482	●
10	3000	Yellow	243	●	023	●	133	●	363	●	483	●
12	4000	Grey	244	●	024	●	134	○	364	○	484	●
13	5000	Red	245	●	025	●	135	●	365	●	485	●
14	6000	Brown	246	●	026	●	136	○	366	●	486	●
17	8000	Blue	248	●	-	-	138	○	368	●	488	○

Prod. Gr. 775

CARTEC Joker safety load hook

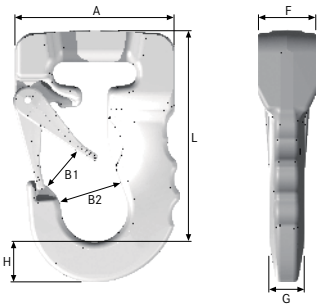
For round slings and hoisting slings

Application:
for connecting two slings or as the end sling point hook.

Execution:
- forged steel
- with a safety catch
- colour corresponds to CEN colour coding for textile slings
- hook opening designed to fit the usual sling points

Advantage:
- simple to use thanks to design and colour
- no risk of confusion
- particularly robust
- protects fabric lifting gear

Ident. No. 011



Load-carrying capacity (kg)		1000	2000	3000	4000	5000	6000
Colour		Purple	Green	Yellow	Grey	Red	Brown
A (mm)		78	91	113	133	133	133
B_1 (mm)		26	31	37	43	43	43
B_2 (mm)		31	40	50	59.5	59.5	59.5
F (mm)		16	17	25	36	36	36
G (mm)		17	21	25	36	36	36
H (mm)		20	26	32	40	40	40
L (mm)		123	148	175	223	223	223
77203...	Ident. No.	011 ●	021 ●	031 ●	041 ●	051 ●	061 ●

Prod. Gr. 775

Lashing strap with clamping locks, 250 daN in strapping

Application:
For lashing transported goods, suitable for securing lightweight loads.

Execution:
- Made of 100% polyester, 1 piece

Advantage:
- For the secure lashing of loads

Delivery:
Other lengths upon request.

Technical data:
- Width: 25 mm
- Permitted tensile force LC in the strapping: 250 daN
- Material: PES - Polyester

Length (mm)		3000	5000
77206...	Ident. No.	010 ●	020 ●

Prod. Gr. 775

Ratchet lashing strap, 500 daN in strapping

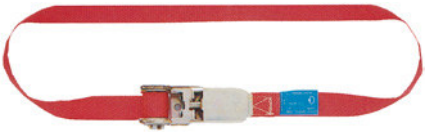
Application:
For lashing transported goods, suitable for securing lightweight loads.

Execution:
- Made of 100% polyester, with mini-ratchet, 1 piece

Advantage:
- For the secure lashing of loads

Notes:
Other lengths upon request.

Technical data:
- Restraint assembly design: One part, without hook
- Width: 25 mm
- Permitted tensile force LC in the strapping: 500 daN



	Length (mm)		
77206...	5000	Ident. No.	100 ●

Prod. Gr. 775

Ratchet lashing strap, 2,000 daN in strapping

Application:
For lashing transported goods, suitable for vans and lightweight trailers.

Execution:
- Made of 100% polyester

Advantage:
- Regulation-compliant and secure loading of transported goods

Notes:
Other designs and lengths upon request.

Technical data:
- Width: 35 mm
- Permissible LC tensile force when pulled directly: 1000 daN
- Permitted tensile force LC in the strapping: 2000 daN

Ident. No. 210

Restraint assembly design			One part | without hook	Two parts | with claw hook
Pre-tensioning force STF (daN)			-	220
	Length (mm)			
77206...	6000	Ident. No.	200 ●	210 ●

Prod. Gr. 775

Ratchet lashing strap, 5,000 daN in strapping

Claw hook

Application:
For lashing transported goods, suitable for lorry freight and transporting heavy loads.

Execution:
- Made of 100% polyester, 2 pieces

Advantage:
- Regulation-compliant and secure loading of transported goods

Notes:
Other designs and lengths upon request.

Technical data:
- Restraint assembly design: Two parts, with claw hook
- Width: 50 mm
- Pre-tensioning force STF: 300 daN
- Permissible LC tensile force when pulled directly: 2500 daN
- Permitted tensile force LC in the strapping: 5000 daN

Model with claw hook

	Length (mm)		
77206...	8000	Ident. No.	300 ●
77206...	10000	Ident. No.	400 ●

Prod. Gr. 775

Ratchet lashing strap with long-lever lashing ratchet, 5,000 daN in the strapping

Claw hook

Application:
For lashing down with high pre-tension force, suitable for lorry freight and transporting heavy goods.

Execution:
- Made of 100% polyester, 2 pieces
- Lever 350 mm, 20 teeth

Advantage:
- Long lever and optimum transmission
- Easy to use—high pre-tension force

- Suitable for use as a pull or push ratchet
- Can be converted in just a few simple steps

Notes:
Other designs and lengths upon request.

Technical data:
- Restraint assembly design: Two parts, with claw hook and long lever
- Width: 50 mm
- Pre-tensioning force STF: 500 daN
- Permissible LC tensile force when pulled directly: 2500 daN
- Permitted tensile force LC in the strapping: 5000 daN

Model with claw hook

	Length (mm)		
77206...	8000	Ident. No.	500 ●
77206...	10000	Ident. No.	600 ●

Prod. Gr. 775

Lashing strap reel

For max. strap width 50 mm and max. strap length 10 m

Application:
For rapid retraction and neat stowage of lashing straps up to 10 m long.

Execution:
- Extremely simple retraction function:
- 1. Fit the base plate to the truck once
- 2. Push the reeling-in mechanism into the base plate
- 3. Reel in the belt strap
- 4. Pull off the belt strap
- 5. Store the belt strap
- 6. Remove the reeling-in mechanism and store it in the case

Advantage:
- Prevents lashing straps becoming tangled and can be neatly stowed away, saving time
- Rapid and practical solution for reeling in and storing lashing straps

Delivery:
Lashing strap retractor, base plate

77206...	Ident. No.	660 ●

Prod. Gr. 775

Non-slip mats

Made of granulate fibre

Application:
Ref. no. 703: For optimum load securing in accordance with Article 220, StVO and VDI 2700 (Sheet 14+15). For transport, storage and logistics, as well as in industry and production. Proven protection against slipping, scratches or rolling away. Also ideal as a non-slip cover and support for drawers, shelves, boxes, on sloped surfaces etc.

Version:
- Highly tear-resistant
- closed surface
- 4.5 mm thick
- Extremely strong reinforced inner fabric with durable non-slip coating
- Tested friction coefficient of μ 1.49 at 500 kg/m2 up to μ 0.94 at 10 tonnes/m2
- Tested and certified several times by FLOG and Fraunhofer IML and DEKRA

Advantage:
- No breaking or crumbling, so can be used for many years
- Can be used multiple times and easy to roll
- Easy handling thanks to low
- weight
- Exceeds all requirements of the VDI Regulations and of Article 22, StVO
- Washable at up to 60°, easy to cut to size and food safe.

Technical data:
- Material thickness: 8 mm

Ident. No. 680

Ident. No. 690

Container		Cutting dimensions	Roll
Length (mm)		180	5000
Width (mm)		120	250
77206...	Ident. No.	680 ●	690 ●

Prod. Gr. 775

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Do you need more than just a hammer, pair of pliers or a screwdriver?
We have the full range for you. Machining tools, handling systems and
measuring technology. However, we also offer tailor-made system solutions,
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Files

Engineer's files 2165

Precision files 2168

Diamond files 2172

Whetstones

Corundum grinding stones and files 2174

Silicon carbide grinding stones and files 2176

RECORD-ARKANSAS oil stones 2178

DEGUSSIT grinding stones and files 2180

Hard ARKANSAS oil stones 2183

Cutting and roughing discs, abrasive flap discs and fibre discs

Cutting discs 2185

Roughing discs 2190

Abrasive flap discs 2192

Fibre discs 2198

Deburring, cleaning and polishing

Coarse cleaning discs 2201

Bristle grinding brushes 2202

Power brushes and internal cleaning brushes 2203

Disc brushes 2211

Deburring, cleaning and polishing

Burs 2212

Finishing tips 2219

Mounted points 2221

Polishing tools 2223

Sanding

Hook-and-loop sanding discs 2224

Sandpaper and abrasive fabric 2228

Non-woven abrasive hand pads and rolls 2232

Flap wheels, non-woven sanding tips 2234

Quick-action clamping systems 2242

Precision grinding and dressing

Sanding discs and cup sanding discs 2246

Grinding wheel dressers for stationary machines 2249

Grinding wheel dressers for manual use 2250

Cleaning stones 2251

Manual lapping tool 2251

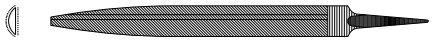
ORION® Engineer's files

DIN 7261 A/E/C/D/F

Application:

For manual material removal with steel materials.

No. 51490



No. 51492

No. 51493

No. 51494

No. 51495

File cut						1	2	3
	Form	File blade length (mm)	Width (mm)	Thickness (mm)				
51490...	Equalling	100	12.0	3.0	Ident. No.	110 ●	210 ●	310 ●
51490...	Equalling	150	16.0	4.0	Ident. No.	115 ●	215 ●	315 ●
51490...	Equalling	200	20.0	5.0	Ident. No.	120 ●	220 ●	320 ●
51490...	Equalling	250	25.0	6.3	Ident. No.	125 ●	225 ●	325 ●
51490...	Equalling	300	30.0	7.0	Ident. No.	130 ●	230 ●	330 ●
51490...	Equalling	350	35.0	7.5	Ident. No.	135 ●	235 ●	335 ●
51490...	Equalling	400	39.0	9.0	Ident. No.	140 ●	-	-
51492...	Half-round	100	11.0	4.0	Ident. No.	110 ●	-	310 ●
51492...	Half-round	150	16.0	5.0	Ident. No.	115 ●	215 ●	315 ●
51492...	Half-round	200	21.0	6.0	Ident. No.	120 ●	220 ●	320 ●
51492...	Half-round	250	25.0	7.0	Ident. No.	125 ●	225 ●	325 ●
51492...	Half-round	300	30.0	9.0	Ident. No.	130 ●	230 ●	330 ●
51493...	Triangle	150	12.0		Ident. No.	115 ●	215 ●	315 ●
51493...	Triangle	200	15.0		Ident. No.	120 ●	220 ●	320 ●
51493...	Triangle	250	18.0		Ident. No.	125 ●	225 ●	325 ●
51493...	Triangle	300	21.0		Ident. No.	130 ●	230 ●	-
51493...	Triangle	100	8.7		Ident. No.	-	-	310 ●
51494...	Square-cut	100	4.0		Ident. No.	110 ●	-	-
51494...	Square-cut	150	6.3		Ident. No.	115 ●	215 ●	315 ●
51494...	Square-cut	200	8.0		Ident. No.	120 ●	220 ●	320 ●
51494...	Square-cut	250	10.0		Ident. No.	125 ●	225 ●	325 ●
51494...	Square-cut	300	12.5		Ident. No.	130 ●	230 ●	-
51495...	Round	100		4	Ident. No.	110 ●	210 ●	310 ●
51495...	Round	150		6.3	Ident. No.	115 ●	215 ●	315 ●
51495...	Round	200		7.1	Ident. No.	120 ●	220 ●	320 ●
51495...	Round	250		9.2	Ident. No.	125 ●	225 ●	325 ●
51495...	Round	300		12.5	Ident. No.	130 ●	230 ●	-

Prod. Gr. 6AF

LESSMANN® File brush

For cleaning

Execution:
- File brush band, stuck on
- Brush strip size: 115 x 40 mm

Technical data:
- Length: 250 mm

56720...	Ident. No.	500 ●

Prod. Gr. 5JL

DICK File and rasp sets

Application:
For general and rough filing work on steel, iron and non-ferrous metals in industry, skilled trades and hobby use.

Execution:
- **Ident. No. 002:** Cut 2, shapes: flat blunt-ended, half-round, round, triangular, square, with beech handle.
- **Ident. No. 010:** Cut 1, shapes: flat blunt-ended, half-round, round, with plastic handle.
- **Ident. No. 020:** Cut 2, shapes: flat blunt-ended, half-round, round, triangular, square, with plastic handle.

Delivery:
Ident. No. 002: 1 x flat blunt-ended, half-round, round, triangular and square flat hand engineer's file with beech handle, in robust textile tool roll
Ident. No. 010: 1 x flat blunt-ended, half-round and round flat hand engineer's file, with plastic handle, in plastic pouch
Ident. No. 020: 1 x flat blunt-ended, half-round, round, triangular and square flat hand engineer's file, with plastic handle, in plastic pouch

Ident. No. 002

Ident. No. 010

Ident. No. 020

File blade length (mm)		200	250	201
File cut		2	1	2
Number of pieces in assortment/set (PCS)		5	3	5
51507...	Ident. No.	002 ●	010 ●	020 ●

Prod. Gr. 6AD

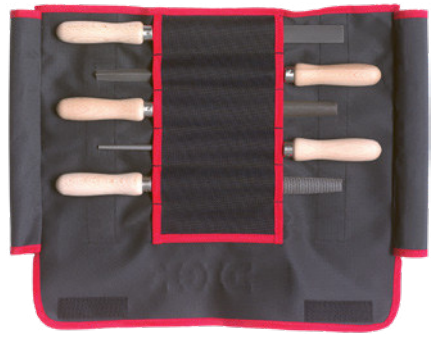
DICK File and rasp sets

Application:
For general and rough filing and rasping work on steel, iron and non-ferrous metals in industry, skilled trades and hobby use.

Execution:
- **Ident. No. 002:** Cut 2, shapes: flat blunt-ended, half-round, triangular, round, half-round rasp with beech handle.
- **Ident. No. 005:** Cut 2, shapes: flat blunt-ended, half-round, triangular, round, half-round rasp, with plastic handle.

Delivery:
Ident. No. 002: 1 x flat blunt-ended, half-round, triangular, round flat hand engineer's file, half-round rasp, with beech handle, in robust textile tool roll
Ident. No. 005: 1 x flat blunt-ended, half-round, triangular, round flat hand engineer's file, half-round rasp, with plastic handle, in plastic pouch

Technical data:
- File blade length: 200 mm
- File cut: 2
- Number of pieces in assortment/set: 5 PCS


Ident. No. 002

Ident. No. 005

Material of handle		Beechwood	Plastic
51508...	Ident. No.	002 ●	005 ●

Prod. Gr. 6AD

DICK Flat universal file

Application:
For rough and fine manual material removal on all materials.

Execution:
- Rough face for preliminary filing, when removing particularly large amounts of metal
- Fine face for retouching work, for fine machining of surfaces

Advantage:
- Ideal for universal use due to two different flat faces
- With special cut designed for cast iron, steel (also stainless steel), non-ferrous metals and soft metals, plastics and wood

File blade length (mm)		200	250
Width (mm)		20.0	25.0
Thickness (mm)		5.0	6.3
51470...	Ident. No.	**200** ●	**250** ●

Prod. Gr. 6AD

DICK Milled flat blunt-ended file

Application:
For manual material removal on light and soft metals (aluminium, lead, tin), synthetic resin, wood, leather, marble and horn.

Execution:
- Helical toothing, uniform rough toothing on both faces
- Narrow faces uncut
- Made of chrome-alloy steel

Advantage:
- High removal performance and favourable chip removal

Technical data:
- File cut: 1
- Thickness: 6.3 mm

File blade length (mm)		250	300
Width (mm)		25.0	30.0
51520...	Ident. No.	**125** ●	**130** ●

Prod. Gr. 6AD

DICK Half-round wood rasp

Application:
For manual material removal for wood

Execution:
- Chrome-alloy steel blade

Advantage:
- High removal performance and favourable chip removal

Technical data:
- File cut: 2

File blade length (mm)		200	250
Width (mm)		20.0	25.0
Thickness (mm)		5.5	7.0
51533...	Ident. No.	**220** ●	**225** ●

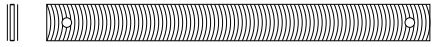
Prod. Gr. 6AD

DICK Covered files and bodywork files

Application:
Ident. No. 130–135: For manual material removal on light and soft metals (aluminium, lead, tin), synthetic resin, wood, leather, marble and horn.
Ident. No. 230–235: For manual material removal on steel with a strength of less than 800 N/mm², steel casting, chilled casting, copper, brass and bronze.

Execution:
- Made of chrome-alloy steel
- Flat blunt-ended
- **Ident. No. 130–135:** radial cut on both sides, nine teeth per inch
- **Ident. No. 230–235:** radial cut on both sides, 12 teeth per inch

Technical data:
- Thickness: 4.0 mm



File blade length (mm)		300	350	300	350
File cut		Coarse	Coarse	Medium	Medium
Width (mm)		30.0	35.0	30.0	35.0
51550...	Ident. No.	**130** ●	**135** ●	**230** ●	**235** ●

Prod. Gr. 6AD

Accessories for		51550 135	51550 235
51551... Adjustable holder For file blades up to 350 mm long	Ident. No.	**035** ●	**035** ●

ORION® Hardwood file handles

Execution:
- Beech wood with finely ground surface
- with deeply pressed-in steel tube clamp

Technical data:
- Material: Hardwood
- Colour: Brown

Length (mm)		60	80	100	110	120	130	160
Suitable for file length		100 mm	100 mm	100-175 mm	150-250 mm	150-350 mm	200-350 mm	From 350 mm
51582...	Ident. No.	060 ●	080 ●	100 ●	110 ●	120 ●	130 ●	160 ●

Prod. Gr. 527

Tool handle

Swiss patent, plastic with a soft core insert

Execution:
- Swiss patent
- Made of plastic, with soft core insert

Advantage:
- The handle can be inserted cold. It has a firm seating and can be repeatedly used

Technical data:
- Material: Plastic

Ident. No. 290–330

Length (mm)		90	100	110	120	130	90	100	110
Suitable for file length		125 mm	150 mm	200 mm	250 mm	300 mm	125 mm	150 mm	200 mm
Colour		Green	Green	Green	Green	Green	Blue	Blue	Blue
51586...	Ident. No.	090 ●	100 ●	110 ●	120 ●	130 ●	190 ●	200 ●	210 ●

Length (mm)		120	130	90	100	110	120	130	90
Suitable for file length		250 mm	300 mm	125 mm	150 mm	200 mm	250 mm	300 mm	125 mm
Colour		Blue	Blue	Red	Red	Red	Red	Red	Black
51586...	Ident. No.	220 ●	230 ●	290 ●	300 ●	310 ●	320 ●	330 ●	490 ●

Length (mm)		100	110	120	130
Suitable for file length		150 mm	200 mm	250 mm	300 mm
Colour		Black	Black	Black	Black
51586...	Ident. No.	500 ●	510 ●	520 ●	530 ●

Prod. Gr. 527

File handle

made of plastic

Execution:
- Made of plastic

Technical data:
- Material: Plastic
- Colour: Red

Length (mm)		90	105	120
Suitable for file length		100-150 mm	150-200 mm	250-300 mm
51587...	Ident. No.	010 ●	020 ●	030 ●

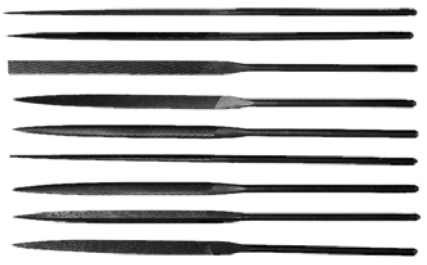
Prod. Gr. 527

DICK Precision needle files

with handle

Application:
No. 51402 001–51402 309, 51402 401–51402 409: For precision processing in steel, steel alloys and non-greasy soft metals in tool manufacturing, precision engineering or in training facilities.
No. 51402 310, 51403 002–51403 409: For precise work in tool manufacturing and precision engineering or in training shops, on steel, steel alloys and non-greasy soft metals.

Execution:
- Sharp tips and edges
- **No. 51402:** Handle diameter 3.23 mm +/- 0.1 mm, excl. shape square/round handle diameter 2.92 mm +/- 0.1 mm
- **No. 51403:** Handle diameter 3.71 mm +/- 0.1 mm, excl. shape square/round handle diameter 3.53 mm +/- 0.1 mm



Form					Half-round	Equalling needle	Knife shape	Barett	Triangle	Square-cut	Round	Equalling	Crossing shape	Blade shape
	Length (mm)	File cut	File blade length (mm)											
51402...	160	00	80	Ident. No.	002 ●	001 ●	-	005 ●	006 ●	007 ●	008 ●	009 ●	-	-
51402...	160	1	80	Ident. No.	102 ●	-	104 ●	105 ●	106 ●	107 ●	108 ●	109 ●	103 ●	-
51402...	160	2	80	Ident. No.	202 ●	201 ●	204 ●	205 ●	206 ●	207 ●	208 ●	209 ●	203 ●	-

Form					Half-round	Equalling needle	Knife shape	Barett	Triangle	Square-cut	Round	Equalling	Crossing shape	Blade shape
	Length (mm)	File cut	File blade length (mm)											
51402...	160	3	80	Ident. No.	302 ●	301 ●	304 ○	305 ●	306 ●	307 ●	308 ●	309 ●	303 ●	310 ●
51402...	160	4	80	Ident. No.	402 ●	401 ●	-	405 ●	406 ●	407 ●	408 ●	409 ●	-	-
51403...	200	00	100	Ident. No.	002 ●	-	-	-	006 ●	007 ●	008 ●	009 ●	-	-
51403...	200	1	100	Ident. No.	102 ●	101 ●	104 ●	105 ●	106 ●	107 ●	108 ●	109 ●	103 ●	-
51403...	200	2	100	Ident. No.	202 ●	201 ●	204 ●	205 ●	206 ●	207 ●	208 ●	209 ●	-	-
51403...	200	3	100	Ident. No.	302 ●	301 ●	304 ●	305 ●	306 ●	307 ●	308 ●	309 ●	-	-
51403...	200	4	100	Ident. No.	402 ●	-	-	405 ●	406 ●	407 ●	408 ●	409 ●	-	-

Prod. Gr. 6AE

DICK Precision needle files set in plastic pouch
with handle

Application:
For precise work in tool manufacturing and precision engineering or in training shops, on steel, steel alloys and non-greasy soft metals.

Execution:
- In 12 different types
- Handle diameter 3.23 mm ± 0.1 mm and 2.92 mm ± 0.1 mm

Delivery:
In plastic pouch

Technical data:
- Number of pieces in assortment/set: 12 PCS
- Form: Barett | Triangle | Equalling needle | Equalling | Half-round | Knife shape | Round | Blade shape | Square-cut | Crossing shape | Flat end with round shape | Flat tip with round shape
- File cut: 2

Length (mm)		100	140	160	180	200
File blade length (mm)		60	80	80	90	100
51405...	Ident. No.	005 ●	008 ●	010 ●	018 ●	020 ●

Prod. Gr. 6AE

DICK Precision needle file set in plastic bag
With handle

Execution:
- 6 different shapes
- Flat, triangular, square, half-round, round, barrette
- With securely attached two-component plastic handle with screw cap

51405...	Ident. No.	100 ●

Prod. Gr. 6AE

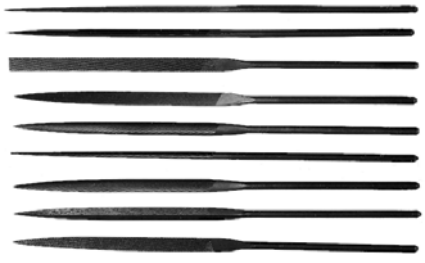
DICK Precision needle file set in plastic box
with handle

Application:
For precise work in tool manufacturing and precision engineering or in training shops, on steel, steel alloys and non-greasy soft metals.

Execution:
- In 12 different types
- Handle diameter 3.23 mm ± 0.1 mm and 2.92 mm ± 0.1 mm

Delivery:
In plastic box – for setting up at the work place for quick access

Technical data:
- Number of pieces in assortment/set: 12 PCS
- Form: Barett | Triangle | Equalling needle | Equalling | Half-round | Knife shape | Round | Blade shape | Square-cut | Crossing shape | Flat end with round shape | Flat tip with round shape
- File cut: 2
- File blade length: 80 mm



Length (mm)		140	160
51406...	Ident. No.	010 ●	016 ●

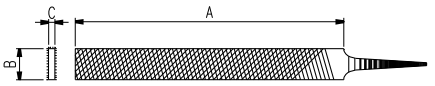
Prod. Gr. 6AE

DICK Precision flat file, normal blade

Application:
For precise work in tool manufacturing, precision engineering, the jewellery industry or in training shops, for reworking and fine processing of pre-processed surfaces or to achieve fine and perfect surfaces.

Execution:
- 2 flat faces and 1 small face cut
- Uniform width
- File is thinner towards the pointed end

Technical data:
- Form: Normal



File blade length (mm)		100	125	150	200	250	100	125	150
File cut		1	1	1	1	1	2	2	2
Width (mm)		9.5	12.5	16.0	21.3	25.3	9.5	12.5	16.0
Thickness (mm)		2.5	3.2	4.0	4.8	6.3	2.5	3.2	4.0
51411...	Ident. No.	110 ●	112 ●	115 ●	120 ●	125 ●	210 ●	212 ●	215 ●

File blade length (mm)		200	250	300	100	125	150	200	250
File cut		2	2	2	3	3	3	3	3
Width (mm)		21.3	25.3	29.3	9.5	12.5	16.0	21.3	25.3
Thickness (mm)		4.8	6.3	7.8	2.5	3.2	4.0	4.8	6.3
51411...	Ident. No.	220 ●	225 ●	230 ●	310 ●	312 ●	315 ●	320 ●	325 ●

File blade length (mm)		300	100	125	150	200	250	100	150
File cut		3	4	4	4	4	4	5	5
Width (mm)		29.3	9.5	12.5	16.0	21.3	25.3	9.5	16.0
Thickness (mm)		7.8	2.5	3.2	4.0	4.8	6.3	2.5	4.0
51411...	Ident. No.	330 ●	410 ●	412 ●	415 ●	420 ●	425 ●	510 ●	515 ●

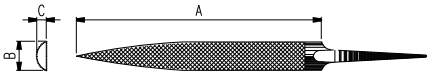
File blade length (mm)		200
File cut		5
Width (mm)		21.3
Thickness (mm)		4.8
51411...	Ident. No.	520 ●

Prod. Gr. 6AE

DICK Precision half-round file, pointed

Application:
For precise work in tool manufacturing, precision engineering, the jewellery industry or in training shops, for reworking and fine processing of pre-processed surfaces or to achieve fine and perfect surfaces.

Execution:
- Sharp tips and edges



Form		Half-round | Pointed | Normal	Half-round | Pointed | Normal	Half-round | Pointed | Narrow	Half-round | Pointed | Normal	Half-round | Pointed | Normal	Half-round | Pointed | Normal	Half-round | Pointed | Normal	Half-round | Pointed | Narrow
File blade length (mm)		125	150	150	200	250	125	150	150
File cut		1	1	1	1	1	2	2	2
Width (mm)		13.1	18.4	12.7	21.1	25.5	13.1	18.4	12.7
Thickness (mm)		4.1	5.2	3.5	6.3	7.5	4.1	5.2	3.5
51415...	Ident. No.	112 ●	115 ●	150 ●	120 ●	125 ●	212 ●	215 ●	250 ○

Form		Half-round | Pointed | Normal	Half-round | Pointed | Narrow	Half-round | Pointed | Normal	Half-round | Pointed | Normal	Half-round | Pointed | Normal	Half-round | Pointed | Narrow	Half-round | Pointed | Normal	Half-round | Pointed | Normal
File blade length (mm)		200	200	250	125	150	150	200	250
File cut		2	2	2	3	3	3	3	3
Width (mm)		21.1	15.2	25.5	13.1	18.4	12.7	21.1	25.5
Thickness (mm)		6.3	4.8	7.5	4.1	5.2	3.5	6.3	7.5
51415...	Ident. No.	220 ●	260 ●	225 ●	312 ●	315 ●	350 ●	320 ●	325 ●

Form		Half-round | Pointed | Normal	Half-round | Pointed | Normal
File blade length (mm)		150	200
File cut		4	4
Width (mm)		18.4	21.1
Thickness (mm)		5.2	6.3
51415...	Ident. No.	415 ●	420 ●

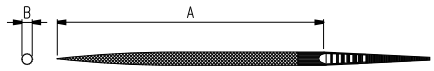
Prod. Gr. 6AE

DICK Precision round file

Application:
For precise work in tool manufacturing, precision engineering, the jewellery industry or in training shops, for reworking and fine processing of pre-processed surfaces or to achieve fine and perfect surfaces.

Execution:
- Sharp tips and edges

Technical data:
- Form: Round



File blade length (mm)		100	125	150	200	250	100	125	150
File cut		1	1	1	1	1	2	2	2
Ø (mm)		3.85	4.8	5.8	7.8	9.4	3.85	4.8	5.8
51418...	Ident. No.	110 ●	112 ●	115 ●	120 ●	125 ●	210 ●	212 ●	215 ●

File blade length (mm)		200	250	100	150	200	250
File cut		2	2	3	3	3	3
Ø (mm)		7.8	9.4	3.85	5.8	7.8	9.4
51418...	Ident. No.	220 ●	225 ●	310 ●	315 ●	320 ●	325 ●

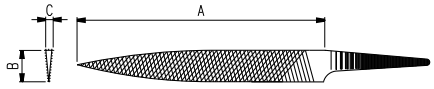
Prod. Gr. 6AE

DICK Precision files - knife, lenticular crossing and Barett form

Application:
For precise work in tool manufacturing, precision engineering, the jewellery industry or in training shops, for reworking and fine processing of pre-processed surfaces or to achieve fine and perfect surfaces.

Execution:
- Sharp tips and edges

Technical data:
- Form: Knife shape



File blade length (mm)		150	200	150	200	200
File cut		1	1	2	2	3
Width (mm)		17.9	22.0	17.9	22.0	22.0
Thickness (mm)		3.5	4.2	3.5	4.2	4.2
51419...	Ident. No.	115 ●	120 ●	215 ●	220 ●	320 ●

Prod. Gr. 6AE

DICK Key file set

Application:
For precise manual material removal with all metal materials.

Execution:
- Ergonomically shaped wooden handle

Delivery:
6-piece, in plastic pouch, with handle, in the following shapes: flat blunt-ended, flat pointed, half-round, triangular, square and round

Technical data:
- File blade length: 100 mm
- File cut: 2
- Material of handle: Wood
- Number of pieces in assortment/set: 6 PCS

51452...	Ident. No.	010 ●

Prod. Gr. 6AD

ORION® Key file set

Application:
For precise manual material removal from all metal materials.

Delivery:
6-piece, in sheet metal box, with handle, in the following shapes: flat blunt-ended, flat pointed, half-round, triangular, square and round

Technical data:
- File blade length: 100 mm
- File cut: 2
- Number of pieces in assortment/set: 6 PCS

51451...	Ident. No.	010 ●

Prod. Gr. 6AF

DICK Precision riffling file sets

Application:
For machining of hard-to-reach surfaces and contours on steel, plastic, copper, etc.

Execution:
- Central handle with two (mostly curved) file ends
- Types – round, oval, flat, square, triangular, half-round

Technical data:
- Number of pieces in assortment/set: 6 PCS
- File cut: 2
- Length: 150 mm

51457...	Ident. No.	150 ●

Prod. Gr. 6AE

Thread files

Application:
For reworking of inner and outer threads.

Execution:
- Combined

- **No. 51458:** For metric ISO coarse-pitch thread DIN 13
- **No. 51459:** For Whitworth thread

Technical data:
- Length: 230 mm

No. 51458

No. 51459

Composition of set	51458... Ident. No.		51459... Ident. No.	
0.8 / 1 / 1.25 / 1.5 / 1.75 / 2 / 2.5 / 3 mm	010	●	-	-
3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4 inch	-	-	010	●

Prod. Gr. 527

PFERD TOOLS 5-piece diamond needle file set in case
Galvanic bond

Application:
For machining of punching and drawing tools, blanking punches and other workpieces made of hardened steel, cemented carbide, ceramic, porcelain, glass or plastic in tool manufacturing and mechanical engineering.

Execution:
- Types included: flat hand file, triangular, square, half-round and round

- With forged shank for use without file handle

Technical data:
- Length: 140 mm
- Lining length: 70 mm
- Shank diameter: 3 mm
- Number of pieces in assortment/set: 5 PCS

	Range of applications	Grain size (µm)		
62300...	Smoothing	91	Ident. No.	205 ●
62300...	Universal	126	Ident. No.	305 ●
62300...	Roughing	181	Ident. No.	405 ●

Prod. Gr. 6AC

PFERD TOOLS Diamond needle files set, 11-pieces in case
Galvanic bond

Application:
For machining of punching and drawing tools, blanking punches and other workpieces made of hardened steel, cemented carbide, ceramic, porcelain, glass or plastic in tool manufacturing and mechanical engineering.

Execution:
- Types included: flat blunt-ended, standard and round edges, triangular, square, half-round, round, flat-pointed, knife-edge, sword, lenticular crossing and barrette
- With forged shank for use without file handle

Technical data:
- Length: 140 mm
- Lining length: 70 mm
- Shank diameter: 3 mm
- Number of pieces in assortment/set: 11 PCS

	Range of applications	Grain size (µm)		
62300...	Smoothing	91	Ident. No.	211 ●
62300...	Universal	126	Ident. No.	311 ●
62300...	Roughing	181	Ident. No.	411 ●

Prod. Gr. 6AC

Diamond needle files
Galvanic bond

Application:
For machining of punching and drawing tools, blanking punches and other workpieces made of hardened steel, cemented carbide, ceramic, porcelain, glass or plastic in tool manufacturing and mechanical engineering.

Execution:
- Fine grain size D 91 for finishing
- Medium grain size D 126 for universal use
- Rough grain size D 181 for roughing
- With forged shank for use without file handle

Technical data:
- Length: 140 mm
- Lining length: 70 mm
- Shank diameter: 3 mm

Form			Equalling	Equalling needle	Triangle	Square-cut	Half-round	Round
Width (mm)			5.5	5.5	3.5	2.6	5.5	3.2
Thickness (mm)			1.6	1.6	-	2.6	1.6	-
	Grain size (µm)							
62300...	91	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●	060 ●
62300...	126	Ident. No.	110 ●	120 ●	130 ●	140 ●	150 ●	160 ●
62300...	181	Ident. No.	210 ●	220 ●	230 ●	240 ●	250 ●	260 ●

Prod. Gr. 6AC

Diamond file set in case
Galvanic bond

Application:
For machining of punching and drawing tools, blanking punches and other workpieces made of hardened steel, cemented carbide, ceramic, porcelain, glass or plastic in tool manufacturing and mechanical engineering.

Execution:
- Types included: flat blunt-ended, triangular, square, half-round and round

Advantage:
- With forged shaft for use without file handle

Technical data:
- Length: 215 mm
- Lining length: 100 mm
- Number of pieces in assortment/set: 5 PCS

	Range of applications	Grain size (µm)		
62400...	Universal	126	Ident. No.	300 ●
62400...	Roughing	181	Ident. No.	310 ●

Prod. Gr. 6AC

Diamond files
Galvanic bond

Application:
For machining of punching and drawing tools, blanking punches and other workpieces made of hardened steel, cemented carbide, ceramic, porcelain, glass or plastic in tool manufacturing and mechanical engineering.

Advantage:
- With forged shaft for use without file handle

Technical data:
- Length: 215 mm
- Lining length: 100 mm

Form			Equalling	Triangle	Square-cut	Half-round	Round	Half-round
Width (mm)			10.3	10.0	5.5	12.5	6.7	12.5
Thickness (mm)			2.8	10.0	5.5	3.8	6.7	3.5
	Grain size (µm)							
62400...	126	Ident. No.	110 ●	120 ●	130 ●	140 ●	150 ●	-
62400...	181	Ident. No.	210 ●	220 ●	230 ○	-	250 ●	240 ●

Prod. Gr. 6AC

DICK Needle file and diamond file handle
made of plastic

Application:
Ident. No. 010: For needle and diamond files, 140-200 mm long.
Ident. No. 020: For needle and diamond files, 100-200 mm long.

Execution:
- With closed end
- With collet chuck

Technical data:
- Material: Plastic

Ident. No. 010

Ident. No. 020

Min./max. clamping Ø		2.8-4.0 mm	2.0-5.0 mm
Length (mm)		80	95
51408...	Ident. No.	010 ●	020 ●

Prod. Gr. 6AE

DICK Needle file and diamond file handle
Plastic, with spring-action collet chuck and clamping knob

Application:
For needle and diamond files, scrapers, reamers and countersinks.

Advantage:
- Fast, easy tool change with secure fastening

Technical data:
- Length: 95 mm
- Material: Plastic

Min./max. clamping Ø		1.1-2.1 mm	2.0-3.1 mm	3.0-4.0 mm
51409...	Ident. No.	010 ●	015 ●	020 ●

Prod. Gr. 6AE

ATORN Grinding files (honing rods) (ISO 525)
Corundum

Application:
For deburring or rounding hardened steel.
For use in mould and tool construction, mechanical and equipment engineering.

Execution:
- hard bonding
- after baking, processed on all sides

Advantage:
- more edge-resistant and wear-resistant than the SiC version due to high bonding hardness

Notes:
Use with water or thin oil

Technical data:
- Material of abrasive medium: Pink fused aluminium oxide

Ident. No. 000–010

Ident. No. 030–040

Ident. No. 060–070

Ident. No. 090–100

Ident. No. 120–130

				Surface structure	Rough		Medium		Fine	
Form	Length x width	Thickness (mm)	Ø (mm)	Number of pieces per packet	69301... Ident. No.		69301... Ident. No.		69301... Ident. No.	
Triangle	100 x 10 mm	10	-	5	000	●	002	●	004	●
Triangle	150 x 16 mm	16	-	3	006	●	008	●	010	●
Square-cut	100 x 10 mm	10	-	5	030	●	032	●	034	●
Square-cut	150 x 16 mm	16	-	3	036	●	038	●	040	●
Flat	100 x 10 mm	5	-	5	060	●	062	●	064	●
Flat	150 x 16 mm	8	-	3	066	●	068	●	070	●
Half-round	100 x 10 mm	5	-	5	090	●	092	●	094	●
Half-round	150 x 16 mm	8	-	3	096	●	098	●	100	●
Round	100 x 10 mm	-	10	5	120	●	122	●	124	●
Round	150 x 16 mm	-	16	3	126	●	128	●	130	●

Prod. Gr. 6HE

ATORN Bench stones (ISO 525)
White and pink corundum

Application:
For sharpening and re-machining tools for wood, metal and plastic processing, e.g. machine and plane knives, steels, scrapers, reamers and gauges as well as measuring equipment.

Execution:
- hard bonding
- after baking, processed on all sides

Notes:
Use with water or thin oil

Technical data:
- Form: Rectangular
- Number of pieces per packet: 1

Ident. No. 100, 110, 120

Ident. No. 105, 115, 125

Length x width	Thickness (mm)	Material of abrasive medium	Surface structure: Medium 69300... Ident. No.		Fine 69300... Ident. No.	
100 x 25 mm	13	Pink fused aluminium oxide	100	●	-	-
100 x 25 mm	13	White fused aluminium oxide	-	-	105	●
150 x 50 mm	25	Pink fused aluminium oxide	110	●	-	-
150 x 50 mm	25	White fused aluminium oxide	-	-	115	●
200 x 50 mm	25	Pink fused aluminium oxide	120	●	-	-
200 x 50 mm	25	White fused aluminium oxide	-	-	125	●

Prod. Gr. 6HE

ATORN Bench combination stones (ISO 525)

Corundum

Application:

Ident. No. 200–230: For sharpening and re-machining tools for metal, wood and plastic processing, e.g. machine and plane knives, steels, scrapers, reamers and gauges as well as measuring equipment.

Ident. No. 240: For sharpening and re-machining tools for metal, wood and plastic processing, e.g. machine and plane knives, steels, scrapers, reamers and gauges as well as measuring instruments.

Execution:

- **Ident. No. 200–230:**
  - with coarse and fine side
  - hard bonding
  - after baking, processed on all sides
- **Ident. No. 240:**
  - With coarse and fine side
  - Hard binding
  - After burning, processed on all sides

Advantage:

- **Ident. No. 240:** Especially suitable for knives and fine cutting

Notes:

Use with water or thin oil

Technical data:

- Form: Rectangular
- Number of pieces per packet: 1

Ident. No. 200–230

Ident. No. 240

Length x width	Thickness (mm)	Material of abrasive medium	Surface structure: Rough / fine 69300... Ident. No.		Fine / superfine 69300... Ident. No.	
100 x 25 mm	13	White / pink fused aluminium oxide	200	●	-	-
125 x 50 mm	25	White / pink fused aluminium oxide	210	●	-	-
150 x 50 mm	25	White / pink fused aluminium oxide	220	●	-	-
200 x 50 mm	25	White / pink fused aluminium oxide	230	●	-	-
200 x 50 mm	25	Fused aluminium oxide	-	-	240	●

Prod. Gr. 6HE

LAPPORT SCHLEIFTECHNIK INDIGA composite bench stone (ISO 525)

One rough side and one fine side (K100/400), type 9010

Application:

For sharpening and reworking tools for wood, metal and plastic processing, e.g. scrapers, machine and plane knives, steels, reamers and gauges as well as measuring instruments.

Execution:

- Best used with thin-bodied oil, petroleum or water
- Machined and wetted on all sides after burning

Advantage:

- High endurance and grinding force

Technical data:

- Form: Rectangular
- Number of pieces per packet: 1 PCS
- Material of abrasive medium: Corundum

Ident. No. 010–020, 030–035

Length x width	Thickness (mm)	69341... Ident. No.	
100 x 25 mm	13	010	●
115 x 40 mm	16	015	●
125 x 50 mm	20	020	●
150 x 40 mm	20	025	●
150 x 50 mm	25	030	●
200 x 50 mm	25	035	●

Prod. Gr. 6HL

LAPPORT SCHLEIFTECHNIK Record block combination bench stones (ISO 525)

One rough side and one fine side (K150/K500), type 9010

Application:

Record blocks must be soaked in water or better still stored in water.

Advantage:

- The uniform, precision texturing affords the stone delicate-grinding properties

Technical data:

- Form: Rectangular
- Thickness: 20 mm
- Number of pieces per packet: 1 PCS
- Material of abrasive medium: Fused aluminium oxide

Ident. No. 050–070

Length x width	69355... Ident. No.	
100 x 50 mm	040	●
115 x 60 mm	050	●
130 x 70 mm	060	●
140 x 80 mm	070	●
150 x 50 mm	065	●

Prod. Gr. 6HL

ATORN Grinding files (honing rods) (ISO 525)

Silicon carbide

Application:
For sharpening and re-machining tools for metal, wood and plastic processing, e.g. machine and plane knives, steels, scrapers, reamers and gauges as well as measuring equipment. Made notably of carbide.

Execution:
- made of high-purity silicon carbide
- after baking, processed on all sides
- medium-hard bonding

Advantage:
- More abrasive bonding than corundum files
- pronounced self-sharpening effect
- also suitable for carbide
- Green silicon carbide - the hardest abrasive grain after diamond/CBN

Notes:
Use with water or thin oil

Technical data:
- Material of abrasive medium: Green silicon carbide

Ident. No. 200–234

Ident. No. 250–284

Ident. No. 300–328

Ident. No. 340–356

Ident. No. 370–392

				Surface structure	Medium		Fine		Rough	
Form	Length x width	Thickness (mm)	Ø (mm)	Number of pieces per packet	69301... Ident. No.		69301... Ident. No.		69301... Ident. No.	
Triangle	100 x 8 mm	8	-	5	200	●	202	●	-	-
Triangle	100 x 10 mm	10	-	5	208	●	210	●	206	●
Triangle	150 x 13 mm	13	-	3	214	●	216	●	212	●
Triangle	150 x 16 mm	16	-	3	220	●	222	●	218	●
Triangle	150 x 20 mm	20	-	3	226	●	228	●	224	●
Triangle	200 x 20 mm	20	-	2	232	●	234	●	230	●
Square-cut	100 x 8 mm	8	-	5	250	●	252	●	-	-
Square-cut	100 x 10 mm	10	-	5	258	●	260	●	256	●
Square-cut	150 x 13 mm	13	-	3	264	●	266	●	262	●
Square-cut	150 x 16 mm	16	-	3	270	●	272	●	268	●
Square-cut	150 x 20 mm	20	-	3	276	●	278	●	274	●
Square-cut	200 x 20 mm	20	-	2	282	●	284	●	280	●
Flat	100 x 8 mm	4	-	5	300	●	302	●	-	-
Flat	100 x 10 mm	5	-	5	308	●	310	●	306	●
Flat	150 x 13 mm	6	-	3	314	●	316	●	312	●
Flat	150 x 16 mm	8	-	3	320	●	322	●	318	●
Flat	150 x 20 mm	10	-	3	326	●	328	●	324	●
Half-round	100 x 10 mm	5	-	5	342	●	344	●	340	●
Half-round	150 x 13 mm	6	-	3	348	●	350	●	346	●
Half-round	150 x 16 mm	8	-	3	354	●	356	●	352	●
Round	100 x 8 mm	-	8	5	370	●	372	●	-	-
Round	100 x 10 mm	-	10	5	378	●	380	●	376	●
Round	150 x 13 mm	-	13	3	384	●	386	●	382	●
Round	150 x 16 mm	-	16	3	390	●	392	●	388	●

Prod. Gr. 6HE

ATORN Shaped stones (ISO 525)

Silicon carbide

Application:
Ident. No. 050–055: For the sharpening and re-machining of curved cutting edges (different radii) and wedge-shaped cutting edges
Ident. No. 060–062: For the sharpening and re-machining of curved cutting edges (e.g. hollow gouging chisels)
Ident. No. 070–072: For the sharpening and re-machining of wedge-shaped cutting edges (e.g. wedge-shaped chisels)

Execution:
- made of high-purity silicon carbide
- after baking, processed on all sides
- **Ident. No. 050–055:** with different radii and different edge thicknesses
- **Ident. No. 060–062:** with two different radii for machining different cutting edges
- **Ident. No. 070–072:** with different edge thicknesses

Advantage:
- Green silicon carbide - the hardest abrasive grain after diamond/CBN

Notes:
Use with water or thin oil

Technical data:
- Number of pieces per packet: 1
- Material of abrasive medium: Green silicon carbide

Ident. No. 050–055

Ident. No. 060–062

Ident. No. 070–072

			Surface structure	Medium		Fine	
Form	Length x width	Thickness (mm)	69300... Ident. No.			69300... Ident. No.	
Multi shape	150 x 50 mm	13/4	050	●		055	●
Gouge stone	115 x 45 mm	10/3	060	●		062	●
Knife shape	115 x 45 mm	10/1	070	●		072	●

Prod. Gr. 6HE

ATORN Bench stones (ISO 525)

Silicon carbide

Application:
For sharpening and re-machining tools for wood, metal and plastic processing, e.g. machine and plane knives, steels, scrapers, reamers and gauges as well as measuring equipment.

Execution:
- made of high-purity silicon carbide
- medium-hard bonding
- after baking, processed on all sides

Advantage:
- Particularly abrasive bonding - pronounced self-sharpening effect
- also suitable for carbide
- Green silicon carbide - the hardest abrasive grain after diamond/CBN

Notes:
Use with water or thin oil

Technical data:
- Form: Rectangular
- Number of pieces per packet: 1
- Material of abrasive medium: Green silicon carbide

		Surface structure	Medium		Fine	
Length x width	Thickness (mm)	69300... Ident. No.			69300... Ident. No.	
100 x 25 mm	13	150	●		155	●
150 x 50 mm	25	160	●		165	●
200 x 50 mm	25	170	●		175	●

Prod. Gr. 6HE

ATORN Composite bench stones (ISO 525)

Silicon carbide

Application:
For sharpening and re-machining tools for metal, wood and plastic processing, e.g. machine and plane knives, steels, scrapers, reamers and gauges as well as measuring equipment.

Execution:
- made of high-purity silicon carbide
- with coarse and fine side
- medium-hard bonding
- after baking, processed on all sides

Advantage:
- Particularly abrasive bonding - pronounced self-sharpening effect
- also suitable for carbide
- Green silicon carbide - the hardest abrasive grain after diamond/CBN

Notes:
Use with water or thin oil

Technical data:
- Form: Rectangular
- Number of pieces per packet: 1
- Material of abrasive medium: Green / dark silicon carbide

		Surface structure	Rough / fine	
Length x width	Thickness (mm)	69300... Ident. No.		
100 x 25 mm	13	250	●	
125 x 50 mm	25	260	●	
150 x 50 mm	25	270	●	
200 x 50 mm	25	280	●	

Prod. Gr. 6HE

RECORD-ARKANSAS bench stone (ISO 525)

Grain 500, type 9010

Application:
For machining of cutting tools, knives, instruments, engraving and clock-making tools, and similar

Execution:
- For use with oil or petroleum
- Synthetic honing stones, manufactured according to a special ceramic process

Delivery:
In cardboard box

Technical data:
- Number of pieces per packet: 1 PCS

Length (mm)	Width (mm)	Thickness (mm)	69430... Ident. No.	
100	25	13	010	●
125	50	20	020	●
150	50	25	030	●
200	50	25	040	●

Prod. Gr. 6HL

Ident. No. 020–040

RECORD ARKANSAS square files (ISO 525)

Grain 500, type 9011

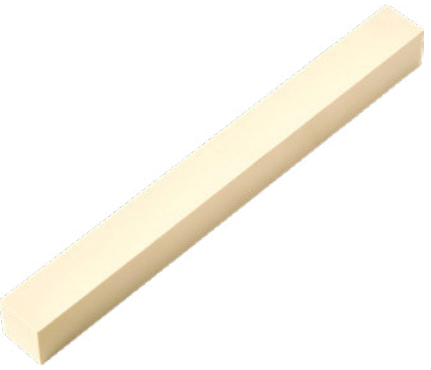
Application:
For machining of cutting tools, knives, instruments, engraving and clock-making tools, and similar

Execution:
- For use with oil or petroleum
- Synthetic honing stones, manufactured according to a special ceramic process

Delivery:
In cardboard box

Length (mm)	Width (mm)	Thickness (mm)	Number of pieces per packet (PCS)	69434... Ident. No.	
100	6	6	6	010	●
100	8	8	6	020	●
100	10	10	6	030	●
100	13	13	6	040	●
150	13	13	3	060	●
150	16	16	3	070	●
200	20	20	2	080	●

Prod. Gr. 6HL



Ident. No. 010–070

RECORD ARKANSAS triangular files (ISO 525)

Grain 500, type 9020

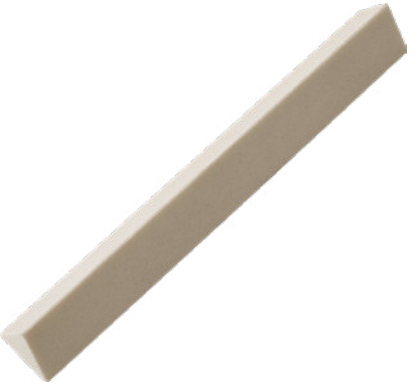
Application:
For machining of cutting tools, knives, instruments, engraving and clock-making tools, and similar

Execution:
- For use with oil or petroleum
- Synthetic honing stones, manufactured according to a special ceramic process

Delivery:
In cardboard box

Length (mm)	Width (mm)	Number of pieces per packet (PCS)	69436... Ident. No.	
100	6	6	010	●
100	10	6	020	●
100	13	6	030	●
150	16	3	050	●

Prod. Gr. 6HL



Ident. No. 010–020, 050

LAPPORT SCHLEIFTECHNIK RECORD ARKANSAS round files (ISO 525)

Grain 500, type 9030

Application:
For machining of cutting tools, knives, instruments, engraving and clock-making tools, and similar

Execution:
- For use with oil or petroleum
- Synthetic honing stones, manufactured according to a special ceramic process

Delivery:
In cardboard box

Technical data:
- Length: 100 mm
- Number of pieces per packet: 6 PCS

Ø (mm)	69438... Ident. No.	
6	010	●
8	020	●
10	030	●
13	040	●

Prod. Gr. 6HL

Ident. No. 010–020, 040

LAPPORT SCHLEIFTECHNIK RECORD ARKANSAS half-round files (ISO 525)

Grain 500, type 9040

Application:
For machining of cutting tools, knives, instruments, engraving and clock-making tools, and similar

Execution:
- For use with oil or petroleum
- Synthetic honing stones, manufactured according to a special ceramic process

Delivery:
In cardboard box

Technical data:
- Length: 100 mm
- Width: 10 mm
- Thickness: 5 mm
- Number of pieces per packet: 6 PCS

69440...	Ident. No.	020 ●

Prod. Gr. 6HL

LAPPORT SCHLEIFTECHNIK RECORD ARKANSAS flat files (ISO 525)

Grain 500, type 9010

Application:
For machining of cutting tools, knives, instruments, engraving and clock-making tools, and similar

Execution:
- For use with oil or petroleum
- Synthetic honing stones, manufactured according to a special ceramic process

Delivery:
In cardboard box

Length (mm)	Width (mm)	Thickness (mm)	Number of pieces per packet (PCS)	69442... Ident. No.	
100	6	3	6	010	●
100	8	4	6	020	●
150	20	10	3	040	●

Prod. Gr. 6HL

Ident. No. 010–020

DEGUSSIT bench stone (ISO 525)

Type 9010

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics.

Execution:
- Mixed crystal, the main component of which is aluminium oxide, no bonding agent
- **No. 69360–69361:** Typically red colour due to chrome oxide additives
- **No. 69365:** Typical red colour due to chromium oxide additives

Advantage:
- High resistance to wear and changes in shape due to the hardness of the crystals
- Achieves excellent surface finish and accuracy of shape during precision work

Delivery:
No. 69360–69361: In case
No. 69365: Bonded into wooden box

Notes:
Wet or dry machining possible

Technical data:
- Number of pieces per packet: 1 PCS

No. 69360–69361

No. 69365

							Bonded into wooden box	
		Surface structure	Fine		Medium		Fine	
Length (mm)	Width (mm)	Thickness (mm)	69360... Ident. No.		69361... Ident. No.		69365... Ident. No.	
100	25	10	010	●	010	●	-	-
120	50	10	-	-	-	-	020	●
150	25	15	020	●	020	●	-	-

Prod. Gr. 6HD

DEGUSSIT square file (ISO 525)

Type 9011

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics.

Execution:
- Mixed crystal, the main component of which is aluminium oxide, no bonding agent
- Typical red colour due to chromium oxide additives

Advantage:
- High resistance to wear and changes in shape due to the hardness of the crystals
- Achieves excellent surface finish and accuracy of shape during precision work

Delivery:
In case

Notes:
Wet or dry machining possible

Technical data:
- Number of pieces per packet: 1 PCS

			Form	Square-cut		Square-cut	
			Surface structure	Medium		Fine	
Length (mm)	Width (mm)	Thickness (mm)	69375... Ident. No.			69374... Ident. No.	
100	4	4	010	●		-	-
100	6	6	020	●		-	-
100	8	8	030	●		030	●
100	10	10	040	●		040	●
120	13	13	050	●		050	●

Prod. Gr. 6HD

DEGUSSIT triangular file (ISO 525)

Type 9020

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics.

Execution:
- Mixed crystal, the main component of which is aluminium oxide, no bonding agent
- Typical red colour due to chromium oxide additives

Advantage:
- High resistance to wear and changes in shape due to the hardness of the crystals
- Achieves excellent surface finish and accuracy of shape during precision work

Delivery:
In case

Notes:
Wet or dry machining possible

Technical data:
- Number of pieces per packet: 1 PCS

Form		Triangle		Triangle	
Surface structure		Fine		Medium	
Length (mm)	Width (mm)	69371... Ident. No.		69372... Ident. No.	
100	8	030	●	030	●
100	10	040	●	040	●
120	13	050	●	050	●
100	4	-	-	010	●
100	6	-	-	020	●

Prod. Gr. 6HD

DEGUSSIT round file (ISO 525)

Type 9030

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics.

Execution:
- Mixed crystal, the main component of which is aluminium oxide, no bonding agent
- Typical red colour due to chromium oxide additives

Advantage:
- High resistance to wear and changes in shape due to the hardness of the crystals
- Achieves excellent surface finish and accuracy of shape during precision work

Delivery:
In case

Notes:
Wet or dry machining possible

Technical data:
- Length: 100 mm
- Number of pieces per packet: 1 PCS

Form		Round		Round	
Surface structure		Medium		Fine	
Ø (mm)		69384... Ident. No.		69383... Ident. No.	
4		010	●	-	-
6		020	●	-	-
8		030	●	030	●
10		040	●	040	●

Prod. Gr. 6HD

DEGUSSIT half-round file (ISO 525)

Type 9040

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics.

Execution:
- Mixed crystal, the main component of which is aluminium oxide, no bonding agent
- Typical red colour due to chromium oxide additives

Advantage:
- High resistance to wear and changes in shape due to the hardness of the crystals
- Achieves excellent surface finish and accuracy of shape during precision work

Delivery:
In case

Notes:
Wet or dry machining possible

Form			Half-round	
Surface structure			Medium	
Length (mm)	Width (mm)	Number of pieces per packet (PCS)	69377... Ident. No.	
100	10	1	010	●

Prod. Gr. 6HD

DEGUSSIT flat file (ISO 525)

Type 9010

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics.

Execution:
- Mixed crystal, the main component of which is aluminium oxide, no bonding agent
- Typical red colour due to chromium oxide additives

Advantage:
- High resistance to wear and changes in shape due to the hardness of the crystals
- Achieves excellent surface finish and accuracy of shape during precision work

Delivery:
In case

Notes:
Wet or dry machining possible

Technical data:
- Length: 100 mm
- Number of pieces per packet: 1 PCS

Form		Flat		Flat	
Surface structure		Fine		Medium	
Width (mm)	Thickness (mm)	69368... Ident. No.		69369... Ident. No.	
6	3	010	●	010	●
8	6	020	●	020	●

Prod. Gr. 6HD

DEGUSSIT tapered file (ISO 525)

Pointed, type 9030 B

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics.

Execution:
- Mixed crystal, the main component of which is aluminium oxide, no bonding agent
- Typical red colour due to chromium oxide additives

Advantage:
- High resistance to wear and changes in shape due to the hardness of the crystals
- Achieves excellent surface finish and accuracy of shape during precision work

Delivery:
In case

Notes:
Wet or dry machining possible

Technical data:
- Length: 100 mm
- Width: 5 mm
- Thickness: 2 mm
- Number of pieces per packet: 1 PCS

Form	Konisch		Konisch	
Surface structure	Fine		Rough	
	69380... Ident. No.		69381... Ident. No.	
	010	●	010	●

Prod. Gr. 6HD

DEGUSSIT pencil file (ISO 525)

60° point, type 9030 B

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics.

Execution:
- Mixed crystal, the main component of which is aluminium oxide, no bonding agent
- Typical red colour due to chromium oxide additives

Advantage:
- High resistance to wear and changes in shape due to the hardness of the crystals
- Achieves excellent surface finish and accuracy of shape during precision work

Delivery:
In case

Notes:
Wet or dry machining possible

Technical data:
- Length: 100 mm
- Diameter: 5 mm
- Number of pieces per packet: 1 PCS

Form	Pointed	
Surface structure	Fine	
	69382... Ident. No.	
	010	●

Prod. Gr. 6HD

DEGUSSIT mini files

Complete range

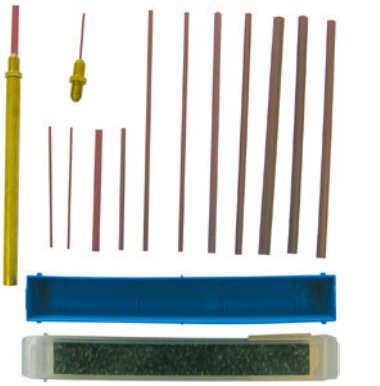
Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics.

Execution:
- consisting of: 2 x triangular (50 x 2, 100 x 3), 2 x square (50 x 1, 100 x 2), 1 x flat (50 x 3 x 0.3), 3 x round (50 x 1, 100 x 2, 100 x 3), 1 x half-round (100 x 5 x 1.5), 1 x oval (100 x 5 x 1.5), 1 (100 x 4 x 1.5)
- Mixed crystal, the main component of which is aluminium oxide, no bonding agent
- Typically red colour due to chrome oxide additives

Advantage:
- High resistance to wear and changes in shape due to the hardness of the crystals
- Achieves excellent surface finish and accuracy of shape during precision work

Delivery:
Includes 1 holder and 2 mountings as well as 11 files

Notes:
Wet or dry machining possible



69390...	Ident. No.	010 ●

Prod. Gr. 6HD

DEGUSSIT grinding file assortment

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics.

Execution:
- Includes 1 of each grinding file: triangular 100 x 10 mm medium grain, square 100 x 10 mm medium grain, square 100 x 8 x 6 mm fine grain, half-round 100 x 10 mm rough grain, round 100 x 6 mm medium grain
- Mixed crystal, the main component of which is aluminium oxide, no bonding agent
- Typically red colour due to chrome oxide additives

Advantage:
- High resistance to wear and changes in shape due to the hardness of the crystals
- Achieves excellent surface finish and accuracy of shape during precision work

Delivery:
In cardboard box

Notes:
Wet or dry machining possible

69395...	Ident. No.	010 ●

Prod. Gr. 6HD

ARKANSAS bench stones (single)

Very fine surface structure, type 9010

Application:
For fine grinding and honing of tools for optical, watchmaking, engraving and precision engineering workshops as well as of knives and surgical instruments.

Execution:
- For use with thin-bodied oil or petroleum
- **No. 69450:** Natural size fluctuations possible

Advantage:
- Finest and most even natural grain structure

Delivery:
No. 69450: In cardboard box
No. 69451: Bonded into polished wooden box

Technical data:
- Number of pieces per packet: 1 PCS

			In box		Bonded into polished wooden box	
Length (mm)	Width (mm)	Thickness (mm)	69450... Ident. No.		69451... Ident. No.	
88	43	17	010	●	-	-
100	30	12	-	-	010	●
125	50	12	-	-	030	●
138	45	22	020	●	-	-
150	50	12	-	-	040	●
200	50	12	-	-	050	●

Prod. Gr. 6HC

No. 69450

No. 69451

ARKANSAS square files

Very fine surface structure, type 9011

Application:
For fine grinding and honing of tools for optical, watchmaking, engraving and precision engineering workshops as well as of knives and surgical instruments.

Execution:
- For use with thin-bodied oil or petroleum
- Natural size fluctuations possible

Advantage:
- Finest and most even natural grain structure

Delivery:
In cardboard box

Technical data:
- Number of pieces per packet: 5 PCS

Length (mm)	Width (mm)	Thickness (mm)	69452... Ident. No.	
95	5	5	010	●
95	7	7	020	●
95	9	9	030	●
95	12	12	040	●
138	15	15	070	●

Prod. Gr. 6HC

ARKANSAS triangular files

Very fine surface structure, type 9020

Application:
For fine grinding and honing of tools for optical, watchmaking, engraving and precision engineering workshops as well as of knives and surgical instruments.

Execution:
- For use with thin-bodied oil or petroleum
- Natural size fluctuations possible

Advantage:
- Finest and most even natural grain structure

Delivery:
In cardboard box

Technical data:
- Number of pieces per packet: 5 PCS

Length (mm)	Width (mm)	69453... Ident. No.	
95	5	010	●
95	7	020	●
95	9	030	●
95	12	040	●
138	12	060	○
138	15	070	●

Prod. Gr. 6HC

ARKANSAS round and half-round files

Very fine surface structure, type 9030 and type 9040

Application:
For fine grinding and honing of tools for optical, watchmaking, engraving and precision engineering workshops as well as of knives and surgical instruments.

Execution:
- For use with thin-bodied oil or petroleum
- Natural size fluctuations possible

Advantage:
- Finest and most even natural grain structure

Delivery:
In cardboard box

No. 69454

No. 69455

			Form	Round		Half-round	
Length (mm)	Ø (mm)	Width (mm)	Number of pieces per packet (PCS)	69454... Ident. No.		69455... Ident. No.	
88	7	-	5	020	●	-	-
88	9	-	5	030	●	-	-
88	-	7	5	-	-	020	●

Prod. Gr. 6HC

ARKANSAS oil stones

Very fine surface structure, type 9010 A 4, type 9010 D, type 903 0B

Application:
For fine grinding and honing of tools for optical, watchmaking, engraving and precision engineering workshops as well as of knives and surgical instruments.

Execution:
- For use with thin-bodied oil or petroleum
- Natural size fluctuations possible

Advantage:
- Finest and most even natural grain structure

Delivery:
In cardboard box

Technical data:
- Number of pieces per packet: 1 PCS

No. 69457

No. 69458

			Form	Gouge stone		Knife shape	
Length (mm)	Width (mm)	Thickness (mm)	69457... Ident. No.			69458... Ident. No.	
110	43	12	020	●		-	-
88	23	5	-	-		010	●

Prod. Gr. 6HC

ATORN Cutting disc INOX/STEEL

with outstanding performance

Application:
For burr-free cutting of thin-walled pipes, sheet steel and profiles.

Execution:
- Ideal for power tools with high drive power.
- Stainless steel, steel

Advantage:
- Low burr formation
- High cutting speed
- Low sparking
- Ideal for power tools with high drive power.

Technical data:
- Bore diameter: 22.23 mm
- Material to be processed: Steel | Stainless steel
- Free from iron and sulphur: Yes
- Number of pieces per packet: 25 PCS
- Removal performance (points system): 4 of 4 points
- Service life (points system): 4 of 4 points

Ident. No. 011

			Extra-thin cutting disc	
		Form	Straight	
Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	76116... Ident. No.	
115	1.0	13300	010	●
125	1.0	12250	011	●
125	1.5	12250	012	●
180	1.5	8500	013	●
230	1.9	6650	014	●

Prod. Gr. 6CI

ATORN Cutting discs for steel - extra thin

Application:
Extremely powerful thin cutting disc for highly demanding applications

Advantage:
- Optimised for steel applications
- Low ridge formation
- High cutting speed
- Low sparking

Technical data:
- Bore diameter: 22.23 mm
- Material to be processed: Steel
- Free from iron and sulphur: No
- Removal performance (points system): 4 of 4 points
- Service life (points system): 4 of 4 points

Ident. No. 022

				Form	Straight	
Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76116... Ident. No.		
115	1.0	13300	25	020	●	
125	1.0	12250	50	022	●	
125	1.5	12250	50	024	●	
180	1.5	8500	25	026	●	
230	1.9	6650	25	028	●	

Prod. Gr. 6CI

ATORN Cutting discs for steel/cast iron

Type A30S

Application:
For machining high-alloy, alloyed and unalloyed steel, thin-walled profiles and sheet steel

Technical data:
- Bore diameter: 22.23 mm
- Material to be processed: Steel
- Free from iron and sulphur: No
- Number of pieces per packet: 25 PCS
- Removal performance (points system): 3 of 4 points
- Service life (points system): 3 of 4 points

Ident. No. 042

			Form	Straight	
Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	76116... Ident. No.		
115	2.5	13300	040	●	
125	2.5	12250	042	●	
230	2.0	6650	044	●	

Prod. Gr. 6CI

ALU cutting disc

Specially designed for use on aluminium and non-ferrous metals such as copper, brass and bronze

HIGHLIGHT

Application:
The cutting disc is especially suitable for use on aluminium and other non-ferrous metals such as copper, brass, bronze etc. as well as steel (black steel, structural steel, St37, S235JR, 1.0037 or carbon steel) and cast steel. Impressive full cuts with aggressive, easy and fast cutting. The disc is characterised by low sparking, low dust formation and outstanding smooth running.

Execution:
- Extra-thin cutting disc with a long service life and optimal cutting performance
- High cutting speed and smooth running
- Low burr formation

Advantage:
- Extra-thin cutting disc, specially designed for aluminium and non-ferrous metals
- Ideal for power tools with low drive power

Technical data:
- Tool holding device: M14
- Bore diameter: 22.23 mm
- Material to be processed: Aluminium | Non-ferrous metal | Steel | Cast steel
- Free from iron and sulphur: No
- Number of pieces per packet: 25
- Removal performance (points system): 4 of 4 points
- Service life (points system): 3 of 4 points

Ident. No. 090

Ident. No. 091

			Form	Straight
Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	76116... Ident. No.	
115	1.0	13300	090	●
125	1.0	12250	091	●

Prod. Gr. 6CI

ALL IN ONE cutting disc

Extra-thin cutting with a single disc for almost all materials

HIGHLIGHT

Application:
The extra-thin cutting disc is ideal for precise and clean cuts in various materials, from structural steel to stainless steel, and offers a long service life. It is suitable for angle grinders of all performance classes as well as for battery-operated models, which makes it flexible and efficient when used on construction sites and in workshops. Its universal use on construction sites, for machining zinc-plated components, cable ducts, profiles and other materials makes it an indispensable tool for precise cutting!

Execution:
- Extra-thin cutting disc with a long service life and high cutting performance
- Suitable for a wide range of materials
- Aggressive cutting with low sparking and impressive smooth running

Advantage:
- Extra-thin cutting disc with a long service life for a wide range of applications
- Ideal for power tools with low drive power

Technical data:
- Tool holding device: M14
- Bore diameter: 22.23 mm
- Material to be processed: Steel | Stainless steel | Aluminium | Ceramics | Non-ferrous metal | Cast metal
- Free from iron and sulphur: Yes
- Number of pieces per packet: 25
- Removal performance (points system): 3 of 4 points
- Service life (points system): 3 of 4 points

Ident. No. 080

			Form	Straight
Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	76116... Ident. No.	
115	1.0	13300	080	●
125	1.0	12250	081	●

Prod. Gr. 6CI

ATORN DUO ALL IN ONE cutting/roughing disc

Extra-thin cutting and roughing with a single disc for almost all materials

HIGHLIGHT

Application:
The DUO ALL IN ONE disc combines the properties of a cutting disc and a roughing disc, which means that it can be used for both the cutting and coarse grinding of workpieces. It is ideal for applications that require both precise cutting and the removal of excess material. By combining both functions, the combination disc saves time and increases flexibility on the construction site or in the workshop.

Execution:
- Extra-thin cutting and roughing with a single disc
- Suitable for a wide range of materials
- Safe due to three full-surface fabric layers

Advantage:
- Enables cutting/grinding work in a single operation - with a disc thickness of 1.9 mm.
- Ideal for power tools with low drive power

Technical data:
- Tool holding device: M14
- Bore diameter: 22.23 mm
- Material to be processed: Steel | Stainless steel | Aluminium | Ceramics | Non-ferrous metal | Cast metal
- Free from iron and sulphur: Yes
- Number of pieces per packet: 25
- Removal performance (points system): 3 of 4 points
- Service life (points system): 3 of 4 points

Ident. No. 070

		Form	Domed	
Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	76116... Ident. No.	
115	1.9	13300	070	●
125	1.9	12250	071	●

Prod. Gr. 6CI

ORION Cutting discs for stainless steel - extra thin

Application:
For cutting stainless steel.

Technical data:
- Bore diameter: 22.23 mm
- Design: Hard
- Free from iron and sulphur: Yes
- Number of pieces per packet: 25 PCS
- Removal performance (points system): 3 of 4 points
- Service life (points system): 3 of 4 points

Ident. No. 002

		Form	Straight	
Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	76115... Ident. No.	
115	1.0	13300	000	●
125	1.0	12250	002	●
180	1.5	8600	004	●
230	1.9	6650	006	●

Prod. Gr. 6LI

PFERD TOOLS SGP-STEELOX cutting discs for steel and stainless steel

Type - A 60 S BF

Application:
For burr-free cutting of sheet metals, steel sections and solid materials with cool cutting.

Execution:
- Very robust, high-performance Special Line SGP design with maximum cutting performance and outstanding service life

Advantage:
- Can be used universally on steel and stainless steel (INOX)
- Fast work progress owing to high cutting efficiency
- Specially optimised for use on thin sheet metal and profiles

Technical data:
- Bore diameter: 22.23 mm
- Design: Hard
- Free from iron and sulphur: Yes
- Number of pieces per packet: 25 PCS
- Removal performance (points system): 4 of 4 points
- Service life (points system): 4 of 4 points

Ident. No. 103

		Form	Straight	
Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	76107... Ident. No.	
115	1.0	13300	100	●
125	1.0	12200	103	●
180	1.6	8500	106	●
230	1.9	6600	109	●

Prod. Gr. 6AB

3M Cubitron 3 cutting discs for stainless steel

hard, extra-thin

Application:
Ideal for cutting metal, including bodywork or ship panels, stainless steel pipes, exhaust pipes, clamps, rusted fasteners and more.

Execution:
- Fast, cool grinding
- long service life

Technical data:
- Washer thickness: 1 mm
- Bore diameter: 22.23 mm
- Design: Hard
- Free from iron and sulphur: Yes
- Number of pieces per packet: 50 PCS
- Removal performance (points system): 4 of 4 points
- Service life (points system): 4 of 4 points

		Form	Straight
Washer Ø (mm)	Max. rotation speed (rpm)	76108... Ident. No.	
115	13200	116	●
125	12200	126	●

Prod. Gr. 6DM

3M Cutting discs, Silver

Grain mixture with precision-formed ceramic abrasive grain

Application:
For quick cutting of metal pipes, sleeves, flat sheet metal and other workpieces with minimal burrs

Execution:
- With precision-shaped ceramic abrasive grain

Technical data:
- Washer thickness: 1.0 mm
- Bore diameter: 22.23 mm
- Design: Hard
- Free from iron and sulphur: Yes
- Number of pieces per packet: 25
- Removal performance (points system): 3 of 4 points
- Service life (points system): 3 of 4 points

Ident. No. 105

		Form	Straight
Washer Ø (mm)	Max. rotation speed (rpm)	76108... Ident. No.	
115	13300	100	●
125	12000	105	●

Prod. Gr. 6DM

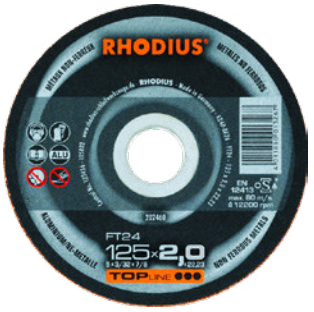
RHODIUS TOPLINE Cutting discs FT24/FTK24 for aluminium/non-ferrous metals

Type A 24 P-BF 26

Application:
For cutting greasy non-ferrous metals.

Advantage:
- The disc does not clog due to the open structure

Technical data:
- Bore diameter: 22.23 mm
- Design: Medium hard
- Free from iron and sulphur: No
- Number of pieces per packet: 25 PCS
- Removal performance (points system): 3 of 4 points
- Service life (points system): 3 of 4 points



Ident. No. 125

			Form	Cranked		Straight	
Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	76117... Ident. No.			76117... Ident. No.	
115	2.0	13300	115	●		-	-
125	2.0	12250	125	●		-	-
180	2.5	8500	-	-		180	●
230	2.5	6650	-	-		230	●

Prod. Gr. 6BB

PFERD TOOLS Diamond cutting discs for CFRP/GFRP

for angle grinders or straight die grinders

Application:
For cutting and trimming fibre-reinforced plastics (CFRP/GRP) on straight grinders (with clamping mandrel)

Execution:
- Single-layer, zinc-plated diamond cutting disc with side protection segments
- Total disc width 2.0 mm, steel blade 1.0 mm
- Type 1A1

Advantage:
- Also suitable for cutting hard materials such as carbide or technical ceramics

Technical data:
- Washer thickness: 2 mm
- Design: Straight
- Number of pieces per packet: 1
- Removal performance (points system): 4 of 4 points
- Service life (points system): 4 of 4 points

Ident. No. 150

Ident. No. 155

			Diamond cutting discs for CFRP/GFRP		Cutting disc accessories	
					Tool holder for diamond cutting discs	
		Form	1A1			
Washer Ø (mm)	Bore Ø (mm)	Max. rotation speed (rpm)	76107... Ident. No.		76107... Ident. No.	
75	10.0	20372	150	○	151	○
125	22.23	12223	155	○	-	-

Prod. Gr. 686

RHODIUS ALPHALINE ●○○ ST 34 stationary cutting discs - for steel/cast iron

Type A 36 N8 BF 348

Application:
Ideal on machines with low-power drives, portable workshop machines (up to 3 kW drive power) and table machines

Execution:
- Stationary high performance cutting disc, specially developed for chop saws

Technical data:
- Bore diameter: 25.4 mm
- Design: Very soft
- Free from iron and sulphur: No
- Number of pieces per packet: 10 PCS

Ident. No. 300

		Form	Straight	
Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	76118... Ident. No.	
300	2.5	5100	300	●
300	3.0	5100	303	●
350	2.5	4400	350	●
350	3.0	4400	353	●

Prod. Gr. 6BB

RHODIUS TOPLINE ●●● DG 210 Allcut diamond cutting disc

Segment height 3.0 mm

Application:
For cool cutting of stone, metal and many other materials. Suitable for wet and dry sanding

Execution:
- segmented, soldered under a vacuum

- Reducing rings for bore diameters 20.0 mm and 22.2 mm are included with each 300 mm and 350 mm disc

Technical data:
- Bore diameter: 22.23 mm
- Number of pieces per packet: 1 PCS

Ident. No. 330

		Form	Straight	
Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	76119... Ident. No.	
115	2.5	13300	315	●
125	2.5	12250	325	●
180	2.8	8600	380	●
230	2.8	6650	330	●

Prod. Gr. 6BB

RHODIUS PROLINE ●●○ LD 40 diamond cutting disc

Segment height 12.0 mm

Application:
For cutting reinforced concrete, stone and similar materials. Suitable for wet and dry sanding

Execution:
- Laser-welded
- Segmented

- Reducing rings for bore diameters 20.0 mm and 22.2 mm are included with each 300 mm and 350 mm disc

Technical data:
- Number of pieces per packet: 1 PCS

Ident. No. 230

				Form	Straight	
Washer Ø (mm)	Washer thickness (mm)	Bore Ø (mm)	Max. rotation speed (rpm)	76119... Ident. No.		
115	2.2	22.23	13300	115	●	
125	2.2	22.23	12250	125	●	
180	2.4	22.23	8500	180	●	
230	2.4	22.23	6650	230	●	
300	2.8	25.40	6400	280	●	
350	3.2	25.40	5500	300	●	

Prod. Gr. 6BB

ATORN Roughing discs

for steel/stainless steel

Application:
For the price-conscious professional, grinds easily and offers a long service life. Ideal for machines with low drive power.

Advantage:
- Pleasant to use
- Excellent machining properties
- Long service life

Technical data:
- Bore diameter: 22.23 mm
- Free from iron and sulphur: Yes
- Number of pieces per packet: 10 PCS
- Material to be processed: Stainless steel | Steel
- Removal performance (points system): 3 of 4 points
- Service life (points system): 3 of 4 points

Ident. No. 000

			Form	Cranked	
Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	76100... Ident. No.		
115	7	13300	000	●	
125	7	12250	002	●	
230	7	6650	005	●	

Prod. Gr. 6CI

ATORN Roughing discs for steel/cast iron

Type AS30R-BF

Application:
Universal roughing disc for all types of construction and tool steels, welding seams and cast iron.

Advantage:
- Excellent for machining hard materials
- High removal rate
- Long service life

Technical data:
- Bore diameter: 22.23 mm
- Material to be processed: Steel | Cast metal
- Removal performance (points system): 3 of 4 points
- Service life (points system): 3 of 4 points

Ident. No. 024

Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76100... Ident. No.	
115	7	13300	25	021	●
125	7	12250	25	022	●
180	7	8500	10	023	●
230	7	6650	10	024	●

Prod. Gr. 6CI

ORION Roughing discs

hard, for steel/stainless steel

Application:
For deburring, chamfering, fettling and pre/post-machining of welding seams.

Technical data:
- Washer thickness: 6.0 mm
- Bore diameter: 22.23 mm
- Design: Hard

- Form: Cranked
- Free from iron and sulphur: Yes
- Number of pieces per packet: 10 PCS
- Removal performance (points system): 3 of 4 points
- Service life (points system): 3 of 4 points

Ident. No. 002

Washer Ø (mm)	Max. rotation speed (rpm)	76101... Ident. No.	
115	13300	000	●
125	12250	002	●
180	8600	004	●
230	6650	006	●

Prod. Gr. 6LI

Cubitron 3 roughing discs for steel/stainless steel
with sharp precision grain

Application:
An extremely fast-cutting and durable, rigidly bonded disc for removing welding seams and other heavy-duty grinding applications.

Execution:
- Fast, cool grinding
- extremely durable

Technical data:
- Washer thickness: 7 mm
- Bore diameter: 22.23 mm
- Design: Cranked
- Form: Cranked
- Free from iron and sulphur: Yes
- Number of pieces per packet: 20 PCS
- Removal performance (points system): 4 of 4 points
- Service life (points system): 4 of 4 points

Ident. No. 127

Washer Ø (mm)	Max. rotation speed (rpm)	76105... Ident. No.	
115	13300	117	●
125	12250	127	●
180	8500	182	●
230	6650	232	●

Prod. Gr. 6DM

Roughing disc, silver for steel/stainless steel
with sharp precision grain

Application:
For heavy grinding applications, such as chamfering/bevelling, slag/rolling skin removal, welding seam and edge machining

Execution:
- With precision-shaped ceramic abrasive grain for high grinding performance and long service life

Technical data:
- Bore diameter: 22.23 mm
- Form: Cranked
- Free from iron and sulphur: Yes
- Number of pieces per packet: 10
- Removal performance (points system): 3 of 4 points
- Service life (points system): 3 of 4 points

Ident. No. 103

Washer Ø (mm)	Washer thickness (mm)	Max. rotation speed (rpm)	76105... Ident. No.	
115	7.0	13300	100	○
125	7	12000	103	●
180	7	8500	106	●
230	7	6850	109	○

Prod. Gr. 6DM

RHODIUS TOPLINE XTK 35 Cross cutting and grinding discs
Type A 46 U 9 BF 1432, for stainless steel

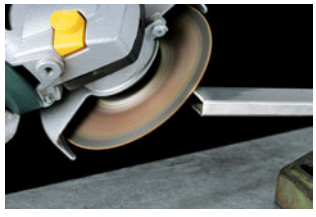
Application:
For cutting, deburring, chamfering and grinding as well as for preparatory and finishing work on weld seams.

Advantage:
- Cutting and grinding work in a single operation. Saves time and costs: no work interruptions due to conversion or machine changes

- Protection against age-related power loss thanks to HydroProtect formula

Technical data:
- Washer thickness: 1.9 mm
- Bore diameter: 22.23 mm
- Design: Hard
- Free from iron and sulphur: Yes
- Number of pieces per packet: 25 PCS
- Removal performance (points system): 3 of 4 points
- Service life (points system): 3 of 4 points

Ident. No. 125



		Form	Cranked	
Washer Ø (mm)	Max. rotation speed (rpm)	76099... Ident. No.		
115	13285	115	●	
125	12200	125	●	

Prod. Gr. 6BB

PFERD TOOLS CC-GRIND-ROBUST

SGP STEELOX special range for steel and stainless steel

Application:
Trim the CC-GRIND-ROBUST on sharp metal edges, files or with indexable inserts.

Execution:
- High performance in use provides ultimate economic efficiency
- PFERD's triangular, precision-shaped abrasive grain achieves a uniquely high grinding performance

Advantage:
- Ultimate aggressiveness for ultra-fast work progress.
- Fibreglass-reinforced plastic backing pad guarantees equally robust and safe use.
- Considerably more ergonomic than a roughing disc: Noise, vibration and dust are significantly reduced. In addition, a significantly better surface is achieved.

Technical data:
- Bore diameter: 22.23 mm
- Removal performance (points system): 4 of 4 points
- Service life (points system): 4 of 4 points

Ident. No. 001

Washer Ø (mm)	Max. rotation speed (rpm)	76107... Ident. No.	
115	13300	001	●
125	12200	002	●

Prod. Gr. 6AB

ATORN Abrasive flap disc - for extreme sanding and grinding work

with self-sharpening ceramic abrasive grain, tool carrier made of fibreglass

Application:
Universally applicable for all steel grinding tasks

Execution:
- Optimised performance ensures a long service life and optimal utilisation until the end
- Consistently high performance thanks to optimised fabric backing
- High stability thanks to fibreglass backing
- Proven safety that goes far beyond the requirements of the oSa guidelines and the EN 13743 safety standard

Technical data:
- Bore diameter: 22.23 mm
- Max. rotation speed: 13300 rpm
- Number of pieces per packet: 10 PCS
- Material to be processed: Steel | Stainless steel

Ident. No. 112

		Form	Diagonal
Washer Ø (mm)	Grid size	76084... Ident. No.	
125	40	112	●
125	60	115	●
125	80	118	●

Prod. Gr. 6CH

ATORN Abrasive flap disc - for universal sanding and grinding work on steel and VA steel

with high-tech zirconia fabric, tool carrier made of high-tech natural fibre

Application:
For deburring, derusting, fettling and for pre/post-machining of welding seams.

Execution:
- Carrier disc can be fully trimmed; fully usable disc

Advantage:
- Natural fibre backing disc for flexible, low-vibration work
- fibreglass- and resin-free - self-trimming
- Backing disc made from natural fibre compound protects the environment and the user (CO2 neutral)

Technical data:
- Bore diameter: 22.23 mm
- Number of pieces per packet: 10 PCS
- Material to be processed: Steel | Stainless steel

			Form	Diagonal
Washer Ø (mm)	Max. rotation speed (rpm)	Grid size	76084... Ident. No.	
115	13200	40	600	●
115	13200	60	601	●
115	13200	80	602	●
115	13200	120	603	●
125	12200	40	604	●
125	12200	60	605	●
125	12200	80	606	●
125	12200	120	607	●

Prod. Gr. 6CH

ATORN Abrasive flap disc - high-quality and suitable for universal use

with zirconia alumina, tool carrier made of fibreglass, for steel/stainless steel

Application:

Ident. No. 541, 561, 581, 641, 651, 661, 681: For deburring, derusting, fettling and for pre/post-machining of welding seams.

Ident. No. 546, 566, 586, 646, 656, 666, 686: For smoothing, derusting, grinding and similar surface applications.

Execution:

- Iron and sulphur-free

Advantage:

- high cutting performance for increased material removal
- with OSA approval - greater safety due to regular independent product tests

Technical data:

- Bore diameter: 22.23 mm
- Number of pieces per packet: 10 PCS
- Material to be processed: Stainless steel | Steel

Ident. No. 641

		Form	Diagonal		Straight	
Washer Ø (mm)	Max. rotation speed (rpm)	Grid size	76084... Ident. No.		76084... Ident. No.	
115	13300	40	541	●	546	●
115	13300	60	561	●	566	●
115	13300	80	581	●	586	●
125	12250	40	641	●	646	●
125	12250	50	651	●	656	●
125	12250	60	661	●	666	●
125	12250	80	681	●	686	●

Prod. Gr. 6CH

ATORN High-performance abrasive flap disc with easy-to-trim plastic backing

with zirconia alumina, for stainless steel/steel/cast iron

Application:

The sanding disc is ideal for all sanding and deburring work, whether for intensive stock removal or for the removal of light burrs and welding seams.

The flexible, food-safe ABS plastic backing pad ensures a uniform sanding finish and precise machining.

Advantage:

- High-tech ZIRCONIUM fabric enables faster and more efficient sanding for longer
- TOPSIZE cooling agent coating for up to 50 % higher stock removal rates and longer service life
- Backing pad made of food-safe, flexible special plastic; easy to trim, flexible and vibration-damping
- Replaces both fibre discs and roughing discs in many companies
- Suitable for universal use on steel, cast iron and stainless steel. For surface and edge sanding, coarse and intermediate sanding, machining fillet welds, derusting, deburring and dressing cast parts

Technical data:

- Bore diameter: 22.23 mm
- Number of pieces per packet: 10 PCS
- Material to be processed: Stainless steel | Steel | Cast metal

		Type	MAGNUM Cool Top	
		Form	Diagonal	
Washer Ø (mm)	Max. rotation speed (rpm)	Grid size	76084... Ident. No.	
115	13200	40	704	●
115	13200	60	706	●
115	13200	80	708	●
115	13200	120	712	●
125	12200	40	724	●
125	12200	60	726	●
125	12200	80	728	●
125	12200	120	732	●

Prod. Gr. 6CH

ATORN Non-woven combination disc 3 in 1

A-MEDIUM/K80

Application:

For direct use on variable-speed angle and fillet weld grinders. TIG weld seam machining, surface and contour sanding, deburring work.

Execution:

- Sanding welding seams
- Matching
- Finish sanding

Advantage:

- The specialist for welding seam removal and finishing in one step:
- Enormous time savings (extreme reduction in work steps)
- Sanding welding seams and finishing in one step
- Constant, low Ra value (high surface quality)
- No change in shape during sanding, no clogging

Technical data:

- Grid size: 80
- Bore diameter: 22.23 mm
- Material of abrasive medium: Ceramic grain
- Material to be processed: Stainless steel | Steel | Aluminium | Brass | Copper | Bronze

Washer Ø (mm)	Max. rotation speed (rpm)	76084... Ident. No.	
115	13300	900	●
125	12200	901	●

Prod. Gr. 6CS

ATORN Abrasive flap disc X-LOCK

Zirconia alumina

Application:
Universal grinding, surface grinding, abrasive grinding and edge machining. Ideal for surface grinding on steel and stainless steel.

Execution:
- X-LOCK quick-action clamping system
- Robust fibreglass backing pad for optimal contact pressure

Advantage:
- Long service life
- Fast machining
- Robust fabric backing

Notes:
X-LOCK abrasive flap discs are backwards compatible and can also be used on conventional angle grinders.

Technical data:
- Tool holding device: X-LOCK
- Bore diameter: 22.23 mm
- Max. rotation speed: 12250 rpm
- Number of pieces per packet: 10 PCS
- Material to be processed: Steel | Stainless steel
- Service life (points system): 2 of 4 points

Ident. No. 111

		Form	Diagonal
Washer Ø (mm)	Grid size	76084... Ident. No.	
125	40	111	●
125	60	114	●
125	80	117	●

Prod. Gr. 6CH

3M Cubitron II abrasive flap disc

made of precision-formed ceramic abrasive grain, tool carrier made of fibreglass

Application:
For deburring, removing rust, fettling and for preparatory and finishing work on weld seams.

Advantage:
- Higher removal performance and aggressive grinding thanks to precision grain
- Special coating ensures cool grinding

Technical data:
- Bore diameter: 22.23 mm
- Number of pieces per packet: 10 PCS

Ident. No. 230

			Form	Diagonal
Washer Ø (mm)	Max. rotation speed (rpm)	Grid size	76087... Ident. No.	
115	13200	40	110	●
115	13200	60	120	●
115	13200	80	130	●
125	12000	40	210	●
125	12000	60	220	●
125	12000	80	230	●

Prod. Gr. 6DM

3M Abrasive flap disc 769F

with 3M precision grain and durable polyester backing

Application:
Covers a wide range of applications from post-processing and chamfering through to surface preparation. Ideal for use on carbon steel, stainless steel and other heat-sensitive alloys.

Execution:
- With 3M precision grain and durable polyester carrier

Advantage:
- Precision-shaped ceramic abrasive grain allows for exceptional removal at a lower contact pressure
- Proven to be more powerful than conventional zirconia alumina flap wheel discs

Technical data:
- Washer diameter: 125 mm
- Bore diameter: 22.23 mm
- Max. rotation speed: 12000 rpm
- Number of pieces per packet: 10 PCS

Ident. No. 216

	Form	Diagonal
Grid size	76087... Ident. No.	
40	216	●
60	226	●
80	236	●

Prod. Gr. 6DM

Abrasive flap disc SLTT - extremely robust

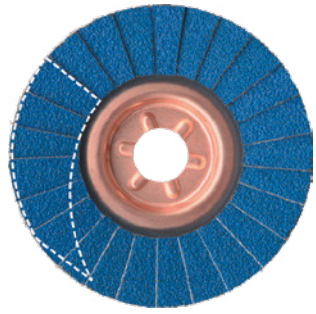
with zirconia alumina, tool carrier made of steel, for steel/non-ferrous metals

Application:
For plastering, smoothing, deburring, derusting and processing of welding seams

Execution:
- Robust support plate made of steel
- Extremely resistant grain with high compressive strength

Advantage:
- Optimised for universal use on different steels and aluminium
- High flexibility and abrasive capacity whilst retaining uniform grinding pattern and low noise emissions
- Extremely robust thanks to steel carrier

Technical data:
- Bore diameter: 22.23 mm
- Number of pieces per packet: 10 PCS



Ident. No. 205

			Form	Straight
Washer Ø (mm)	Max. rotation speed (rpm)	Grid size	76081... Ident. No.	
115	13300	40	200	●
115	13300	60	205	●
125	12200	40	210	●
125	12200	60	215	●

Prod. Gr. 6BD

Abrasive flap discs

made of zirconia alumina, tool carrier made of plastic, for stainless steel/steel/cast iron

Application:
For smoothing, removing rust, grinding and similar surface applications.

Execution:
- CAL zirconium: Cooling agent layer for cooler grinding

Advantage:
- Highly elastic backing adapts perfectly to the workpiece surface
- For especially smooth and flat surfaces, such as for surface grinding of large plants

Technical data:
- Bore diameter: 22.23 mm
- Number of pieces per packet: 10 PCS

			Form	Diagonal
Washer Ø (mm)	Max. rotation speed (rpm)	Grid size	76084... Ident. No.	
115	13200	40	740	●
115	13200	60	760	●
115	13200	80	780	●
115	13200	120	795	●
125	11800	40	840	●
125	11800	60	860	●
125	11800	80	880	●
125	11800	120	895	●

Prod. Gr. 6LH

Abrasive flap disc for stainless steel/steel

with zirconia alumina, tool carrier made of fibreglass

Application:
for deburring, removing rust, fettling and for preparatory and finishing work on weld seams.

Advantage:
- attractively-priced abrasive flap disc with good cutting performance
- with OSA approval – greater safety due to regular independent product tests

Technical data:
- Bore diameter: 22.23 mm
- Number of pieces per packet: 10

Ident. No. 937

		Form	Diagonal
Washer Ø (mm)	Grid size	76084... Ident. No.	
115	40	915	●
115	60	917	●
115	80	919	●
125	40	935	●
125	60	937	●
125	80	939	●

Prod. Gr. 6LH

RHODIUS PROLINE ●●○ Abrasive flap disc LGA for aluminium/non-ferrous metals

Application:
For grinding aluminium and other lubricating non-ferrous metals

Execution:
- With trimmable carrier

Technical data:
- Washer diameter: 125 mm
- Bore diameter: 22.23 mm
- Max. rotation speed: 12200 rpm
- Number of pieces per packet: 10 PCS

Ident. No. 090

Form	Straight	
Grid size	76084... Ident. No.	
40	090	●
60	092	●

Prod. Gr. 6BB

RHODIUS See-through abrasive flap discs VISION

with zirconia alumina, tool carrier made of fibreglass

Application:
For direct abrasion inspection when deburring, chamfering, sanding and during preparatory and finishing work on weld seams.

Advantage:
- Clear view of the workpiece. Thanks to its three slots, the abrasive flap disc becomes transparent
- Reduces costly machining errors by controlled material removal

Technical data:
- Bore diameter: 22.23 mm
- Number of pieces per packet: 10 PCS

Ident. No. 014–028

Ident. No. 046

Example application

Type	VISION COOL		VISION PRO	
Form	Diagonal		Diagonal	
Washer Ø (mm) / Max. rotation speed (rpm) / Grid size	76084... Ident. No.		76084... Ident. No.	
115 / 13300 / 40	014	●	040	●
115 / 13300 / 60	016	●	042	○
115 / 13300 / 80	018	●	044	●
125 / 12250 / 40	024	●	046	●
125 / 12250 / 60	026	●	048	●
125 / 12250 / 80	028	●	050	●

Prod. Gr. 6BB

PFERD TOOLS Flap disc POLIFAN SG POWER STEELOX X-LOCK

with zirconia alumina, tool carrier made of fibreglass, for steel/stainless steel

Application:
For deburring, chamfering, edge finishing and welding seam machining. Also suitable for surface grinding.

Execution:
- With X-LOCK mount for convenient and fast tool change
- Maximum aggressiveness over the entire service life

Advantage:
- Fast progress and maximum efficiency through aggressive cutting performance
- Creates a consistently high surface quality over the entire service life

Notes:
X-LOCK flap wheel cutting discs are backwards compatible and can also be used on conventional angle grinders.

Technical data:
- Washer diameter: 125 mm
- Tool holding device: X-LOCK
- Bore diameter: 22.23 mm
- Max. rotation speed: 12200 rpm
- Number of pieces per packet: 10

Ident. No. 020

Grid size	76085... Ident. No.	
40	020	●
60	025	●
80	030	●

Prod. Gr. 6AB

Flap disc POLIFAN SGP STRONG STEEL

with zirconia alumina, tool carrier made of fibreglass, for steel

Application:

Ident. No. 120: For rough steel machining, e.g. removing rust, fettling and for preparatory and finishing work on weld seams.

Ident. No. 125: For edge machining, e.g. chamfering and deburring.

Advantage:

- Maximum aggressiveness down to the last grain - optimally suited to use on high-performance output drives

Technical data:

- Washer diameter: 125 mm
- Bore diameter: 22.23 mm
- Max. rotation speed: 12200 rpm
- Number of pieces per packet: 10 PCS

Ident. No. 120

Grid size	Form	Diagonal 76085... Ident. No.	
36		120	●
50		125	●

Prod. Gr. 6AB

Flap disc POLIFAN CO-FREEZE SGP STRONG INOX

with CO ceramic abrasive grain, tool carrier made of fibreglass, for stainless steel

Application:

Ident. No. 150: For rough steel machining, e.g. removing rust, fettling and for preparatory and finishing work on weld seams, with ultra-cool grinding.

Ident. No. 155: For edge machining, e.g. chamfering and deburring with ultra-cool grinding.

Execution:

- CO Ceramic abrasive grain with grinding-active, cooling special coating (FREEZE)

Advantage:

- Maximum aggressiveness down to the last grain - optimally suited to use on high-performance output drives
- Ceramic abrasive grain for ultra-cool grinding of stainless steel

Technical data:

- Washer diameter: 125 mm
- Bore diameter: 22.23 mm
- Max. rotation speed: 12200 rpm
- Number of pieces per packet: 10 PCS

Grid size	Form	Diagonal 76085... Ident. No.	
36		150	●
50		155	●

Prod. Gr. 6AB

Flap disc POLIFAN SGP CURVE STEELOX

with zirconia alumina Z, tool carrier made of fibreglass, for steel/stainless steel

Application:

For fillet weld machining

Advantage:

- Unique radial design for perfect grinding of the fillet weld geometry
- High productivity due to particularly high machining performance with excellent service life in fillet weld machining

Technical data:

- Washer diameter: 125 mm
- Bore diameter: 22.23 mm
- Max. rotation speed: 12200 rpm
- Grid size: 40
- Number of pieces per packet: 10 PCS

Ident. No. 110

Washer thickness (mm)	Min. fillet seam width (mm)	Form	Radial 76085... Ident. No.	
14	5		110	●
16	8		115	●

Prod. Gr. 6AB

Flap disc POLIFAN-CO-CURVE

with CO ceramic abrasive grain, tool carrier made of fibreglass, for steel/stainless steel

Application:
For fillet weld machining

Advantage:
- Unique radial design for perfect grinding of the fillet weld geometry
- High productivity due to particularly high machining performance with excellent service life in fillet weld machining
- Ceramic abrasive grain for cool grinding and to achieve fine surface finishes

Technical data:
- Washer diameter: 125 mm
- Bore diameter: 22.23 mm
- Max. rotation speed: 13300 rpm
- Grid size: 60
- Number of pieces per packet: 10 PCS

Ident. No. 130

		Form	Radial
Washer thickness (mm)	Min. fillet seam width (mm)	76085... Ident. No.	
14	5	130	●
16	8	135	●

Prod. Gr. 6AB

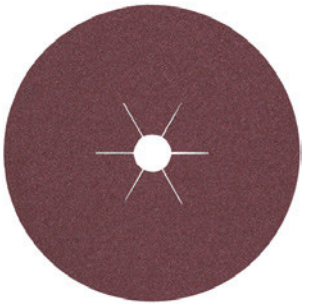
FS 764 ACT fibre discs - for machining steel, stainless steel, all kinds of metal

Corundum, resin bond, dense grain distribution

Application:
Fibre discs for universal use with special ACT recipe, provides outstanding grain adhesion and increased material removal rate

Notes:
Secondary application: Plastic, non-ferrous metal, wood

Technical data:
- Bore diameter: 22.23 mm
- Number of pieces per packet: 25 PCS



Grid size	24		36		40		60		80		120	
Washer Ø (mm)	76202... Ident. No.		76202... Ident. No.		76202... Ident. No.		76202... Ident. No.		76202... Ident. No.		76202... Ident. No.	
115	005	●	010	●	015	●	025	●	030	●	035	●
125	040	●	045	●	050	●	060	●	065	●	070	●
180	075	○	080	●	085	●	095	●	100	●	105	●

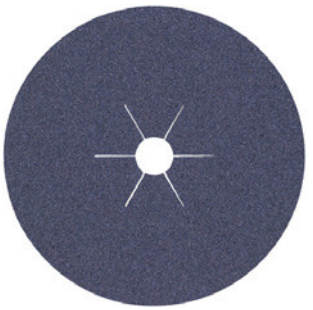
Prod. Gr. 6DD

CS 565 fibre disc - ideal for rough grinding work

Zirconia alumina, resin-bonded, dense grain distribution

Application:
For rough sanding and deburring on steel, stainless steel and all types of metal

Technical data:
- Bore diameter: 22.23 mm
- Number of pieces per packet: 25 PCS



Grid size	24		36		40		60		80		100	
Washer Ø (mm)	76202... Ident. No.		76202... Ident. No.		76202... Ident. No.		76202... Ident. No.		76202... Ident. No.		76202... Ident. No.	
115	205	●	210	●	215	●	225	●	230	●	235	●
125	240	●	245	●	250	●	260	●	265	●	270	●
180	275	●	280	○	285	●	295	●	300	●	-	-

Prod. Gr. 6DD

FS 966 ACT fibre disc - for stainless steel

Ceramic corundum, synthetic resin bonding, dense grain distribution

Application:
High-performance disc with self-sharpening ceramic abrasive grain for an excellent removal rate and service life when grinding stainless steel.

Advantage:
- Long service life, especially in heavy-duty applications
- Cool grinding for enhanced performance
- Special advanced coating technology for improved grain adhesion

Technical data:
- Bore diameter: 22 mm
- Number of pieces per packet: 25

Ident. No. 600–615, 625–670

Grid size	36		40		60		80		120	
Washer Ø (mm)	76202... Ident. No.		76202... Ident. No.		76202... Ident. No.		76202... Ident. No.		76202... Ident. No.	
115	600	●	605	●	610	○	615	●	620	●
125	625	●	630	●	635	●	640	●	645	●
180	650	●	655	●	660	●	665	●	670	●

Prod. Gr. 6DD

ACTIROX fibre disc

Ceramic abrasive grain, full synthetic resin bonding, base material vulcanised fibre

Application:
Maximum performance in the machining of superalloys, stainless steels, carbon steels and aluminium

Execution:
- With geometrically shaped ceramic abrasive grain
- With extremely durable and shape-retaining vulcanised fibre base

Advantage:
- Faster grinding and very long service lives significantly increase productivity
- More than double the rate of material removal in comparison to conventional ceramic grain abrasives
- Maximum performance with superalloys and stainless steels, thanks to optimum grain distribution density
- Cool grinding and extended service life due to the VSM TOP SIZE active grinding extra layer

Technical data:
- Bore diameter: 22.23 mm

Ident. No. 620, 660

Type description		AF890		AF890		AF890	
Grid size		36		60		80	
Washer Ø (mm)	Number of pieces per packet (PCS)	69260... Ident. No.		69260... Ident. No.		69260... Ident. No.	
115	50	620	○	621	●	622	○
125	50	660	●	661	●	662	●

Prod. Gr. 6DA

ACTIROX AF 799 fibre disc

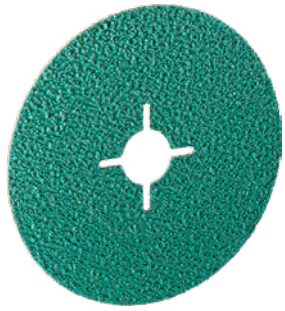
Ceramic abrasive grain, full synthetic resin bonding, base material vulcanised fibre

Application:
Maximum performance in the machining of steel, cast metals and non-ferrous metals

Execution:
- With geometrically shaped ceramic abrasive grain
- With extremely durable and shape-retaining vulcanised fibre base

Advantage:
- Faster grinding and very long service lives significantly increase productivity
- More than double the rate of material removal in comparison to conventional ceramic grain abrasives
- Maximum performance with superalloys and stainless steels, thanks to optimum grain distribution density

Technical data:
- Bore diameter: 22.23 mm
- Number of pieces per packet: 50 PCS



Ident. No. 630

Type description	AF799		AF799		AF799	
Grid size	36		60		80	
Washer Ø (mm)	69620... Ident. No.		69620... Ident. No.		69620... Ident. No.	
115	630	●	631	●	632	●
125	640	●	641	●	642	●

Prod. Gr. 6DA

Backing pad for fibre discs

corrugated and straight design

Application:
For holding fibre discs.

Advantage:
- **No. 76069:** Straight version, therefore more flexible, softer and more adaptable
- **No. 76202:** Corrugated for greater stability, more pressure and longer service life

Delivery:
With clamping nut for fibre discs

Technical data:
- Connection thread: M14
- Number of pieces per packet: 1 PCS

Type description		ST 385		ST 385 A	
Design		Straight		Fluted	
Suitable for disc Ø (mm)	Max. rotation speed (rpm)	76069... Ident. No.		76202... Ident. No.	
115	13300	005	●	915	●
125	12200	007	●	925	●
178	8500	-	-	978	●

Prod. Gr. 6DD

No. 76069
straight version

No. 76202
Corrugated design

Backing pad Turbo Pad 3

for ACTIROX fibre disc AF890

Execution:
- Extra-hard support plate

Technical data:
- Connection thread: M14
- Number of pieces per packet: 1

Suitable for disc Ø (mm)	Max. rotation speed (rpm)	69260... Ident. No.	
115	13300	600	●
125	12200	605	●

Prod. Gr. 6DA

Ident. No. 600

787C fibre discs - for stainless steel

Ceramic abrasive grain, full resin bond, dense grain distribution

Application:
For machining stainless steel welding seams in metalworking shops and sheet metal processing plants.

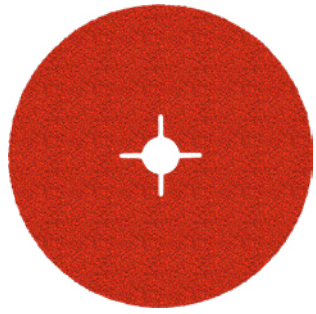
Execution:
- Backing produced from very robust, hornlike vulcanised fibre

Advantage:
- Excellent service life and erosion performance for stainless steels, particularly at low and medium pressures
- Special design ensures a low temperature development in stainless steels known to have poor thermal conductivity

Technical data:
- Bore diameter: 22.23 mm
- Number of pieces per packet: 25 PCS

Type description		787C		787C		787C	
Grid size		36+		60+		80+	
Washer Ø (mm)		76204... Ident. No.		76204... Ident. No.		76204... Ident. No.	
125		031	●	041	●	046	●
115		-	-	021	●	026	●

Prod. Gr. 6DM



Cubitron™ II fibre discs

Ceramic abrasive grain, full resin bond, half-open grain distribution - precision-formed ceramic abrasive grains for absolute sharpness

Application:

For sharp grinding, especially suitable for general metal working such as weld seam preparation, machining of cast and flame-cut parts and polishing.

Execution:

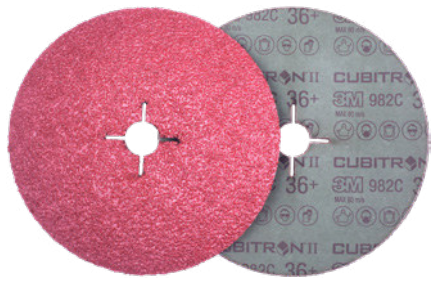
- Can be used in conjunction with a support plate no. 76206
- Backing produced from very robust, hornlike vulcanised fibre

Advantage:

- High degree of sharpness owing to precision-formed ceramic grains
- Very long service lives and fast cutting
- Pleasant work owing to low dust formation and low contact pressure

Technical data:

- Bore diameter: 22.23 mm
- Number of pieces per packet: 25 PCS



Design 982C

Type description	982C		982C		982C		987C		987C		987C	
Grid size	36+		60+		80+		36+		60+		80+	
Washer Ø (mm)	76206... Ident. No.		76206... Ident. No.		76206... Ident. No.		76206... Ident. No.		76206... Ident. No.		76206... Ident. No.	
115	036	●	060	●	080	●	236	●	260	●	280	●
125	136	●	160	●	180	●	336	●	360	●	380	●
178	436	●	460	○	480	○	536	○	-	-	580	○

Prod. Gr. 6DM

Backing pad for Cubitron™ II fibre discs

Specially developed for increased removal rate during roughing

Advantage:

- **Ident. No. 905–915:** for enhanced pressure distribution and cooling!

			Design	Fluted		Flat	
Suitable for disc Ø (mm)	Connection thread	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76206... Ident. No.		76206... Ident. No.	
115	M14	13200	1	905	●	950	●
125	M14	12000	1	910	●	960	●
178	M14	8500	1	915	●	-	-
180	M14	8500	1	-	-	970	○

Prod. Gr. 6DM

Ident. No. 905–915

ATORN Coarse cleaning disc dia. 125 mm SiC

EXTENDED PROGRAM

Execution:

- Coarsely structured and elastic non-woven cleaning abrasive made of a special combination of synthetic fibres and evenly embedded abrasive grains (silicon carbide)
- Flexible, open non-woven structure
- Open structure effectively prevents clogging
- Continuous exposure of fresh abrasive grain
- Uniform and consistent work results
- Free of metals susceptible to corrosion

Advantage:

- Adapts perfectly to the workpiece geometry
- Uniform, reproducible sanding results
- Cooler sanding and thus reduced heat generation
- Clean and residue-free surface
- Minimised risk of damaging the workpiece surface

Technical data:

- Bore diameter: 22.23 mm

Washer Ø (mm)	Max. rotation speed (rpm)	76098... Ident. No.	
115	11000	212	●
125	8500	211	●

Prod. Gr. 6CS

Scotch-Brite™ high-performance coarse cleaning discs - extra coarse

Non-woven fibre discs with fibre underlay, for use on angle grinders

Application:
Ideally suited for cleaning heavy surface soiling and surface coatings or for removing varnish.

Execution:
- Flexible fibre fleece with resin-bonded abrasive, for universal cleaning tasks

Advantage:
- Strengthened backing for processing surfaces without the use of a support plate
- Open structure, disc does not clog
- Free of corrosive metals
- Does not loosen individual parts

Type description	Colour	Washer Ø (mm)	Bore Ø (mm)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76098... Ident. No.	
CG-RD	Blue	115	22.23	11000	10	220	●

Prod. Gr. 6DM

Scotch-Brite™ coarse cleaning discs - extra coarse

Application:
Ident. No. 200–203: For the rapid removal of rust, paint, scaling, coatings and adhesives from surfaces without significantly altering the base material.
Ident. No. 206–209: For removing hard coatings such as strong rust, thick coat lacquer and corrosion while facing and refining the bare metal underneath.

Execution:
- High-strength fibre, resistant to breakouts and provides optimum edge performance

Advantage:
- Resistant against loads, ensuring a uniform cutting performance
- High adaptability provides a larger contact area for faster removal rates
- **Ident. No. 200–203:** Silicon carbide cuts aggressively and leaves a clean finish
- **Ident. No. 206–209:** Aluminium oxide mineral aggressively removes the upper layer and refines the bare metal underneath

Technical data:
- Bore diameter: 22.23 mm
- Number of pieces per packet: 10

Ident. No. 203

Ident. No. 209

Type description		XT-RD Pro	XT-RD Pro	XT-RD Pro Extra Cut	XT-RD Pro Extra Cut
Colour		Purple	Purple	Green	Green
Washer Ø (mm)		115	125	115	125
Max. rotation speed (rpm)		13300	13300	13300	12000
76098...	Ident. No.	200 ●	203 ●	206 ●	209 ●

Prod. Gr. 6DM

Advantages of 3M Scotch-Brite™ Bristle products

Bristle products are flexible, high-performance brushes impregnated with **ceramic Cubitron abrasive grains**. They have exceptionally long service lives. They are especially suited to cleaning, deburring and paint stripping.

Thanks to their unique **cast-in-one-piece** design, individual components cannot work loose during application as can happen when using wire brushes. This **improves occupational safety**. Furthermore, **Scotch-Brite Bristle products do not clog**, which ensures **consistent performance** throughout their service life. Thanks to their high level of flexibility, Bristle products adapt to the shapes and contours of workpieces. This enables you to produce a **uniform finish**, even on very profiled surfaces.

Scotch-Brite™ BD-ZB bristle disc for angle grinders

Specially designed for planar surfaces

Application:
For rust removal, paint removal, removing adhesive residues or other surface contaminants. Specially designed for flat surfaces. Can be used on angle grinders without accessories.

Advantage:
- Works without contact pressure with a very long service life
- Integrated M14 thread makes additional accessories unnecessary

Technical data:
- Head diameter: 115 mm
- Length of bristles: 19 mm
- Max. rotation speed: 12200 rpm
- Suitable for machine chuck: M14
- Material of abrasive medium: Ceramic grain Cubitron

Ident. No. 010

Ident. No. 021

Grid size		50	80	120
Colour		Green	Yellow	White
Number of pieces per packet (PCS)		1	1	1
76098...	Ident. No.	010 ●	021 ●	031 ●

Prod. Gr. 6DM

Scotch-Brite™ BB-ZB radial bristle grinding brush, type C

Specially designed for highly contoured surfaces

Application:
For cleaning, removing paint, deburring and blending on virtually all materials. Specially designed for highly contoured surfaces. For use on robotic machines, sanding blocks, straight grinders or on flexible shafts.

Execution:
- 8 separable individual segments, flange with 4 reducers from 25.4 to 13 mm

Advantage:
- With curved bristles, ideal for working on profiled surfaces

Notes:
For use only with clamping mandrel no. 76098 002

Technical data:
- Head diameter: 150 mm
- Length of bristles: 38 mm
- Max. rotation speed: 6000 rpm
- Material of abrasive medium: Ceramic grain Cubitron
- Number of pieces per packet: 1 PCS

Ident. No. 080

Ident. No. 090

Grid size		80	220
Colour		Yellow	Red
76098...	Ident. No.	080 ●	090 ●

Prod. Gr. 6DM

Scotch-Brite™ BB-ZS radial bristle grinding brush, type C, with shaft

Specially designed for highly contoured surfaces

Application:
For cleaning, removing paint, deburring and blending on virtually all materials. Specially designed for highly contoured surfaces. For use on straight grinders or flexible shafts

Execution:
- 6 segments cast with a 6-mm shank

Advantage:
- With curved bristles, ideal for working on profiled surfaces
- Can be used immediately without any further accessories

Technical data:
- Head diameter: 75 mm
- Length of bristles: 25 mm
- Max. rotation speed: 15000 rpm
- Suitable for machine chuck: Shank 6 mm
- Material of abrasive medium: Ceramic grain Cubitron
- Number of pieces per packet: 1 PCS

Ident. No. 110

Ident. No. 120

Grid size		80	120	220
Colour		Yellow	White	Red
76098...	Ident. No.	110 ●	120 ●	130 ●

Prod. Gr. 6DM

Cylinder wire brushes with braided wire

For use on all commercially available angle grinders and angle polishers

Application:
For preparatory and finishing work on welding seams, for removing rust, scale, paint, slag, rubber residues and for deburring. Ideal for use in hard-to-reach places.

Advantage:
- long life, even with diagonal application

Ident. No. 021–061, 121–161

Ident. No. 111

Ident. No. 011

								Design	Braided		Braided	
								Material of edging	Steel		Stainless steel	
								Material to be processed	Steel | Cast steel		Steel | Non-ferrous metal | Aluminium	
Head Ø (mm)	Width of head (mm)	Wire Ø (mm)	Number of braids (PCS)	Connection thread	Bore Ø (mm)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76089... Ident. No.			76089... Ident. No.	
115	12	0.5	20	M14	-	12500	1	011	●		111	●
115	12	0.5	20	-	22.2	12500	1	021	●		121	●
125	13	0.5	20	-	22.2	12500	1	031	●		131	●
178	13	0.5	30	-	22.2	10000	1	061	●		161	●

Prod. Gr. 6CM

LESSMANN® Narrow cylinder wire brush (pipeline brush)

for use on all commercially available angle grinders and angle polishers

Application:
Especially for processing of U- and V-welding seams; which are often chosen for pipe connections

Execution:
- Long service life
- smooth running

Advantage:
- Pipeline brush is particularly narrow and is therefore suitable for cleaning all welding seams on pipe connections

Ident. No. 400

Ident. No. 430

						Design	Braided | Narrow		Braided | Narrow	
						Material of edging	Steel		Stainless steel	
Head Ø (mm)	Width of head (mm)	Wire Ø (mm)	Number of braids	Bore Ø (mm)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76099... Ident. No.		76099... Ident. No.	
115	6	0.5	32	22.2	15000	1	400	●	430	●
125	6	0.5	40	22.2	15000	1	405	●	-	-
178	6	0.5	48	22.2	12500	1	410	●	-	-

Prod. Gr. 6CL

ATORN Wire cup brushes with crimped or braided wire

for use on all commercially available angle grinders and angle polishers

Application:
No. 76085: For light to medium cleaning work on large surfaces and welding seams.

No. 76088: For heavy-duty cleaning work on large surfaces and welding seams.

No. 76085 007

No. 76088 066

						Design	Corrugated		Braided	
						Material of edging	Steel		Steel	
						Material to be processed	Steel | Cast steel | Softwood | Hardwood		Steel | Cast steel | Softwood | Hardwood	
Head Ø (mm)	Number of braids (PCS)	Connection thread	Wire Ø (mm)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)		76085... Ident. No.		76088... Ident. No.	
60	-	M14	0.3	12500	1		007	●	-	-
100	-	M14	0.3	8500	1		011	●	-	-
65	18	M14	0.5	12500	1		-	-	066	●
80	22	M14	0.5	8500	1		-	-	111	●
100	26	M14	0.5	8500	1		-	-	121	●

Prod. Gr. 6CM

ATORN Conical brushes with wire braided anti-clockwise

for use on all commercially available angle grinders and angle polishers

Application:
For use in hard-to-reach places. For preparatory and finishing work on welding seams, for removing rust, scale, paint, slag, rubber residues and for deburring.

Advantage:
- long life, even with diagonal application

Technical data:
- Number of braids: 18 PCS
- Connection thread: M14
- Wire diameter: 0.5 mm
- Max. rotation speed: 12500 rpm
- Number of pieces per packet: 1 PCS

Ident. No. 081–091, 191

		Design	Braided		Braided	
		Material of edging	Steel		Stainless steel	
		Material to be processed	Steel | Cast steel | Softwood | Hardwood		Stainless steel | Non-ferrous metal | Aluminium	
Head Ø (mm)	Width of head (mm)		76089... Ident. No.		76089... Ident. No.	
100	13		081	●	181	●
115	15		091	●	191	●

Prod. Gr. 6CM

ATORN Cylinder wire brushes with braided or crimped wire

For bench grinder

Application:

No. 76092–76093: For rust and scale removal and for grinding.

No. 76094: For heavy demands and heavy-duty brush work, for removing rust and scale, for grinding and roughening, for removing varnish and for machining weld seams and stone.

Execution:

- **No. 76092–76093:**
  - Tubular steel body with compression ring and outer flange
  - With particularly densely packed material
  - An adapter set (seven pieces) is included with art. 76092 and 76093 with 32 mm bore hole: Reduction to bore hole: 13/15/16/19/20 mm and 7/8 in/1; an adapter for a 10 mm bore hole is included with art. 76092 and 76093 with 20 mm bore hole

No. 76092–76093

No. 76094

						Design	Corrugated		Corrugated		Braided	
						Material of edging	Steel		Stainless steel		Steel	
						Material to be processed	Steel | Cast steel | Softwood | Hardwood		Stainless steel | Non-ferrous metal | Aluminium		Steel | Cast steel | Softwood | Hardwood	
Head Ø (mm)	Width of sanding area (mm)	Wire Ø (mm)	Number of braids (PCS)	Bore Ø (mm)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76092... Ident. No.		76093... Ident. No.		76094... Ident. No.	
80	18	0.3	0	10	10000	1	081	●	081	●	-	-
100	20	0.3	0	10	8000	1	101	●	-	-	-	-
150	25	0.3	0	32	6000	1	151	●	-	-	-	-
178	25	0.3	0	32	6000	1	176	●	-	-	-	-
200	25	0.3	0	32	4500	1	201	●	-	-	-	-
150	30	0.3	0	31.75	6000	1	-	-	151	●	-	-
100	20	0.3	0	20	8000	1	-	-	101	●	-	-
178	32	0.3	0	31.75	6000	1	-	-	176	●	-	-
200	30	0.3	0	31.75	4500	1	-	-	201	●	-	-
100	23	0.5	40	20	12500	1	-	-	-	-	101	●
200	35	0.5	102	25.4	8500	1	-	-	-	-	201	●

Prod. Gr. 6CM

ATORN Shank-mounted cylinder wire brushes with crimped wire

Shank diameter 6 mm, for use on high-speed machines and power tools

Application:

For roughening, deburring, removing paint, descaling, matting and cleaning.

Technical data:

- Number of braids: 0 PCS
- Number of pieces per packet: 5 PCS

Ident. No. 011

Ident. No. 051

				Design	Corrugated		Corrugated		Corrugated	
				Material of edging	Steel		Brass		Stainless steel	
				Material to be processed	Steel, Cast steel, Softwood, Hardwood		Brass, Softwood		Stainless steel, Non-ferrous metal, Aluminium	
Head Ø (mm)	Width of head (mm)	Wire Ø (mm)	Max. rotation speed (rpm)	76090... Ident. No.		76090... Ident. No.		76090... Ident. No.	
20	4	0.15	20000	011	●	021	●	-	-
30	6	0.15	20000	031	●	-	-	-	-
40	11	0.2	18000	041	●	051	●	141	●
50	17	0.2	15000	061	●	-	-	-	-
70	18	0.3	15000	071	●	081	●	171	●
20	4	0.2	20000	-	-	-	-	111	●
30	9	0.2	20000	-	-	-	-	131	●
50	10	0.3	15000	-	-	-	-	161	●

Prod. Gr. 6CM

ATORN Shaft-mounted cylinder wire brushes with braided wire

Shank diameter 6 mm, for use on high-speed machines and power tools

Application:
For machining welding seams, removing hard scale, slag, undercoating, sand residues and for deburring.

Technical data:
- Head diameter: 75 mm
- Wire diameter: 0.50 mm
- Number of braids: 15
- Max. rotation speed: 20000 rpm
- Number of pieces per packet: 5 PCS

Ident. No. 091

Ident. No. 181

Design	Braided		Braided	
Material of edging	Steel		Stainless steel	
Material to be processed	Steel | Cast steel | Softwood | Hardwood		Stainless steel | Non-ferrous metal | Aluminium	
Width of head (mm)	76090... Ident. No.		76090... Ident. No.	
13	091	●	-	-
12	-	-	181	●

Prod. Gr. 6CM

ATORN Shank-mounted cylinder wire brushes with silicon carbide sanding bristles

Shank diameter 6 mm, for use on high-speed machines and power tools

Application:
For deburring, rounding edges and surface finishing, and for machining stamped, turned, milled and drilled tool parts.

Advantage:
- optimal adaptation to irregular surfaces due to nylon fibres
- high elasticity without risk of breakage paired with a long service life

Notes:
due to the effect of heat on the plastic brushes, the speed is limited to a cutting speed of 18 m/sec.

Technical data:
- Number of braids: 0 PCS
- Max. rotation speed: 15000 rpm
- Number of pieces per packet: 5 PCS

Design			Corrugated		Corrugated	
Material of edging			Nylon with SiC grain 180		Nylon with SiC grain 320	
Material to be processed			Steel | Stainless steel | Non-ferrous metal | Aluminium | Wood		Stainless steel | Non-ferrous metal | Steel | Wood	
Head Ø (mm)	Width of head (mm)	Wire Ø (mm)	76091... Ident. No.		76091... Ident. No.	
50	15	0.90	011	●	-	-
70	18	0.90	021	●	-	-
50	15	0.55	-	-	031	●
70	18	0.55	-	-	041	●

Prod. Gr. 6CM

ATORN Wire end brushes with crimped wire

Shank diameter 6 mm, for use on high-speed machines and power tools

Application:
For removing burrs, rust, slag, scale, excess rubber, combustion residues and other impurities from hard-to-reach places and from inner surfaces.

Ident. No. 101, 211–241

Ident. No. 201

Ident. No. 111

Material of edging						Steel		Stainless steel	
Material to be processed						Steel | Cast steel | Softwood | Hardwood		Stainless steel | Non-ferrous metal | Aluminium	
Head Ø (mm)	Length of bristles (mm)	Length (mm)	Wire Ø (mm)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76095... Ident. No.		76095... Ident. No.	
10	20	40	0.50	20000	5	201	●	-	-
10	20	100	0.30	20000	5	211	●	-	-
17	25	45	0.50	18000	5	221	●	-	-
25	25	50	0.50	18000	5	231	●	-	-
30	25	45	0.50	15000	5	241	●	-	-
10	20	40	0.30	20000	5	-	-	101	●
10	20	100	0.30	9000	5	-	-	111	●

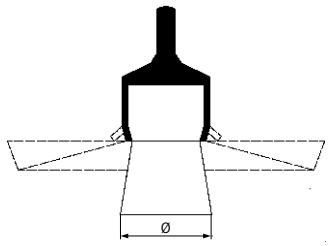
Prod. Gr. 6CM

ATORN Wire end brushes with braided wire

Shank diameter 6 mm, for use on high-speed machines and power tools

Application:
For precise machining in hard-to-reach places and on inner surfaces, also particularly suitable for cleaning the inside of cylindrical bores.

Advantage:
- variable outer diameter: due to the centrifugal force generated, the brush expands and retracts as the working speed changes
- high flexibility and high cleaning efficiency



Material of edging							Steel		Stainless steel	
Material to be processed							Steel | Cast steel		Stainless steel | Non-ferrous metal | Aluminium	
Head Ø (mm)	Length of bristles (mm)	Length (mm)	Wire Ø (mm)	Number of braids (PCS)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76096... Ident. No.		76096... Ident. No.	
20	29	44	0.25	6	20000	5	111	●	011	●
23	29	44	0.35	8	20000	5	121	●	021	●
30	29	44	0.35	12	20000	5	131	●	031	●

Prod. Gr. 6CM

ATORN Wire end brushes with crimped stranded wire

Shank diameter 6 mm, for use on high-speed machines and power tools

Application:
For roughening, deburring, stripping paint or removing burrs, rust and combustion residues in hard-to-reach places in steel machining.

Execution:
- 3-4 brass-plated steel wires with single wire diameters of 0.2 mm braided into rope construction
- spring hardened and tough

Notes:
Not suitable for VA machining.

Material of edging						Steel	
Material to be processed						Steel | Wood	
Head Ø (mm)	Length of bristles (mm)	Length (mm)	Wire Ø (mm)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76097... Ident. No.	
11	20	40	0.20	20000	5	121	●
16	25	45	0.20	20000	5	171	●
22	25	45	0.20	18000	5	241	●
28	30	45	0.20	15000	5	301	●

Prod. Gr. 6CM

LESSMANN® Surface brushes with crimped wire

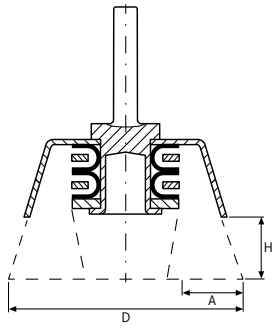
Shank diameter 6 mm, for use on high-speed machines and power tools

Application:
For cleaning and deburring small and medium surfaces.

Execution:
- Use for fast-running machines
- Thick bristles guarantee a long service life

Advantage:
- Thick bristles guarantee a long service life

Technical data:
- Wire diameter: 0.30 mm
- Number of pieces per packet: 10 PCS



Ident. No. 300

Ident. No. 305

Material of edging				Steel		Stainless steel	
D (mm)	A (mm)	H (mm)	Max. rotation speed (rpm)	76099... Ident. No.		76099... Ident. No.	
50	22	20	10500	300	●	305	●
70	30	25	6000	310	●	315	●

Prod. Gr. 6CL

ATORN miniature brushes round/pot/wire end brushes

Shank Ø 2.34 mm

Application:
For cleaning and polishing as well as for light deburring work in holes and cavities. Due to the low trim width, targeted processing is possible in hard-to-reach spots.

Notes:
Brushes with natural trim can be used with polishing pastes for a better result.
Brushes with flexible nylon diamond trim: Restoration and breakage resistance even under heavy load and deformation. Suitable for machining very hard parts such as ceramic parts, hardened parts, precision components etc.

Ident. No. 011

Ident. No. 240

Ident. No. 330

Type	Shank Ø (mm)	Brush Ø (mm)	Design	Material of edging	Wire Ø (mm)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76086... Ident. No.	
Cylinder wire brush	2.34	16	Corrugated	Steel	0.10	25000	12	001	●
Cylinder wire brush	2.34	22	Corrugated	Steel	0.10	25000	12	005	●
Cylinder wire brush	2.34	32	Corrugated	Steel	0.10	15000	12	009	●
Cylinder wire brush	2.34	16	Corrugated	Stainless steel	0.10	25000	12	011	●
Cylinder wire brush	2.34	16	Corrugated	Brass	0.10	25000	12	021	○
Cylinder wire brush	2.34	22	Corrugated	Brass	0.10	25000	12	025	○
Cylinder wire brush	2.34	16	-	Natural bristle goat hair	-	25000	12	031	○
Cylinder wire brush	2.34	22	-	Natural bristle goat hair	-	25000	12	035	○
Cylinder wire brush	2.34	17	-	Nylon diamond grain 400	-	25000	2	041	●
Cylinder wire brush	2.34	22	-	Nylon diamond grain 400	-	25000	2	045	●
Wire cup brush	2.34	18	Corrugated	Steel	0.10	20000	12	200	●
Wire cup brush	2.34	18	Corrugated	Stainless steel	0.10	20000	12	210	●
Wire cup brush	2.34	18	Corrugated	Brass	0.10	20000	12	220	●
Wire cup brush	2.34	18	-	Natural bristle goat hair	-	20000	12	230	○
Wire cup brush	2.34	18	-	Nylon diamond grain 400	-	20000	12	240	●
Wire end brush	2.34	5	Corrugated	Steel	0.10	5000	12	300	○
Wire end brush	2.34	5	Corrugated	Stainless steel	0.10	5000	12	310	●
Wire end brush	2.34	5	Corrugated	Brass	0.10	5000	12	320	●
Wire end brush	2.34	5	-	Natural bristle goat hair	-	5000	12	330	○
Wire end brush	2.34	5	-	Nylon diamond grain 400	-	5000	12	340	●

Prod. Gr. 6CN

ATORN miniature brushes round/pot/wire end brushes

Shank Ø 3 mm

Application:
For cleaning and polishing as well as for light deburring work in holes and cavities. Due to the low trim width, targeted processing is possible in hard-to-reach spots.

Notes:
Brushes with natural trim can be used with polishing pastes for a better result.
Brushes with flexible nylon diamond trim: Restoration and breakage resistance even under heavy load and deformation. Suitable for machining very hard parts such as ceramic parts, hardened parts, precision components etc.

Ident. No. 121

Ident. No. 290

Ident. No. 370

Type	Shank Ø (mm)	Brush Ø (mm)	Design	Material of edging	Wire Ø (mm)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76086... Ident. No.	
Cylinder wire brush	3.0	16	Corrugated	Steel	0.10	25000	12	101	●
Cylinder wire brush	3.0	22	Corrugated	Steel	0.10	25000	12	105	●
Cylinder wire brush	3.0	32	Corrugated	Steel	0.10	15000	12	109	●
Cylinder wire brush	3.0	16	Corrugated	Stainless steel	0.10	25000	12	111	●
Cylinder wire brush	3.0	22	Corrugated	Stainless steel	0.10	25000	12	115	●
Cylinder wire brush	3.0	16	Corrugated	Brass	0.10	25000	12	121	●
Cylinder wire brush	3.0	22	Corrugated	Brass	0.10	25000	12	125	●
Cylinder wire brush	3.0	16	-	Natural bristle goat hair	-	25000	12	131	●
Cylinder wire brush	3.0	22	-	Natural bristle goat hair	-	25000	12	135	●
Wire cup brush	3.0	18	Corrugated	Steel	0.10	20000	12	260	●
Wire cup brush	3.0	18	Corrugated	Stainless steel	0.10	20000	12	270	●
Wire cup brush	3.0	18	Corrugated	Brass	0.10	20000	12	280	●
Wire cup brush	3.0	18	-	Natural bristle goat hair	-	20000	12	290	●
Wire end brush	3.0	5	Corrugated	Steel	0.10	5000	12	360	●
Wire end brush	3.0	5	Corrugated	Stainless steel	0.10	5000	12	370	●
Wire end brush	3.0	5	Corrugated	Brass	0.10	5000	12	380	●
Wire end brush	3.0	5	-	Natural bristle goat hair	-	5000	12	390	●

Prod. Gr. 6CN

LESSMANN® Micro-abrasive pipe brushes with sanding bristles

For use on drills

Application:

Ident. No. 000–030: Particularly suitable for deburring bores, horizontal bore holes or O-ring inserts in complex workpieces, as well as for polishing and cleaning nozzles and small holes.

Ident. No. 035–055: The micro pipe brush is used for cleaning, deburring, edge rounding, polishing, grinding and structuring.

Execution:

- **Ident. No. 000–030:**
  - Internal cleaning brushes with galvanised twisted wire and a basic spiral of bristles: - Aluminium oxide (AO) sanding bristles: for finishing soft metals, for polishing and smoothing and for processing of aluminium while smoothing or polishing. - Sanding bristles made of silicon carbide (SIC): for optimum deburring results, for surface repair/processing and especially for processing aluminium and stainless steel.
  - Aluminium oxide (AO) sanding bristles are suitable for finishing soft metals, for polishing and smoothing, and for processing aluminium during smoothing or polishing.
  - Sanding bristles made of silicon carbide (SIC) are suitable for optimum deburring results, for surface repair/processing and especially for processing aluminium and stainless steel
- **Ident. No. 035–055:** The high-quality sanding bristles with silicon carbide meet these special requirements.

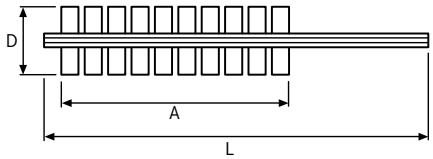
Advantage:

- **Ident. No. 000–030:** Can be used flexibly as a conventional internal cleaning brush due to sanding bristles

Notes:

Ident. No. 000–030: When using the brushes on a machine, always observe the specified max. rotation speed (max. RPM)

Ident. No. 000



Ident. No. 000–030

Grid size	Wire Ø (mm)	D (mm)	L (mm)	A (mm)	Shank Ø (mm)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76099... Ident. No.	
AO 600	0.30	3.2	125	25	1.5	800	10	000	●
AO 600	0.30	4.2	125	25	2.2	1000	10	005	●
AO 600	0.30	4.8	125	25	2.2	1000	10	010	●
AO 600	0.30	5.5	125	25	2.2	1000	10	015	●
AO 600	0.30	6.6	125	25	2.5	1000	10	020	●
AO 600	0.30	8.2	125	25	3.2	2000	10	025	●
AO 600	0.30	9.8	125	25	3.2	2000	10	030	●
SIC 120	0.60	10	125	65	3.7	2000	10	035	●
SIC 120	0.60	13	125	65	3.7	2000	10	040	●
SIC 120	0.60	16	125	65	5.2	2000	10	045	●
SIC 120	0.60	19	125	65	5.2	2000	10	050	●
SIC 120	0.60	25	125	65	5.7	2000	10	055	●

Prod. Gr. 6CL

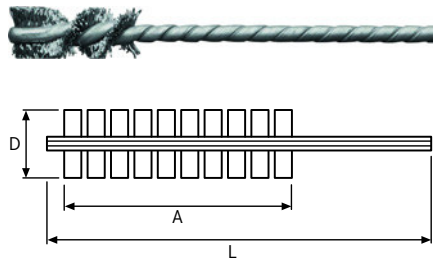
LESSMANN® Micro abrasive tube brushes with steel wire trim

Shank diameter 3.8 mm, for manual use or use on drills

Application:
Used as thread brushes for descaling, deburring or cleaning e. g. transverse intersections, drilling overlaps, threaded drill holes or grooves. For polishing and cleaning nozzles and small holes

Execution:
- Micro pipe brushes (IBH) with steel wire are internal cleaning brushes with steel wire bristles, and are used as thread brushes for descaling, deburring or cleaning e.g. transverse intersections, drilling overlaps, threaded drill holes or grooves. The brushes can be used either manually or with a machine.

Notes:
When using the brushes on a machine, always observe the specified max. rotation speed (max. RPM)



Wire Ø (mm)	D (mm)	L (mm)	A (mm)	Max. rotation speed (rpm)	Number of pieces per packet (PCS)	76099... Ident. No.	
0.12	10	90	25	3500	10	100	●
0.12	13	90	25	3500	10	105	●
0.12	16	90	25	3000	10	110	●
0.20	19	90	25	3000	10	114	●
0.20	25	90	25	3000	10	120	●

Prod. Gr. 6CL

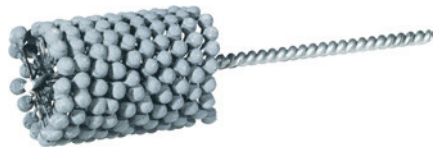
Flex-Hone honing brush

Grain size 180 SiC, for hydraulic cylinders and small engine cylinders, etc.

Application:
For easy and fast honing on any machine system, including hand drills.

Execution:
- Small abrasive bearings are permanently attached to strong nylon brushes
- Brush rotates during insertion and removal and thus produces accurate cross grinding
- Place your order using the actual cylinder diameter: All honing brushes have a 10-12% larger diameter than the respective specified diameter.

Advantage:
- No risk of breakage unlike standard honing stones.
- Saves time-consuming adjustments to the diameter
- Extremely flexible application, can be used on any machine system



		Grid size	180	
Suitable for bore Ø (mm)	Filling length (mm)	Length (mm)	69546... Ident. No.	
4.0	20	150	010	●
4.5	20	150	015	●
5.0	40	200	020	●
5.5	40	200	025	●
6.4	60	200	030	●
7.0	60	200	035	●
9.0	60	200	045	●
9.5	60	200	050	●
10.0	60	200	055	●
11.0	60	150	060	●
12.0	60	200	065	●
12.7	60	200	070	●
14.0	60	200	075	●
16.0	60	200	080	●
18.0	60	200	085	●
19.0	60	200	090	●
20.0	60	200	095	●
22.2	60	150	100	●

		Grid size	180	
Suitable for bore Ø (mm)	Filling length (mm)	Length (mm)	69546... Ident. No.	
23.8	60	150	105	○
25.4	60	200	110	●
28.6	60	200	115	●
31.8	80	200	120	●
35.0	80	200	125	●
38.0	80	200	130	●
41.0	80	200	135	●
45.0	80	200	140	●
48.0	80	150	145	○
51.0	80	150	150	●
54.0	80	200	155	○
57.0	80	200	160	●
60.0	80	200	165	○
64.0	80	200	170	●
67.0	80	200	175	○
70.0	80	200	180	●
73.0	80	200	185	○
76.0	80	200	190	●

Prod. Gr. 6IB

osborn Novoflex-B tube brushes

Application:
Honing and deburring tool in high-end quality for internal machining

Execution:
- Flexible, self-centring honing tool
- Achieves a plateau finish
- Due to cross-hatch pattern, good carrier for oil film adhesion
- Can be used both on hand-held power tools as well as on honing machines
- Can also be used in CNC and NC machines, machining centres and automated machines as well as for clamping in tool spindles

Technical data:
- Length: 200 mm
- Material of edging: Silicon carbide

		Grid size	180		320		120	
		Material of edging	Silicon carbide		Silicon carbide		Silicon carbide	
Brush Ø (mm)	Suitable for bore Ø (mm)	Filling length (mm)	69546... Ident. No.		69546... Ident. No.		69546... Ident. No.	
5.5	5	40	349	○	350	○	-	-
7	6.5	40	358	○	359	●	357	○
8	7	50	362	○	363	●	-	-
9	8	50	365	○	366	○	364	○
10	9	50	368	○	369	●	367	○
11	10	60	301	○	302	○	300	○
12	11	60	304	○	305	●	303	○
13	12	60	307	○	308	●	306	○
15.5	14	60	310	○	311	○	309	○
18	16	60	313	○	314	●	312	○
20	18	60	316	○	317	○	315	○
22	20	70	319	○	320	●	318	○
25	22	70	322	○	323	○	321	○
27	24	70	325	○	326	●	324	○
28	25	70	328	○	329	●	327	○
30	27	70	331	○	332	●	330	○
32	29	70	334	○	335	○	333	○
35	32	70	337	○	338	○	336	○
38	35	70	340	○	-	-	339	○
41	38	70	342	○	-	-	341	○
45	41	70	344	○	-	-	343	○
48	45	70	346	○	-	-	345	○
51	48	70	348	○	-	-	347	○
54	51	70	352	○	-	-	351	○
57	54	70	354	○	-	-	353	○
60	57	70	356	○	-	-	355	○
64	60	70	361	○	-	-	360	○

Prod. Gr. 6OS

ATORN ATORN disc brushes

With dense sanding bristle trim (full trim) fully encapsulated in the plastic disc

Application:
On CNC machining centres and with the use of robots, preferably in wet sanding with cooling lubricant. Machining of flat components: precise deburring, edge rounding, fine machining after milling, surface finishing of e.g. sealing and contact surfaces.

Execution:
- with longitudinal slot for clamping on face mill arbours (DIN 6357) and combination mill arbours (DIN 6358) - no additional accessories required
- Disc brushes with dense sanding bristle trim (full trim) firmly moulded into the plastic disc
- **Ident. No. 610–695:** Ideally suited for the machining of aluminium

Advantage:
- Post-machining directly after the cutting process - without changing the geometry of the workpiece
- Continuously released abrasive grain ensures reproducible results
- Very high dimensional stability and accuracy
- Controllable wear properties to end of tool life - no bristle breakage
- 4 x higher trim density produced than in conventional process (stamped)

Notes:
Infeed with brushes of diameter 50: 0.3 mm (fine)-1.0 mm (coarse) infeed with brushes dia. 76-150: 0.8 mm (fine)-1.5 mm (coarse) Other designs available on request

Technical data:
- Filling length: 35 mm

Ident. No. 510

Ident. No. 610

Brush Ø (mm)	Bore Ø (mm)	Disc Ø (mm)	Grid size	Min./max. rotation speed	Min./max. feed speed	76098... Ident. No.	
45	16	50	80	2200-2500 rpm	2000-4500 mm/min	610	●
45	16	50	120	2200-2500 rpm	2000-4500 mm/min	613	●
70	22	76	80	1900-2300 rpm	2500-5000 mm/min	630	●
70	22	76	120	1900-2300 rpm	2500-5000 mm/min	633	●
100	22	106	80	1400-1700 rpm	3000-5500 mm/min	650	●
100	22	106	120	1400-1700 rpm	3000-5500 mm/min	653	●
119	27	125	80	1100-1400 rpm	3500-6500 mm/min	670	●
119	27	125	120	1100-1400 rpm	3500-6500 mm/min	673	●
145	32	150	80	1000-1200 rpm	4500-8000 mm/min	690	●
145	32	150	120	1000-1200 rpm	4500-8000 mm/min	693	●
45	16	50	180	2200-2500 rpm	2000-4500 mm/min	615	●
70	22	76	180	1900-2300 rpm	2500-5000 mm/min	635	●
100	22	106	180	1400-1700 rpm	3000-5500 mm/min	655	●
119	27	125	180	1100-1400 rpm	3500-6500 mm/min	675	●
145	32	150	180	1000-1200 rpm	4500-8000 mm/min	695	●

Prod. Gr. 6CR

HSS and cemented carbide milling bits
For electric and compressed air operated machines and systems with flexible shafts

Recommendations for use:

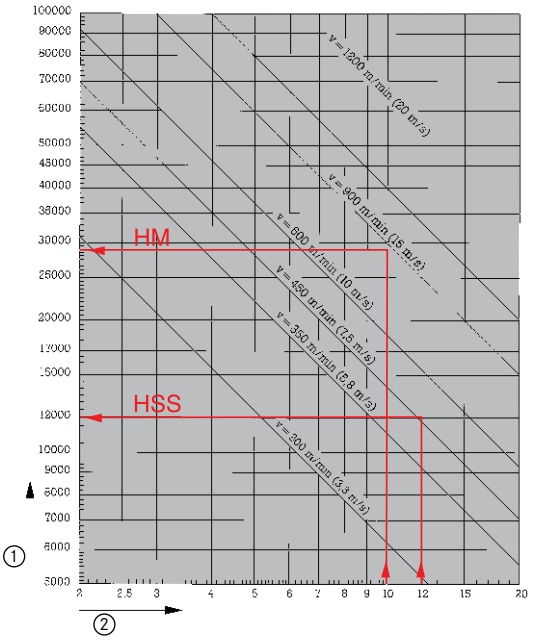
Optimal rotation speed and performance of the tool drive (compressed air, electrics, flexible shaft) are crucial for efficient use of cemented carbide milling bits.

- Use the highest possible rotation speeds within the recommended ranges of rotation speed/cutting speed.
- Pay particular attention to the rotation speed recommendations when working with materials with poor thermal conductivity, such as stainless steel, titanium alloys etc. so that you do not damage the tool. Blue colouration of the shaft and tool should be avoided.
- Only use clamping systems/drives without play; knocking and rattling of the tools results in premature wear.
- Do not choose a milling bit clamping length that is too small. Rule: Minimum clamping length 2/3 of the shaft length.

When selecting the milling bits, take into account the material to be processed and the rotation speed.

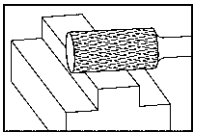
To determine the correct rotation speed range for the particular HSS or cemented carbide burr in your application, please note the following:

- Choose the toothing you want based on the material that will be processed and the resulting cutting speed.
- Find your required cutting diameter and the calculated cutting speed for the chosen toothing in the diagram on the right. The point where the lines cross gives you the required rotation speed range.

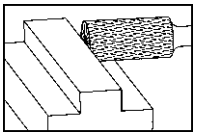


① Rotation speed (rpm), ② Cutting diameter (mm)

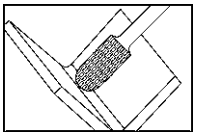
Milling bit shapes and their applications:



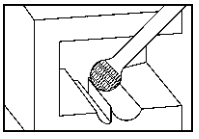
Shape: Cylindrical without end cut (ZYA)



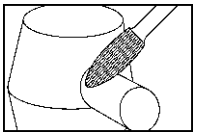
Shape: Cylindrical with end cut (ZYAS)



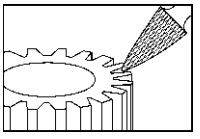
Shape: Cylindrical with radius end (WRC)



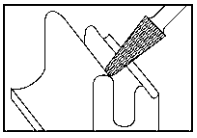
Shape: Ball (KUD)



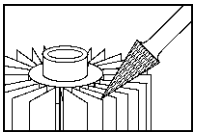
Shape: Flame (SH)



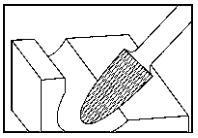
Shape: Pointed tree shape (SPG)



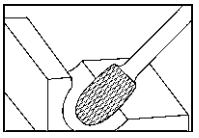
Shape: Conical shape with radius end (KEL)



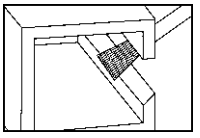
Shape: Tip cone (SKM)



Shape: Tree shape with radius end (RBF)



Shape: Oval (TRE)



Shape: Inverted cone (WKN)

ATORN Carbide bur (DIN 8033 similar)
Shank diameter: 3 mm

HM

	Form	Cutting edge Ø x cutting edge length	Shank Ø (mm)	Length (mm)	Serration type 2 — 76003... Ident. No.		Serration type 6 — 76003... Ident. No.	
	Flame configuration	3 x 6 mm	3	38	204	●	-	-
	Flame configuration	3 x 6 mm	3	38	-	-	201	●
	Ball shape	3 x 2 mm	3	38	144	●	-	-
	Ball shape	3 x 2 mm	3	38	-	-	141	●
	Ball shape	6 x 5 mm	3	38	154	●	-	-
	Ball shape	6 x 5 mm	3	38	-	-	151	●
	Semicircular shape	3 x 14 mm	3	38	234	●	-	-
	Semicircular shape	3 x 14 mm	3	38	-	-	231	●
	Semicircular shape	6 x 12 mm	3	45	244	●	-	-
	Semicircular shape	6 x 12 mm	3	45	-	-	241	●
	Cone with rounded end	3 x 14 mm	3	38	374	●	-	-
	Cone with rounded end	3 x 14 mm	3	38	-	-	371	●
	Cone with rounded end	6 x 15 mm	3	48	384	●	381	●
	Ogive shape	3 x 12 mm	3	38	264	●	-	-
	Ogive shape	3 x 14 mm	3	38	-	-	261	●
	Ogive shape	6 x 12 mm	3	45	274	●	-	-

	Form	Cutting edge Ø x cutting edge length	Shank Ø (mm)	Length (mm)	Serration type 2 76003... Ident. No.		Serration type 6 76003... Ident. No.	
	Ogive shape	6 x 12 mm	3	45	-	-	271	●
	Conical pointed	3 x 11 mm	3	38	284	●	281	●
	Conical pointed	6 x 12 mm	3	50	294	●	291	●
	Drop shape	3 x 6 mm	3	38	214	●	211	●
	Drop shape	6 x 10 mm	3	42	224	●	-	-
	Drop shape	6 x 10 mm	3	42	-	-	221	●
	Cylindrical shape	2 x 11 mm	3	38	104	●	-	-
	Cylindrical shape	2 x 11 mm	3	38	-	-	101	●
	Cylindrical shape	3 x 12 mm	3	38	114	●	-	-
	Cylindrical shape	3 x 14 mm	3	38	-	-	111	●
	Cylindrical shape	6 x 12 mm	3	45	124	●	-	-
	Cylindrical shape	6 x 12 mm	3	45	-	-	121	●
	Angle milling cutter shape	3 x 4 mm	3	38	324	●	-	-
	Angle milling cutter shape	3 x 4 mm	3	38	-	-	321	●
	Cylindrical shape with spur cut	3 x 14 mm	3	38	064	●	-	-
	Cylindrical shape with spur cut	3 x 14 mm	3	38	-	-	061	●
	Cylindrical shape with spur cut	6 x 12 mm	3	45	-	-	081	●
	Cylindrical shape with spur cut	6 x 12 mm	3	45	084	●	-	-
	Cylindrical	3 x 14 mm	3	38	024	●	-	-
	Cylindrical	3 x 14 mm	3	38	-	-	021	●
	Cylindrical	6 x 12 mm	3	45	044	●	-	-
	Cylindrical	6 x 12 mm	3	45	-	-	041	●

Prod. Gr. 6CG

ATORN Carbide bur set (DIN 8033 similar)

10-piece, shaft diameter 3 mm, toothing 2

Application:

For deburring and finishing work on cast parts, roughly machined workpieces or welding seams - can be used in hand-held power tools or on stationary machines.

Execution:

- For use with steel, stainless steel, cast iron
- Cutting speed: 450-900 m/min
- precise spindle bearing with high concentricity required

Technical data:

- Shank diameter: 3 mm
- Composition of set: 1x ZYA 0312/3 cut 2 bur, 1x WRC 0312/3 cut 2 bur, 1x KUD 0303/3 cut 2 bur, 1x TRE 0306/3 cut 2 bur, 1x RBF 0312/3 cut 2 bur, 1x SPG 0312/3 cut 2 bur, 1x B 0306/3 cut 2 bur, 1x KEL 0312/3 cut 2 bur, 1x SKM 0311/3 cut 2 bur, 1x WKN 0303/3 cut 2 bur
- Serration type: 2
- Number of pieces in assortment/set: 10 PCS

76003...	Ident. No.	921 ●

Prod. Gr. 6CG

ATORN Carbide bur (DIN 8033 similar)

Shank diameter: 6 mm

HM

	Form	Cutting edge Ø x cutting edge length	Shank Ø (mm)	Length (mm)	Serration type 6 76006... Ident. No.		Serration type 2 76006... Ident. No.		Aluminium 76006... Ident. No.	
	Flame configuration	8 x 20 mm	6	64	651	●	-	-	-	-
	Flame configuration	12 x 32 mm	6	77	661	●	-	-	-	-
	Ball shape	6 x 5 mm	6	50	321	●	-	-	-	-
	Ball shape	8 x 6 mm	6	52	331	●	-	-	-	-
	Ball shape	10 x 8 mm	6	54	341	●	-	-	-	-
	Ball shape	12 x 11 mm	6	56	-	-	354	●	350	●
	Ball shape	12 x 11 mm	6	56	351	●	-	-	-	-
	Ball shape	15 x 14 mm	6	59	361	●	-	-	-	-
	Ball shape	10 x 8 mm	6	54	-	-	-	-	340	●
	Semicircular shape	6 x 18 mm	6	50	421	●	-	-	-	-
	Semicircular shape	10 x 20 mm	6	64	441	●	-	-	-	-
	Semicircular shape	12 x 25 mm	6	70	451	●	-	-	-	-
	Semicircular shape	10 x 20 mm	6	64	-	-	-	-	440	●
	Semicircular shape	12 x 25 mm	6	70	-	-	-	-	450	●
	Semicircular shape	8 x 20 mm	6	65	431	●	-	-	-	-
	Cone with rounded end	6 x 18 mm	6	50	761	●	-	-	-	-
	Cone with rounded end	10 x 30 mm	6	76	771	●	-	-	-	-
	Cone with rounded end	12 x 32 mm	6	77	781	●	-	-	780	●

	Form	Cutting edge Ø x cutting edge length	Shank Ø (mm)	Length (mm)	Serration type 6		2		Aluminium	
					76006... Ident. No.		76006... Ident. No.		76006... Ident. No.	
	Cone with rounded end	10 x 30 mm	6	76	-	-	-	-	770	●
	Ogive shape	6 x 18 mm	6	50	611	●	-	-	-	-
	Ogive shape	8 x 20 mm	6	64	621	●	-	-	-	-
	Ogive shape	10 x 20 mm	6	64	631	●	-	-	-	-
	Ogive shape	12 x 25 mm	6	70	-	-	644	●	-	-
	Ogive shape	12 x 25 mm	6	70	641	●	-	-	-	-
	Conical pointed	6 x 20 mm	6	50	711	●	-	-	-	-
	Conical pointed	10 x 20 mm	6	64	731	●	-	-	-	-
	Conical pointed	12 x 25 mm	6	71	741	●	-	-	-	-
	Drop shape	6 x 10 mm	6	50	371	●	-	-	-	-
	Drop shape	10 x 15 mm	6	60	381	●	-	-	-	-
	Drop shape	12 x 22 mm	6	67	391	●	-	-	-	-
	Cylindrical shape	6 x 18 mm	6	50	201	●	-	-	-	-
	Cylindrical shape	8 x 20 mm	6	64	-	-	214	●	-	-
	Cylindrical shape	8 x 20 mm	6	64	211	●	-	-	-	-
	Cylindrical shape	10 x 20 mm	6	64	221	●	-	-	-	-
	Cylindrical shape	12 x 25 mm	6	70	-	-	234	●	-	-
	Cylindrical shape	12 x 25 mm	6	70	231	●	-	-	-	-
	Cylindrical shape	10 x 20 mm	6	64	-	-	-	-	220	●
	Cylindrical shape	12 x 25 mm	6	70	-	-	-	-	230	●
	Cylindrical shape with spur cut	6 x 18 mm	6	50	011	●	-	-	-	-
	Cylindrical shape with spur cut	8 x 20 mm	6	64	021	●	-	-	-	-
	Cylindrical shape with spur cut	10 x 20 mm	6	64	061	●	-	-	-	-
	Cylindrical shape with spur cut	12 x 25 mm	6	70	081	●	-	-	-	-
	Cylindrical shape with spur cut	10 x 20 mm	6	64	-	-	-	-	060	●
	Cylindrical shape with spur cut	12 x 25 mm	6	70	-	-	-	-	080	●
	Cylindrical	6 x 18 mm	6	50	101	●	-	-	-	-
	Cylindrical	8 x 20 mm	6	64	111	●	-	-	-	-
	Cylindrical	10 x 20 mm	6	64	121	●	-	-	-	-
	Cylindrical	12 x 25 mm	6	70	-	-	134	●	-	-
	Cylindrical	12 x 25 mm	6	70	131	●	-	-	-	-
	Cylindrical	10 x 20 mm	6	64	-	-	-	-	120	●
	Cylindrical	12 x 25 mm	6	70	-	-	-	-	130	●

Prod. Gr. 6CG

ATORN Carbide bur sets (DIN 8033 similar)

Shaft diameter 6 mm, teeth 6

Application:

For deburring and finishing work on cast parts, roughly machined workpieces or welding seams - can be used in hand-held power tools or on stationary machines.

Execution:

- Cutting speed: 450-900 m/min
- precise spindle bearing with high concentricity required

- **Ident. No. 920:** For use with cast iron, unhardened steel, tool steel and alloyed stainless steel
- **Ident. No. 931:** universal application for metals of all kinds (excl. aluminium)

Advantage:

- **Ident. No. 920:** with TiAlN coating for longer service life, strength and effective manufacture

Ident. No. 920

Ident. No. 931

Shank Ø (mm)		6	6
Composition of set		1x ZYA 1020/6 cut 6 TiAlN bur, 1x WRC 1225/6 cut 6 TiAlN bur, 1x RBF 1225/6 cut 6 TiAlN bur, 1x SPG 1020/6 cut 6 TiAlN bur, 1x KEL 1228/6 cut 6 TiAlN bur	1x ZYA 1020/6 cut 6 bur, 1x ZYA 1225/6 cut 6 bur, 1x WRC 1020/6 cut 6 bur, 1x WRC 1225/6 cut 6 bur, 1x KUD 1210/6 cut 6 bur, 1x TRE 1016/6 cut 6 bur, 1x RBF 1225/6 cut 6 bur, 1x SPG 1020/6 cut 6 bur, 1x SPG 1225/6 cut 6 bur, 1x KEL 1230/6 cut 6 bur
Serration type		6	6
Number of pieces in assortment/set (PCS)		5	10
76006...	Ident. No.	920 ●	931 ●

Prod. Gr. 6CG

Carbide bur (DIN 8033)

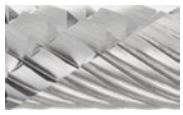
Shank diameter: 3 mm

	Form	Angle	Cutting edge Ø x cutting edge length	Length (mm)	Model	Serration type 5 76008... Ident. No.		Serration type 63 76008... Ident. No.	
	Conical countersink shape 90°	60	3 x 2.5 mm	38	TCL 0303	315	●	-	-
	Ball shape	-	2 x 2.3 mm	38	TCD 0203	135	●	136	●
	Ball shape	-	3 x 2.8 mm	38	TCD 0303	145	●	146	●
	Ball shape	-	4 x 4.5 mm	35	TCD 0403	155	●	156	●
	Ball shape	-	6 x 5.0 mm	35	TCD 0603	165	●	166	●
	Semicircular shape	-	3 x 7.0 mm	38	TCG 0303	225	●	226	●
	Semicircular shape	-	3 x 13.0 mm	40	TCG 0313	235	●	236	●
	Semicircular shape	-	6 x 13.0 mm	43	TCG 0603	245	●	246	●
	Ogive shape	-	3 x 7.0 mm	38	TCH 0303	255	●	256	●
	Ogive shape	-	6 x 13.0 mm	43	TCH 0603	275	●	276	●
	Conical pointed	-	3 x 10.0 mm	40	TCI 0303	285	●	286	●
	Conical pointed	-	3 x 13.0 mm	40	TCI 0313	295	●	296	●
	Conical pointed	-	6 x 13.0 mm	43	TCI 0603	305	●	306	●
	Drop shape	-	6 x 13.0 mm	43	TCF 0603	-	-	216	●
	Cylindrical shape	-	2 x 10.0 mm	40	TCC 0203	105	●	106	●
	Cylindrical shape	-	3 x 13.0 mm	40	TCC 0303	115	●	116	●
	Cylindrical shape	-	6 x 13.0 mm	43	TCC 0603	125	●	126	●
	Angle milling cutter shape	-	3 x 7.0 mm	40	TCN 0303	-	-	336	●
	Angle milling cutter shape	-	6 x 7.0 mm	43	TCN 0603	345	●	346	●
	Cylindrical	-	2 x 10.0 mm	40	TCA 0203	015	●	016	●
	Cylindrical	-	3 x 13.0 mm	40	TCA 0303	025	●	026	●
	Cylindrical	-	4 x 10.0 mm	40	TCA 0403	035	●	036	●
	Cylindrical	-	5 x 5.0 mm	35	TCA 0503	045	●	046	●
	Cylindrical	-	6 x 13.00 mm	44	TCA 0603	055	●	056	●

Prod. Gr. 761

PFERD cemented carbide milling bits
Shaft diameter 3 and 6 mm, toothing 3 Plus

Application:
Deburring, processing contours, chamfering/rounding edges, milling out for preparation of deposit welds, preparation/levelling of welding seams, fettling, altering geometries.



PFERD TOOTHING 3 PLUS:
universal staggered tooth system for roughing

Cutting speed:
steels up to 1200 N/mm² (< 38 HRC); cast iron: 450–600 m/min
Hardened, tempered steels over 1200 N/mm² (> 38 HRC); stainless steel: 250-350 m/min
Nickel-based and cobalt-based alloys: 250-450 m/min

Carbide burs
Shaft diameter 3 mm, toothing 3 Plus (according to DIN 8033)

	Form	Head Ø x cutting edge length	Length (mm)	Serration type 3 PLUS 76007... Ident. No.	
	Ball shape	3 x 2 mm	33	410	●
	Ball shape	4 x 3 mm	34	415	●
	Ball shape	6 x 5 mm	35	420	●
	Conical pointed	3 x 11 mm	41	610	●
	Conical pointed	6 x 13 mm	43	615	●
	Cylindrical shape	3 x 13 mm	43	460	●
	Cylindrical shape	6 x 13 mm	43	465	●
	Cylindrical shape with spur cut	2 x 10 mm	40	360	●
	Cylindrical shape with spur cut	3 x 13 mm	43	365	●
	Cylindrical shape with spur cut	6 x 13 mm	43	370	●

Prod. Gr. 6AB

Carbide burs
Shaft diameter 6 mm, toothing 3 Plus (according to DIN 8033)

	Form	Head Ø x cutting edge length	Length (mm)	Serration type 3 PLUS 76007... Ident. No.	
	Flame configuration	8 x 20 mm	60	500	●
	Flame configuration	12 x 30 mm	70	505	●
	Flame configuration	16 x 35 mm	75	510	●
	Ball shape	6 x 5 mm	45	425	●
	Ball shape	8 x 7 mm	47	430	●
	Ball shape	10 x 9 mm	49	435	●
	Conical pointed	6 x 18 mm	55	620	●
	Conical pointed	10 x 20 mm	60	625	●
	Conical pointed	12 x 25 mm	65	630	●
	Cylindrical shape	8 x 20 mm	60	475	●
	Cylindrical shape	10 x 20 mm	60	480	●
	Cylindrical shape	12 x 25 mm	65	485	●
	Cylindrical shape with spur cut	6 x 16 mm	55	375	●
	Cylindrical shape with spur cut	8 x 20 mm	60	380	●
	Cylindrical shape with spur cut	10 x 20 mm	60	385	●
	Cylindrical shape with spur cut	12 x 25 mm	65	390	●
	Cylindrical shape with spur cut	16 x 25 mm	65	395	●

Prod. Gr. 6AB

Carbide bur sets
5 carbide burs, shaft diameter 6 mm, toothing 3 PLUS

Application:
For deburring, processing contours, fettling, altering geometries.

Execution:
- Five carbide milling bits in a break-resistant plastic box. Five additional spaces are available to be equipped by the user as necessary.

Delivery:
Ident. No. 750: ZYA 0616/6 Z3 PLUS, KUD 0605/6 Z3 PLUS, WRC 0616/6 Z3 PLUS, SPG 0618/6 Z3 PLUS, RBF 0618/6 Z3 PLUS
Ident. No. 760: ZYA 1225/6 Z3 PLUS, KUD 1210/6 Z3 PLUS, WRC 1225/6 Z3 PLUS, SPG 1225/6 Z3 PLUS, RBF 1225/6 Z3 PLUS

Technical data:
- Number of pieces in assortment/set: 5

Head Ø (mm)		6	12
76007...	Ident. No.	750 ●	760 ●

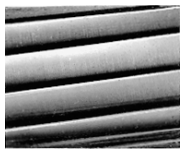
Prod. Gr. 6AB

Ident. No. 760

Ident. No. 750

ATORN HSS milling bits
Shank diameter 6 mm

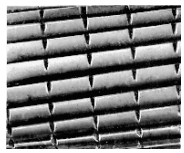
Application:
For deburring, chamfering, milling, contour milling, fettling and for welding seam machining.



TOOTHING 1:
Very rough toothing for soft materials, without chip breaker groove

Cutting speed:
200-300 m/min

Material: Aluminium (long-chipping), light metal alloys, lead, tin, plastic materials (thermoplastics and duroplastics) fibre, rubber, wood



TOOTHING 2:
Robust plain toothing, with chip breaker groove

Cutting speed:
150-300 m/min

Material: Light metal (short-chipping), brass, copper, electrolyte, red bronze, bronze, zinc, magnesium alloy

TOOTHING 3:
Medium plain toothing, with chip breaker groove

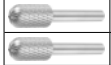
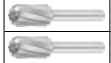
Cutting speed:
60-180 m/min

Material: steel and steel casting, alloyed and unalloyed

ATORN HSS bur
Shank diameter: 6 mm

HSS

					Serration type	2		3		1	
	Cutting edge Ø x cutting edge length	Shank Ø (mm)	Form	Length (mm)	76001... Ident. No.				76001... Ident. No.		
	12.0 x 30 mm	6	Conical	70	292	●	-	-	-	-	
	8.0 x 7 mm	6	Ball shape	60	-	-	233	●	-	-	
	12.0 x 10 mm	6	Ball shape	60	-	-	243	●	-	-	
	6.0 x 5 mm	6	Ball shape	60	-	-	226	●	-	-	
	4.5 x 4 mm	6	Ball shape	60	-	-	223	●	-	-	
	16.0 x 14 mm	6	Ball shape	60	-	-	253	●	-	-	
	12.0 x 10 mm	6	Ball shape	60	-	-	-	-	241	●	
	8.0 x 7 mm	6	Ball shape	60	-	-	-	-	231	●	
	12.0 x 10 mm	6	Ball shape	60	242	●	-	-	-	-	
	4.5 x 4 mm	6	Ball shape	60	222	●	-	-	-	-	
	8.0 x 7 mm	6	Ball shape	60	232	●	-	-	-	-	
	16.0 x 14 mm	6	Ball shape	60	-	-	-	-	251	●	
	16.0 x 14 mm	6	Ball shape	60	252	●	-	-	-	-	
	16.0 x 30 mm	6	Cone with rounded end	70	-	-	363	●	-	-	
	16.0 x 30 mm	6	Cone with rounded end	70	-	-	-	-	361	●	
	16.0 x 30 mm	6	Cone with rounded end	70	362	●	-	-	-	-	
	12.0 x 30 mm	6	Ogive shape	70	-	-	303	●	-	-	
	6.0 x 18 mm	6	Ogive shape	58	-	-	183	●	-	-	
	16.0 x 30 mm	6	Ogive shape	70	-	-	-	-	351	●	
	16.0 x 30 mm	6	Ogive shape	70	-	-	353	●	-	-	
	12.0 x 30 mm	6	Ogive shape	70	302	●	-	-	-	-	
	12.0 x 20 mm	6	Ogive shape	60	272	●	-	-	-	-	
	16.0 x 30 mm	6	Ogive shape	70	352	●	-	-	-	-	
	12.0 x 20 mm	6	Ogive shape	60	-	-	273	●	-	-	
	6.0 x 18 mm	6	Ogive shape	58	182	●	-	-	-	-	

					Serration type	2		3		1	
	Cutting edge Ø x cutting edge length	Shank Ø (mm)	Form	Length (mm)	76001... Ident. No.		76001... Ident. No.		76001... Ident. No.	
	6.0 x 18 mm	6	Ogive shape	58	-	-	-	-	181	●
	12.0 x 30 mm	6	Conical pointed	70	-	-	313	●	-	-
	10.0 x 20 mm	6	Conical pointed	60	-	-	153	●	-	-
	6.0 x 18 mm	6	Conical pointed	58	-	-	193	●	-	-
	12.0 x 30 mm	6	Conical pointed	70	312	●	-	-	-	-
	12.0 x 30 mm	6	Conical pointed	70	-	-	-	-	311	●
	6.0 x 18 mm	6	Conical pointed	58	192	●	-	-	-	-
	10.0 x 20 mm	6	Conical pointed	60	152	●	-	-	-	-
	12.0 x 20 mm	6	Drop shape	60	-	-	263	●	-	-
	12.0 x 20 mm	6	Drop shape	60	262	●	-	-	-	-
	6.0 x 20 mm	6	Cylindrical shape	60	-	-	173	●	-	-
	12.0 x 25 mm	6	Cylindrical shape	65	-	-	323	●	-	-
	12.0 x 25 mm	6	Cylindrical shape	65	322	●	-	-	-	-
	6.0 x 20 mm	6	Cylindrical shape	60	172	●	-	-	-	-
	6.0 x 20 mm	6	Cylindrical shape	60	-	-	-	-	171	●
	12.0 x 25 mm	6	Cylindrical shape	65	-	-	-	-	321	●
	12.0 x 25 mm	6	Cylindrical	65	-	-	333	●	-	-
	6.0 x 16 mm	6	Cylindrical	56	-	-	163	●	-	-
	12.0 x 25 mm	6	Cylindrical	65	332	●	-	-	-	-
	6.0 x 16 mm	6	Cylindrical	56	162	●	-	-	-	-
	16.0 x 25 mm	6	Cylindrical	65	-	-	343	●	-	-
	12.0 x 25 mm	6	Cylindrical	65	-	-	-	-	331	●
	6.0 x 16 mm	6	Cylindrical	56	-	-	-	-	161	●
	10.0 x 13 mm	6	Cylindrical	53	-	-	113	●	-	-
	16.0 x 25 mm	6	Cylindrical	65	342	●	-	-	-	-
	16.0 x 25 mm	6	Cylindrical	65	-	-	-	-	341	●
	10.0 x 13 mm	6	Cylindrical	53	112	●	-	-	-	-

Prod. Gr. 6CF

ATORN Carbide burs

With innovative coating

HM

Application:

The new innovative ATORN NG6 carbide burs are the ideal solution for accelerating production processes in industrial applications where rapid material removal is required. Combined with the unique NG6 coating technology, the removal rate is up to twice that of leading premium-quality carbide burs

Execution:

- **Significantly increased material removal**
- Up to 82 % higher performance compared to conventional **double cuts** on the market
- **Aggressive geometry/chip chamber geometry**
- The new geometry significantly improves cutting performance and finishing options and reduces process costs in the case of heavy-duty removal applications.
- **NG6 coating technology from Oerlikon Balzers**
- The NG6 coating ensures the material removal rate is up to TWICE that of other high-quality end mills on the market
- **Comfortable working**
- Enables virtually vibration-free and controlled working, even during extreme roughing work, and leaves a smooth finish
- **New innovative geometry**
- The new chip space geometry features a clearance angle that significantly increases the service life of the carbide bur

Advantage:

- New innovative geometry
- NG6 coating technology
- Significantly less vibration
- Reduced component operating time

					Serration type	NG6	
	Form	Cutting edge Ø x cutting edge length	Shank Ø (mm)	Length (mm)	76006... Ident. No.		
	Ball shape	10 x 8 mm	6	53	302	●
	Ball shape	12 x 11 mm	6	56	307	●
	Semicircular shape	10 x 19 mm	6	64	303	●
	Semicircular shape	12 x 25 mm	6	70	308	●
	Ogive shape	10 x 19 mm	6	64	304	●
	Ogive shape	12 x 25 mm	6	70	309	●
	Cylindrical shape	10 x 19 mm	6	64	301	●

	Form	Cutting edge Ø x cutting edge length	Shank Ø (mm)	Length (mm)	Serration type NG6 76006... Ident. No.	
	Cylindrical shape	12 x 25 mm	6	70	306	●
	Cylindrical	10 x 19 mm	6	64	300	●
	Cylindrical	12 x 25 mm	6	70	305	●

Prod. Gr. 6CG

ATORN Carbide burs in set

With innovative coating

Application:
The new innovative ATORN NG6 carbide burs are the ideal solution for accelerating production processes in industrial applications where rapid material removal is required. Combined with the unique NG6 coating technology, the removal rate is up to twice that of leading premium-quality carbide burs

Execution:
- **Significantly increased material removal**
- Up to 82 % higher performance compared to conventional **double cuts** on the market
- **Aggressive geometry/chip chamber geometry**
- The new geometry significantly improves cutting performance and finishing options and reduces process costs in the case of heavy-duty removal applications.
- **NG6 coating technology from Oerlikon Balzers**
- The NG6 coating ensures the material removal rate is up to TWICE that of other high-quality end mills on the market
- **Comfortable working**
- Enables virtually vibration-free and controlled working, even during extreme roughing work, and leaves a smooth finish
- **New innovative geometry**
- The new chip space geometry features a clearance angle that significantly increases the service life of the carbide bur

Advantage:
- New innovative geometry
- NG6 coating technology
- Significantly less vibration
- Reduced component operating time

Technical data:
- Shank diameter: 6 mm
- Serration type: NG6

Ident. No. 311

Ident. No. 312

Ident. No. 313

Head Ø (mm)		10	12	10	12
Composition of set		1x ZYAS 1020/6 NG6 bur, 1x WRC 1020/6 NG6 bur, 1x KUD 1010/6 NG6 bur, 1x RBF 1020/6 NG6 bur, 1x SPG 1020/6 NG6 bur	1x ZYAS 1225/6 NG6 bur, 1x WRC 1225/6 NG6 bur, 1x KUD 1212/6 NG6 bur, 1x RBF 1225/6 NG6 bur, 1x SPG 1225/6 NG6 bur	1x ZYAS 1020/6 NG6 bur, 1x WRC 1020/6 NG6 bur, 1x RBF 1020/6 NG6 bur	1x ZYAS 1225/6 NG6 bur, 1x WRC 1225/6 NG6 bur, 1x RBF 1225/6 NG6 bur
Number of pieces in assortment/set (PCS)		5	5	3	3
76006...	Ident. No.	310 ●	311 ●	312 ●	313 ●

Prod. Gr. 6CG

PFERD TOOLS Poliflex® finishing tips, PUR bond

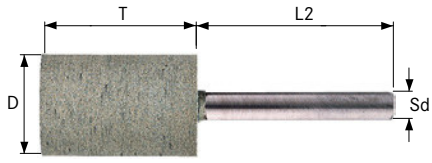
Cylindrical, silicon carbide, green

Application:
For preliminary grinding before polishing steel parts, stainless steel (INOX), titanium, light and non-ferrous metals as well as components for food and kitchen technology. For use on flexible shafts, electrical and pneumatic straight grinders. For achieving a fine, matte grinding pattern.

Advantage:
- Optimum contour following due to high flexibility
- Cool, very soft grinding thanks to open structure and elastic binding
- For achieving a fine, matt grinding finish

Notes:
Recommended cutting speed: 10–15 m/s

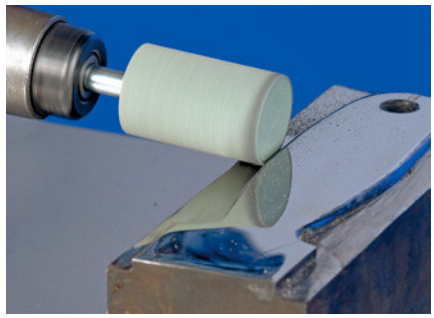
Technical data:
- Sd x L2: 6 x 40 mm



Cylindrical pin type

Grid size	D x T	Max. rotation speed (rpm)	Recommended rotation speed (rpm)	69200... Ident. No.	
80	15 x 30 mm	19000	12500	010	●
80	20 x 30 mm	14300	9500	015	●
80	25 x 30 mm	11400	7500	020	●
150	15 x 30 mm	19000	12500	025	●
150	20 x 30 mm	14300	9500	030	●
150	25 x 30 mm	11400	7500	035	●

Prod. Gr. 6AB



Example application

Poliflex® finishing tips, GR bond

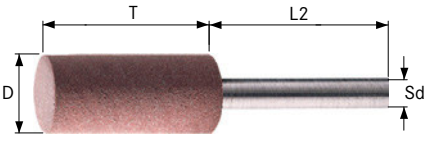
Cylindrical, corundum, pink

Application:
For finishing of surfaces. For use on flexible shafts, electric and compressed air straight grinders.

Advantage:
- For achieving a fine, polished grinding finish
- Soft, elastic binding for soft grinding

Notes:
Recommended cutting speed: 10-12 m/s

Technical data:
- Grid size: 120



Cylindrical pin type

D x T	Sd x L2	Max. rotation speed (rpm)	Recommended rotation speed (rpm)	69200... Ident. No.	
4 x 8 mm	3 x 30 mm	71600	47500	210	●
6 x 10 mm	3 x 30 mm	47700	32000	215	●
8 x 12 mm	3 x 30 mm	35800	24000	220	●
10 x 10 mm	3 x 30 mm	28600	19000	225	●
10 x 25 mm	6 x 40 mm	28600	19000	235	●
12 x 20 mm	3 x 30 mm	23800	16000	230	●
12 x 20 mm	6 x 40 mm	23800	16000	240	●
15 x 25 mm	6 x 40 mm	19000	12500	245	●
20 x 20 mm	6 x 40 mm	14300	9500	250	●
20 x 30 mm	6 x 40 mm	14300	9500	255	●

Prod. Gr. 6AB

Poliflex® finishing tips, GHR bond

Cylindrical pin shape, synthetic corundum

Application:
For finishing of edges. For use on flexible shafts, electric and compressed air straight grinders.

Advantage:
- For achieving a fine, polished grinding finish
- Soft grinding with longer service life

Notes:
Recommended cutting speed: 20–25 m/s

Technical data:
- Grid size: 120

Ident. No. 310

D x T	Sd x L2	Max. rotation speed (rpm)	Recommended rotation speed (rpm)	69200... Ident. No.	
8 x 12 mm	3 x 30 mm	71600	60000	310	●
10 x 10 mm	3 x 30 mm	57200	45000	315	●
10 x 15 mm	3 x 30 mm	52000	45000	320	●
10 x 25 mm	6 x 40 mm	57200	45000	325	●

Prod. Gr. 6AB

Grinding points

All PFERD sanding tips are approved for a **maximum circumferential speed of 50 m/s**. This must be observed in order to prevent the shaft from bending during use. Regardless of the length of the shaft, the clamping length of the shaft must be at least 10 mm.

Recommended rotation speed range:
Please refer to the table for the recommended rotation speed based on the diameter and the cutting speed of your tool.

Note:
The optimum rotation speeds can be found in the product tables. These have been limited to 150,000 RPM as a higher rotation speed is not possible with commercially available drives.

Example:
Mounted point dia. 20 mm
STEEL
Cutting speed: 30-50 m/s
Rotation speed: 28,600-47,700 RPM

Sanding tip ø [mm]	Cutting speeds [m/s]						
	10	15	20	25	30	40	50
	Rotation speeds [RPM]						
2	95,500	143,200	191,000	238,700	286,500	382,000	477,500
3	63,700	95,500	127,300	159,200	191,000	254,600	318,300
4	47,700	71,600	95,500	119,400	143,200	191,000	238,700
5	38,200	57,300	76,400	95,500	114,600	152,800	191,000
6	31,800	47,700	63,700	79,600	95,500	127,300	159,200
7	27,300	40,900	54,600	68,200	81,900	109,100	136,400
8	23,900	35,800	47,700	59,700	71,600	95,500	119,400
10	19,100	28,600	38,200	47,700	57,300	76,400	95,500
12	15,900	23,900	31,800	39,800	47,700	63,700	79,600
14	13,600	20,500	27,300	34,100	40,900	54,600	68,200
16	11,900	17,900	23,900	29,800	35,800	47,700	59,700
20	9,500	14,300	19,100	23,900	28,600	38,200	47,700
25	7,600	11,500	15,300	19,100	22,900	30,600	38,200
32	6,000	9,000	11,900	14,900	17,900	23,900	29,800
40	4,800	7,200	9,500	11,900	14,300	19,100	23,900
50	3,800	5,700	7,600	9,500	11,500	15,300	19,100

Mounted points, hardness O - for unhardened, non-tempered steels up to 1,200 N/mm² (<38 HRC)

Shaft diameter 3 mm, pink corundum abrasive, ceramic bond

Application:
Ideal for use on edges and for deburring work on steel structural and cast steel parts as well as for removing burrs and for grinding of chamfers for preparation of weld seams and sanding of contours.

Advantage:
- Long service life and large machining volume due to wear-resistant grain and hard bonding
- Thanks to its high edge stability, it can also be used economically on low-speed tool drives

Notes:
Ident. No. 005–055: STEEL EDGE grinding points achieve their best performance at a cutting speed of 25 to 40 m/s.
Ident. No. 060–070: Sanding tips STEEL EDGE achieve their best performance at a cutting speed of 25 to 40 m/s.

Technical data:
- Shank diameter: 3 mm
- Shaft length: 30 mm
- Number of pieces per packet: 10 PCS

	Form	Head Ø (mm)	Grid size	Max. rotation speed (rpm)	Type description	76016... Ident. No.	
	Cylindrical	2	100	201800	ZY 0205 3	005	●
	Cylindrical	3	100	206100	ZY 0306 3	010	●
	Cylindrical	4	100	175100	ZY 0408 3	015	●
	Cylindrical	5	100	130700	ZY 0510 3	020	●
	Cylindrical	6	100	93600	ZY 0613 3	025	●
	Cylindrical	8	46	87600	ZY 0810 3	030	●
	Cylindrical	8	46	61000	ZY 0816 3	035	●
	Cylindrical	10	46	58400	ZY 1013 3	040	●
	Cylindrical	13	60	73400	ZY 1303 3	045	●
	Cylindrical	13	46	45300	ZY 1313 3	050	●
	Cylindrical	16	46	59600	ZY 1604 3	055	●
	Ball shape	5	100	190900	KU 05 3	060	●
	Ball shape	8	80	116200	KU 08 3	065	●
	Ball shape	10	46	83300	KU 10 3	070	●
	Ogive shape	3	100	252000	SP 0306 3	075	●
	Ogive shape	5	100	149500	SP 0510 3	080	●
	Ogive shape	8	80	72800	SP 0816 3	085	●
	Cone	10	46	95400	KE 1010 3	090	●

Prod. Gr. 6AB

Mounted points, hardness O - for unhardened, non-tempered steels up to 1,200 N/mm² (<38 HRC)

Shaft diameter 6 mm, pink corundum abrasive, ceramic bond

Application:
Ideal for use on edges and for deburring work on steel structural and cast steel parts as well as for removing burrs and for grinding of chamfers for preparation of weld seams and sanding of contours.

Advantage:
- Long service life and large machining volume due to wear-resistant grain and hard bonding
- Thanks to its high edge stability, it can also be used economically on low-speed tool drives

Technical data:
- Shank diameter: 6 mm
- Shaft length: 40 mm
- Number of pieces per packet: 10 PCS

	Form	Head Ø (mm)	Grid size	Max. rotation speed (rpm)	Type description	76016... Ident. No.	
	Cylindrical	3	100	206100	ZY 0306 6	205	●
	Cylindrical	4	100	177400	ZY 0408 6	210	●
	Cylindrical	5	100	157800	ZY 0510 6	215	●
	Cylindrical	6	100	131500	ZY 0613 6	220	●
	Cylindrical	8	80	119300	ZY 0810 6	225	●
	Cylindrical	8	80	119300	ZY 0816 6	230	●
	Cylindrical	10	46	95400	ZY 1013 6	235	●
	Cylindrical	10	46	95400	ZY 1020 6	240	●
	Cylindrical	10	46	83200	ZY 1032 6	245	●
	Cylindrical	13	46	73400	ZY 1313 6	250	●
	Cylindrical	13	46	73400	ZY 1325 6	255	●
	Cylindrical	13	46	42400	ZY 1340 6	260	●
	Cylindrical	16	30	59600	ZY 1610 6	265	●
	Cylindrical	16	30	59600	ZY 1620 6	270	●
	Cylindrical	16	30	51200	ZY 1632 6	275	●
	Cylindrical	16	30	40500	ZY 1640 6	280	●
	Cylindrical	20	46	47700	ZY 2006 6	285	●
	Cylindrical	20	30	47700	ZY 2025 6	290	●
	Cylindrical	20	30	32400	ZY 2040 6	295	●
	Cylindrical	25	46	38100	ZY 2506 6	300	●
	Cylindrical	25	30	32900	ZY 2532 6	305	●
	Cylindrical	32	24	29800	ZY 3220 6	310	●
	Cylindrical	40	30	23800	ZY 4010 6	315	●
	Cylindrical	40	24	23800	ZY 4020 6	320	●
	Ball shape	13	46	73400	KU 13 6	325	●
	Ball shape	16	30	59600	KU 16 6	330	●
	Ball shape	20	30	47700	KU 20 6	335	●
	Ball shape	32	24	29800	KU 32 6	340	●
	Ogive shape	3	100	255500	SP 0306 6	345	●
	Ogive shape	5	100	190900	SP 0510 6	350	●
	Ogive shape	8	80	119300	SP 0816 6	355	●
	Cone	10	46	95400	KE 1025 6	360	●
	Cone	20	30	47700	KE 2032 6	365	●
	Cone	20	30	47700	KE 20 40 6	370	●

Prod. Gr. 6AB

<Mounted point sets, hardness O - for unhardened, non-tempered steels up to 1,200 N/mm² (38 HRC)

Pink corundum abrasive, ceramic bond

Application:

Ident. No. 010: For universal use, form-stable with resistant edges.

Ident. No. 020: For fine work and universal use.

Delivery:

Ident. No. 010: 1 piece each: ZY 1013, ZY 1320, ZY 2006, ZY 2013, ZY 2025, KU 16, WR 2025, KE 2032, SP 1320, KE 2020

Ident. No. 020: 2 piece each: ZY 0510, ZY 0810, ZY 1604. 1 piece each: ZY 0408, ZY 0613, ZY 0802, ZY 1013, ZY 1303, WR 0510, KU 05, SP 0306, SP 0816

Notes:

STEEL EDGE grinding points achieve their best performance at a cutting speed of 25 to 40 m/s

Shank Ø (mm)	Shaft length (mm)	Surface structure	Number of pieces in assortment/ set (PCS)	Type description	76017... Ident. No.	
6	40	Rough	10	2001 O G STEEL EDGE	010	●
3	30	Fine	15	2002 O F STEEL EDGE	020	●

Prod. Gr. 6AB

Ident. No. 010

Ident. No. 020

>Mounted points, hardness J - for hardened, tempered steels over 1,200 N/mm² (38 HRC)

Shaft diameter 3 mm, white corundum and blue ceramic sintered corundum abrasive, ceramic bond

Application:

For extensive use on titanium materials, nickel and cobalt-based alloys, for the machining of hardened steel components, application welds and for the grinding and regrinding of repair welds in tool and mould making.

Advantage:

- Cool grinding, due to good friability of the grain mixture
- Consistently high removal rate and very long service life due to the self-sharpening effect of the ceramic abrasive grain

Notes:

Sanding tips TOUGH achieve their best performance at a cutting speed of 30 to 50 m/s

Technical data:

- Shank diameter: 3 mm
- Shaft length: 30 mm
- Grid size: 80
- Number of pieces per packet: 10 PCS

	Form	Head Ø (mm)	Max. rotation speed (rpm)	Type description	76018... Ident. No.	
	Cylindrical	3	206100	ZY 0306 3	005	●
	Cylindrical	4	175100	ZY 0408 3	010	●
	Cylindrical	5	130700	ZY 0510 3	015	●
	Cylindrical	6	93600	ZY 0613 3	020	●
	Ball shape	6	149200	KU 06 3	025	●
	Ball shape	8	116200	KU 08 3	030	●
	Ogive shape	6	107900	SP 0613 3	035	●
	Ogive shape	8	72800	SP 0816 3	040	●

Prod. Gr. 6AB

ATORN Non-woven sanding stars

Application:
For cleaning, deburring and finishing internal surfaces and contours. Specially designed for hard-to-reach spots.

Notes:
For flexible shaft machines and straight grinders

Technical data:
- Material of abrasive medium: Aluminium oxide
- Number of pieces per packet: 25 PCS

Ident. No. 019

Ident. No. 021

				Surface structure	Medium		Very fine	
				Colour	Blue		Brown	
Head Ø (mm)	Number of plies	Max. rotation speed (rpm)	Recommended rotation speed (rpm)	69296... Ident. No.			69296... Ident. No.	
25	2	18000	10000	019	○		021	○
38	2	18000	10000	022	○		-	-
38	2	12000	7500	-	-		023	○
38	3	12000	7500	024	○		025	○

Prod. Gr. 6CS

ATORN Drive arbour for non-woven sanding stars

Application:
Tool shank 100 mm, M4 thread for holding the ATORN non-woven abrasive stars.

Technical data:
- Shank diameter: 6 mm
- Number of pieces per packet: 1 PCS

69296...	Ident. No.	030 ○

Prod. Gr. 6CS

PFERD TOOLS Felt mounted points

Shaft diameter 6 mm, shaft length 40 mm

Application:
For pre-polishing and gloss polishing of injection moulding tools, fittings, cemented carbide cutting knives and for gloss polishing of stainless steel components (INOX).

Advantage:
- Exact preservation of geometric shapes due to its hardness
- Freely profilable and can therefore also be used for tools with complicated geometries

Notes:
For best performance, use at a recommended cutting speed of 5–10 m/s. The polishing tool must also be changed when changing the polishing paste

Ident. No. 005–020
Type - cylinder ZYA:
Work is predominantly carried out with the tool circumference

Ident. No. 040–055
Shape - taper KEL:
Used predominantly to machine radii

Ident. No. 025–035
Shape - pointed taper SPK:
Used predominantly to machine radii and contours

Ident. No. 060–070
Type - cylindrical with radius end WRC:
Mainly used for machining small concave contours

		Form	Cylindrical		Conical pointed		Conical		Cylindrical shape	
D x T	Min./max. recommended rotation speed		69202... Ident. No.		69202... Ident. No.		69202... Ident. No.		69202... Ident. No.	
10 x 14 mm	10000-20000 rpm		005	●	-	-	-	-	-	-
10 x 18 mm	10000-20000 rpm		-	-	025	●	-	-	-	-
15 x 30 mm	6000-12000 rpm		-	-	030	●	-	-	-	-
15 x 20 mm	6000-12000 rpm		010	●	-	-	040	●	060	●
20 x 25 mm	5000-10000 rpm		015	●	035	●	045	●	065	●
25 x 30 mm	4000-8000 rpm		020	●	-	-	050	●	070	●
30 x 35 mm	3200-6350 rpm		-	-	-	-	055	●	-	-

Prod. Gr. 6AB

Polishing disc

Suitable for any angle grinder/polisher

Application:
Polishing large areas in a short time to a mirror finish. Also for removing paints and coatings, cleaning components, derusting and fine deburring.

Execution:
- Extremely long service life
- Fast progress
- Quick and effortless polishing, even over large surfaces, with a controlled angle grinder

Advantage:
- Replaces cloth discs, felt discs and polishing pastes
- Works without polishing paste
- In one step: Cleaning of the workpiece and finishing of the surface

Technical data:
- Washer diameter: 125 mm
- Form: Flat
- Max. rotation speed: 4850 rpm
- Bore diameter: 22.23 mm
- Free from iron and sulphur: Yes
- Material of abrasive medium: Silicon carbide
- Material to be processed: Stainless steel | Steel | Aluminium | Cast metal | Titanium

Ident. No. 520

Type		Medium	Fine	Very fine	Ultra fine
Grid size		150	240	400	800
76081...	Ident. No.	520 ○	525 ●	530 ●	535 ●

Prod. Gr. 6BD

ATORN Stainless steel tape

Application:
For bevel grinding of welding seams and satin finishing of stainless steel profiles.

Execution:
- Uniform grinding pattern on both frame parts
- Enables fast, easy and precise masking
- Easy to cut using standard household scissors
- Simple and economical solution
- Reusable

76084...	Ident. No.	911 ○

Prod. Gr. 6CS

HST 359 rubber adhesive backing pad

For all velour-coated sanding discs

Application:
For use on angle grinders

Technical data:
- Number of pieces per packet: 1 PCS

Suitable for machine chuck		Shank 8 mm	M14
76083...	Ident. No.	310 ●	320 ●

Prod. Gr. 6DB

ATORN Hook-and-loop sanding disc

For universal application

Application:
Suitable for machining wood and painted surfaces.

Execution:
- Long service life
- Low contact pressure

Advantage:
- Hook-and-loop fastener system ensures a secure hold
- Extremely high removal rate
- Long service life
- Low clogging tendency

Technical data:
- Number of pieces per packet: 50 PCS
- Material of abrasive medium: Aluminium oxide (corundum)
- Material to be processed: Colour | Wood | Plastic | Non-ferrous metal | Metal | Steel | Universal use

Suitable for machine type	Random orbit sander, Angle grinder		Random orbit sander, Angle grinder		Random orbit sander, Angle grinder	
Washer Ø (mm)	115		125		150	
Grid size	76300... Ident. No.		76300... Ident. No.		76300... Ident. No.	
40	800	●	805	●	810	●
60	801	●	806	●	811	●
80	802	●	807	●	812	●
120	803	●	808	●	813	●
240	804	●	809	●	815	●
180	-	-	-	-	814	●

Prod. Gr. 6CS

PS 22 K hook-and-loop sanding discs

With corundum, resin bond, semi-open grain distribution, unperforated

Application:
No. 76083: universal sanding disc for processing metal and wood
No. 78244: Universal sanding disc for processing metal and wood

Execution:
- E-weight paper backing

Advantage:
- **No. 76083:** consistent grinding finish
- **No. 78244:** Consistent grinding finish

Notes:
No. 76083: Use in connection with HST 359 rubber adhesive support plate. Further diameters deliverable on request.
No. 78244: Further diameters deliverable on request.

Technical data:
- Number of pieces per packet: 50 PCS
- Material of abrasive medium: Corundum
- Material to be processed: Metal | Wood

No. 76083

No. 78244

Suitable for machine type	Hand held machines		Hand held machines		Disc grinding machine	
Washer Ø (mm)	115		125		300	
Grid size	76083... Ident. No.		76083... Ident. No.		78244... Ident. No.	
40	120	●	420	●	204	●
60	130	●	430	●	206	●
80	140	●	440	●	208	●
120	150	●	450	●	212	●

Prod. Gr. 6DB

ATORN universal hook-and-loop sanding disc

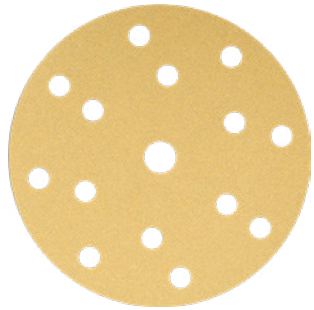
Hole pattern for all manufacturers

Application:
Universally applicable for varnish, paint, putty, wood and plastic

Execution:
- Perforated, suitable for Bosch, DeWalt, Festool and Metabo machines
- Dust-repellent stearate coating from P150 and finer

Advantage:
- Smooth latex paper backing for optimal adaptation to all grinding surfaces
- Increased service life thanks to optimised abrasive grain distribution and abrasive dust-repellent stearate coating

Technical data:
- Material of abrasive medium: Corundum
- Material to be processed: Paint | Colour | Filler | Wood | Plastic



Hole pattern		15-hole	
Suitable for machine type		Random orbit sander	
Type		Universal holes	
Washer Ø (mm)		150	
Grid size	Number of pieces per packet (PCS)	76300... Ident. No.	
40	50	854	●
60	50	855	●
80	50	856	●
100	100	857	●

	Hole pattern	15-hole	
	Suitable for machine type	Random orbit sander	
	Type	Universal holes	
	Washer Ø (mm)	150	
Grid size	Number of pieces per packet (PCS)	76300... Ident. No.	
120	100	858	●
150	100	859	●
180	100	860	●
240	100	861	●

Prod. Gr. 6CS

FP 73 WK hook-and-loop sanding discs

With corundum, resin bond, semi-open grain distribution

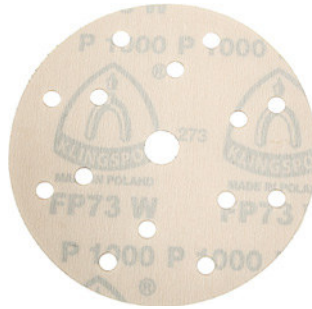
Application:
Special product for lacquer, paint and putty work.

Execution:
- Perforated, hole pattern GLS47
- With highly tear-resistant film backing

Advantage:
- Very good grain adhesion, even on edges
- Additional coating reduces clogging of disc and increases service life

Notes:
For use with HST 555 adhesive velcro support plate.

Technical data:
- Number of pieces per packet: 100 PCS
- Material of abrasive medium: Corundum
- Material to be processed: Paint | Colour | Filler



Washer Ø (mm)	150	
Grid size	76211... Ident. No.	
80	010	●
100	020	●
120	030	●
150	040	●
180	050	●
240	060	●
320	070	●

Washer Ø (mm)	150	
Grid size	76211... Ident. No.	
400	080	●
600	100	●
800	110	●
1000	120	●
1200	130	○
1500	140	○

Prod. Gr. 6DB

1950 siaspeed hook-and-loop sanding discs

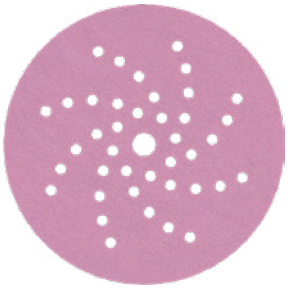
The complete range for every application

Application:
- Sanding coatings and impurities - Grinding out unevenness at the edge of the repair site - Flat sanding of the spatula and filler - Finishing of fillers - Grinding of old and new varnishes

Execution:
- Grain type: Mixed grain with ceramic P40–80, semi-precious corundum 100–600
- Base: Paper
- Scatter type: electrostatic P40–P180, open electrostatic P220–P600

Advantage:
- very high removal rate with a good finish
- Broad scattering in grain 220–600 for minimal clogging
- Grain mix including ceramic corundum in grain 40–180, for an enhanced performance
- Lower consumption of abrasive
- Very long service life

Technical data:
- Material to be processed: Paint | Acrylic glass | Colour | Plastic | GRP | Filler



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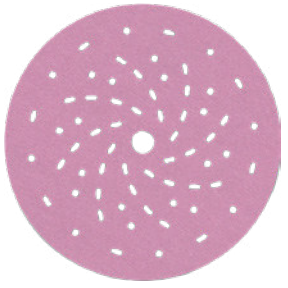
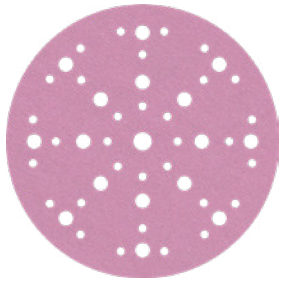


Ident. No. 326–346



Ident. No. 700–726

	Hole pattern	41-hole		65-hole		49-hole	
	Washer Ø (mm)	125		125		150	
Grid size	Number of pieces per packet (PCS)	76300... Ident. No.		76300... Ident. No.		76300... Ident. No.	
P40	50	320	●	-	-	700	●
P60	50	322	●	-	-	702	●
P80	100	324	●	-	-	704	●
P100	100	-	-	326	●	706	●
P120	100	-	-	328	●	708	●
P150	100	-	-	330	○	710	●
P180	100	-	-	332	●	712	●
P220	100	-	-	334	●	714	●
P240	100	-	-	336	●	716	●
P280	100	-	-	338	●	718	○
P320	100	-	-	340	●	720	●
P360	100	-	-	342	○	-	-
P400	100	-	-	344	●	722	●
P600	100	-	-	346	●	726	●
P500	100	-	-	-	-	724	●

Prod. Gr. 6DS

ATORN mesh sanding disc

Corundum, special mesh

Application:
for varnish, paint, plaster, wood and plastic

Execution:
- Special mesh for optimum dust extraction regardless of the type of machine used

Advantage:
- Extremely high removal rate thanks to high-quality corundum abrasive grain
- Long service life and no clogging thanks to open-pored mesh structure for high level of dust extraction
- Minimal dust emissions and a clean workplace thanks to special mesh that promotes extraction

Hole pattern	Multiple perforations	
Type	Net-backed abrasive	
Suitable for machine type	Random orbit sander	
Washer Ø (mm)	150	
Grid size	76300... Ident. No.	
80	880	●
120	881	●
180	882	●

Hole pattern	Multiple perforations	
Type	Net-backed abrasive	
Suitable for machine type	Random orbit sander	
Washer Ø (mm)	150	
Grid size	76300... Ident. No.	
240	883	●
320	884	●
400	885	●

Prod. Gr. 6CS

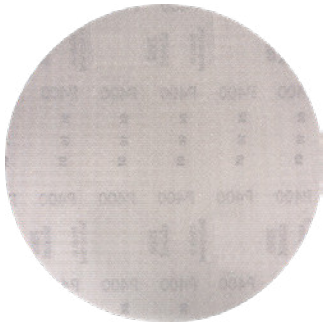
7500 sianet CER net-backed abrasive with ceramic grain

For maximum removal rate and service life

Application:
- Sanding coatings and impurities - Whetting primers - Finishing solid wood, veneers, mineral materials, primer film, gypsum and gypsum fibreboards - Intermediate sanding of varnishes

Execution:
- Grain type: ceramic corundum
- Base: knitted fabric

Advantage:
- Full-surface dust extraction
- Not dependent on hole system
- High removal rate without clogging
- Robust net backing for high tear strength



Ident. No. 145

Washer Ø (mm)	125		150	
Number of pieces per packet (PCS)	50		50	
Grid size	76300... Ident. No.		76300... Ident. No.	
P80	100	●	145	●
P100	105	○	150	○
P120	110	●	155	●
P150	115	○	160	●
P180	120	●	165	●

Washer Ø (mm)	125		150	
Number of pieces per packet (PCS)	50		50	
Grid size	76300... Ident. No.		76300... Ident. No.	
P220	125	●	170	●
P240	130	○	175	●
P320	135	●	180	●
P400	140	●	185	○

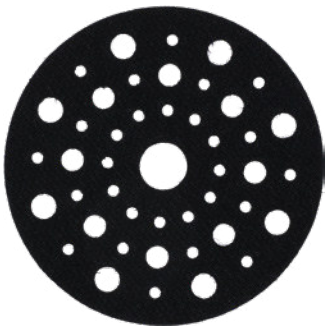
Prod. Gr. 6DS

BOSCH Washers

Execution:
- Strong protective layer with riptape fastening

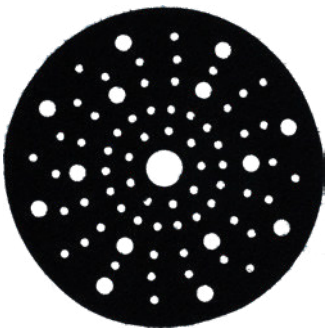
Advantage:
- Intermediate disc for random orbital sander considerably extends the life of the sanding plate
- Optimises adhesion between the sanding disc and sanding plate

Technical data:
- Number of pieces per packet: 2

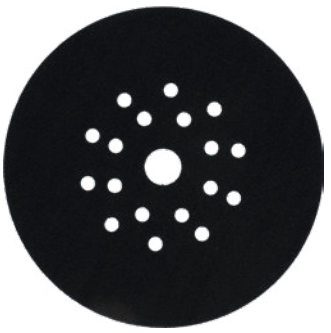


Ident. No. 130

Ident. No. 132



Ident. No. 134



Ident. No. 136

Washer Ø (mm)	Hole pattern	76400... Ident. No.	
115	45-hole	130	○
125	45-hole	132	●
150	80-hole	134	●
215	18-hole	136	○

Prod. Gr. 732

ATORN Abrasive fabric sheets - universal application

Sheet size 230 x 280 mm

Application:
Manual sanding of alloyed and unalloyed steels, stainless steel, chrome steel and chrome-nickel steel, brass, bronze, wood, paint and plastic

Execution:
- Excellent sanding performance with high-quality synthetic corundum (AO - resin-bonded) and dense grain distribution.
- Robust, oil/petroleum-resistant, highly flexible cotton fabric

Technical data:
- Material of abrasive medium: Aluminium oxide (normal corundum)
- Backing material: Cotton fabric
- Binding: All-synthetic resin
- Colour: Brown
- Number of pieces per packet: 50

Grid size		40	60	80	100	120	150	180	240	320	400
69250...	Ident. No.	040 ●	060 ●	080 ●	100 ●	120 ●	150 ●	180 ●	240 ●	320 ●	400 ●

Prod. Gr. 6DC

Abrasive fabric arc KL 371 X

For metal universal, non-ferrous metal

Application:
For grinding surfaces in metalworking.

Execution:
- Light but robust X-fabric backing

Advantage:
- For universal manual and power tool sanding

Technical data:
- Type description: KL 371 X
- Area of application: Surface grinding
- Material of abrasive medium: Corundum
- Backing material: Cotton fabric
- Binding: Glue
- Colour: Blue
- Number of pieces per packet: 50 PCS

Abrasive cloth KL 371

Grid size		40	50	60	80	100	120	150	180	220	240	280	400	500
69270...	Ident. No.	040 ●	050 ●	060 ●	080 ●	100 ●	120 ●	150 ●	180 ●	220 ●	240 ●	280 ●	400 ●	500 ●

Prod. Gr. 6DB

KL 385 JF abrasive fabric sheet for wood, all kinds of metal, non-ferrous metals

Sheet size 230 x 280 mm

Application:
Suitable for a wide range of uses in the metalworking industry.

Execution:
- High-quality abrasive cloth and very flexible cotton backing

Advantage:
- Can be easily torn to the desired length
- Also suitable for stainless steel.

Technical data:
- Type description: KL 385 JF
- Area of application: Surface grinding
- Material of abrasive medium: Corundum
- Backing material: Cotton fabric
- Binding: Synthetic resin
- Colour: Brown
- Number of pieces per packet: 50 PCS

Abrasive cloth KL 385

Grid size		40	60	80	100	120	150	180	220	240	280	320	360
69272...	Ident. No.	040 ●	060 ●	080 ●	100 ●	120 ●	150 ●	180 ●	220 ●	240 ●	280 ●	320 ●	360 ●

Prod. Gr. 6DB

PS 11 waterproof sandpaper sheets for car repair and painting jobs

Sheet size 230 x 280 mm

Application:
For machining of paint, lacquer, spreader and filler, mainly used in automotive repair and painting applications.

Advantage:
- High sanding rate and service life
- High-quality and very flexible

Technical data:
- Area of application: Wet sanding
- Material of abrasive medium: Silicon carbide
- Backing material: Latex paper
- Binding: Synthetic resin
- Colour: Black
- Number of pieces per packet: 50 PCS

Sandpaper PS 11

Grid size		60	100	180	80	120	220	150	280
69261...	Ident. No.	060 ●	100 ●	180 ●	080 ●	120 ●	220 ●	150 ●	280 ●

Grid size		320	360	400	500	600	800	1000	1200
69261...	Ident. No.	320 ●	360 ●	400 ●	500 ●	600 ●	800 ●	910 ●	920 ●

Prod. Gr. 6DB

ATORN Abrasive fabric economy roll

High-quality synthetic corundum, full synthetic resin bond, dense grain distribution

Application:
Manual and machine sanding (width: 115 mm) of alloyed and unalloyed steels, stainless steel, chrome and chrome-nickel steel, brass, bronze, wood, paint and plastic

Execution:
- Robust, oil/petroleum-resistant, highly flexible cotton fabric
- Excellent sanding performance with high-quality synthetic corundum (AO - resin-bonded) and dense grain distribution.

Advantage:
- Holder core for economy roll

Technical data:
- Length of roll: 50 m
- Backing material: Cotton fabric

No. 69255 040

Grid size			40	60	80	100	120	150	180	240	320	400
	Roll width (mm)											
69255...	50	Ident. No.	040 ●	060 ●	080 ●	100 ●	120 ●	150 ●	180 ●	240 ●	320 ●	400 ●
69256...	115	Ident. No.	040 ●	060 ●	080 ●	100 ●	120 ●	150 ●	180 ●	240 ●	320 ●	-

Prod. Gr. 6DC

ATORN Abrasive fabric economy roll in tear-off box

High-quality synthetic corundum, full synthetic resin bond, dense grain distribution

Application:
Manual sanding of alloyed and unalloyed steels, stainless steel, chrome steel and chrome-nickel steel, brass, bronze, wood, paint and plastic

Execution:
- Robust, oil/petroleum-resistant, highly flexible cotton fabric
- Excellent sanding performance with high-quality synthetic corundum (AO - resin-bonded) and dense grain distribution.

Advantage:
- Holder core for economy roll
- with lateral window for consumption monitoring

Technical data:
- Length of roll: 50 m
- Backing material: Cotton fabric

Ident. No. 000–012, 100–112

Ident. No. 014–018, 114–118

Grid size			40	60	80	100	120	150	180	240	320	400
	Roll width (mm)											
69251...	25	Ident. No.	000 ●	002 ●	004 ●	006 ●	008 ●	010 ●	012 ●	014 ●	016 ●	018 ●
69251...	40	Ident. No.	100 ●	102 ●	104 ●	106 ●	108 ●	110 ●	112 ●	114 ●	116 ●	118 ●

Prod. Gr. 6DC

VSM KK114F abrasive fabric rolls in tear-off box with integral tear-off blade

Corundum, synthetic resin bond, dense grain distribution

Application:
For alloyed and unalloyed steels, stainless steel, chrome and chrome-nickel steel, brass and bronze, wood, paint, lacquer and plastic.

Advantage:
- High flexibility and thread-precise tear resistance
- Very long service life

Technical data:
- Length of roll: 50 m
- Backing material: Cotton fabric

Grid size			40	60	80	100	120	150	180	240	320	400
	Roll width (mm)											
69276...	40	Ident. No.	040 ●	060 ●	080 ●	100 ●	120 ●	150 ●	180 ●	240 ●	320 ●	400 ●

Prod. Gr. 6DA

VSM Sanding belt roll cartridge

Equipped and empty

Application:
For sorted storage and metered supply of sanding belt and abrasive cloth.

Execution:
- Robust magazine (with a hammered enamel finish)
- Complete with tear-off device and fastening material
- Empty, for 5 rolls of 25 to 50 mm width and max. 50 m length

Advantage:
- The right sanding belt or abrasive cloth always kept close to hand
- Ensures economical use
- Enables fresh supplies to be provided in good time

69281...	Empty	Ident. No.	200 ●

Prod. Gr. 6DA

ATORN Sandpaper strips

For universal application

Execution:
- Long service life
- High removal rate
- For universal use
- Low clogging tendency

Advantage:
- Precise size for the sanding block with hook-and-loop fastening system!

Technical data:
- Number of pieces per packet: 50 PCS
- Sheet length: 140 mm
- Sheet width: 67 mm
- Backing material: E-weight paper
- Material of abrasive medium: Aluminium oxide

Grid size		60	80	100	120
76300...	Ident. No.	850 ●	851 ●	852 ●	853 ●

Prod. Gr. 6CS

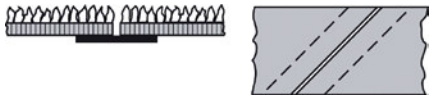
Universal sanding belts for band files

For stainless steel, steel, all kinds of metal and non-ferrous metals

Application:
Universal type for processing radii and contours with band files in all areas of metalworking

Execution:
- Areas of application are equipment engineering and tank construction, railing construction and metal construction

Technical data:
- Width of tape x length of strap: 10 mm x 330 mm
- Material of abrasive medium: Corundum
- Scattering: Close scattering
- Suitable for machine type: File belt sander
- Binding: Synthetic resin



Belt connection F4G
oblique cut, butt joined, with fabric-reinforced splicing film glued onto the back

Grid size		P40	P60	P80	P100	P120	P150
Number of pieces per packet (PCS)		25	25	25	25	10	10
69290...	Ident. No.	003 ●	103 ●	203 ●	303 ●	403 ●	503 ●

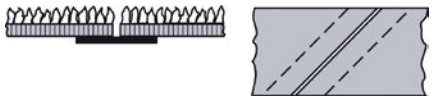
Prod. Gr. 6DB

Universal abrasive fabric belts for stationary grinding machines

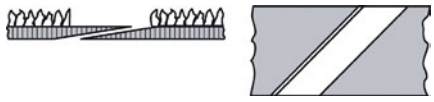
For metal and wood machining (grain 40-150)

Technical data:
- Material of abrasive medium: Corundum
- Scattering: Close scattering
- Number of pieces per packet: 10 PCS
- Binding: Synthetic resin

LS 309 X



Belt connection F4G
oblique cut, butt joined, with fabric-reinforced splicing film glued onto the back



Belt connection F5
oblique cut, overlap joint with non-coated connection zone

Width of tape x length of strap	Grid size	Suitable for machine type	69290... Ident. No.	
75 mm x 2000 mm	40	Pedestal grinding machine	027	●
75 mm x 2000 mm	60	Pedestal grinding machine	127	●
75 mm x 2000 mm	80	Pedestal grinding machine	227	●
75 mm x 2000 mm	100	Pedestal grinding machine	327	●
75 mm x 2000 mm	120	Pedestal grinding machine	427	●+
75 mm x 2000 mm	150	Pedestal grinding machine	527	●
100 mm x 1000 mm	40	Belt grinder	045	●
100 mm x 1000 mm	60	Belt grinder	145	●
100 mm x 1000 mm	80	Belt grinder	245	●
100 mm x 1000 mm	100	Belt grinder	345	●
100 mm x 1000 mm	120	Belt grinder	445	●
100 mm x 1000 mm	150	Belt grinder	545	●

Prod. Gr. 6DB

VSM XK850X TOP SIZE abrasive fabric belt for stationary grinding machines

For high-alloy steels, chrome steel and chrome-nickel steel, non-ferrous metals, nickel-based alloys and cast parts

Application:
Removing welding seams, deburring, sanding edges and surfaces

Execution:
- Self-sharpening ceramic abrasive grain
- Active grinding extra layer TOP SIZE
- Sanding of stainless steel, unalloyed steel, aluminium
- Cool sanding

Advantage:
- High removal rate due to self-sharpening effect
- Cool sanding and extended service life due to the active sanding extra layer VSM TOP SIZE
- Optimal value for money

Technical data:
- Material of abrasive medium: Ceramic zirconium corundum
- Scattering: Close scattering
- Number of pieces per packet: 10 PCS
- Binding: Synthetic resin

Width of tape x length of strap	Grid size	Suitable for machine type	69293... Ident. No.	
75 mm x 2000 mm	40	Pedestal grinding machine	050	●
75 mm x 2000 mm	60	Pedestal grinding machine	055	●
75 mm x 2000 mm	80	Pedestal grinding machine	060	●
150 mm x 2000 mm	40	Belt grinder	065	●
150 mm x 2000 mm	60	Belt grinder	070	●
150 mm x 2000 mm	80	Belt grinder	075	●

Prod. Gr. 6DA
Other dimensions available on request

ATORN Non-woven sanding belts for tube belt sander

Application:
For mat finishing, polishing and smoothing of pipes, pipe bends and closed pipe constructions made of stainless steel, steel, brass, copper and aluminium

Advantage:
- Reduces smearing even for alloys with high nickel content (anti-smear technology)
- Extremely low belt elongation
- Faster sanding and finishing with consistent, reproducible surface finish
- Rust-free, waterproof, resistant, malleable, non-conductive, non-metallic

	Surface structure	Rough		Medium		Fine	
Length of tape (mm)	Width of band (mm)	69296... Ident. No.		69296... Ident. No.		69296... Ident. No.	
520	6	300	●	350	●	400	●
533	9	301	●	351	●	401	●
330	10	302	●	352	●	402	●
305	12	303	●	353	●	403	●
457	12	304	●	354	●	404	●
520	12	305	●	355	●	405	●
533	12	306	●	356	●	406	●
610	13	307	●	357	●	407	●
533	30	308	○	358	●	408	●
610	30	309	●	359	○	409	●
650	35	310	●	360	●	410	●
760	40	311	●	361	●	411	●
820	40	312	●	362	●	412	●
2000	50	315	●	365	●	415	●
2000	75	316	●	366	●	416	●
289	100	313	●	363	●	413	●
316	100	314	●	364	●	414	●
2000	150	317	●	367	○	417	●

Prod. Gr. 6CS

Ident. No. 300–317

Ident. No. 350–367

Ident. No. 400–417

ATORN Non-woven abrasive hand pads and rolls

for smoothing, matting, roughing, removal of dirt, corrosion and other impurities

Application:
For smoothing, matting, roughening, degreasing and cleaning surfaces, light deburring and removing dirt and corrosion.

Execution:
- Accessories: Pad holder with integrated barbed hooks no. 69296 090

Advantage:
- smooth cutting with high flexibility
- long service life and optimal sanding results thanks to the uniform fibre structure

Technical data:
- Material to be processed: Universal use

					Hand pads		Sanding roll	
				Type description	Abraflex		Abraflex	
				Length x width	210 x 150 mm		10000 x 115 mm	
Material of abrasive medium	Surface structure	Grid size	Colour	Number of pieces per packet (PCS)	69297... Ident. No.		69297... Ident. No.	
Aluminium oxide	Rough	280	Blue	10	005	●	-	-
Silicon carbide	Fine	1200	Grey	10	010	●	-	-
Aluminium oxide	Rough	280	Blue	1	-	-	105	●
Silicon carbide	Fine	1200	Grey	1	-	-	110	●

Prod. Gr. 6CH

Ident. No. 005–010

Ident. No. 105–110
Fleece abrasive roller

Mirlon non-woven abrasive hand pads and rolls

Suitable for painted surfaces, for wood, plastic and metal components

Application:

Ident. No. 010–030: For smoothing, roughing, light sanding, de-greasing and cleaning surfaces, light deburring and removal of dirt and corrosion.

Ident. No. 110–140: For smoothing, matting, roughening, degreasing and cleaning surfaces, light deburring and removing dirt and corrosion.

Advantage:

- Ideal for profiles and curved or highly contoured surfaces thanks to the three-dimensional structure
- For wet and dry grinding

Ident. No. 010–030
Fleece hand pads

Ident. No. 110–140
Fleece abrasive rollers

					Hand pads		Abrasive roll	
				Length x width	229 x 152 mm		10000 x 115 mm	
Material of abrasive medium	Surface structure	Grid size	Colour	Number of pieces per packet (PCS)	69294... Ident. No.		69294... Ident. No.	
Aluminium oxide	Fine	320	Green	20	010	●	-	-
Aluminium oxide	Very fine	360	Red	20	020	●	-	-
Silicon carbide	Ultra fine	1500	Dark grey	20	030	●	-	-
Aluminium oxide	Rough	320	Green	1	-	-	110	●
Aluminium oxide	Medium	360	Red	1	-	-	120	●
Silicon carbide	Fine	1500	Dark grey	1	-	-	130	●
Silicon carbide	Ultra fine	2000	Beige	1	-	-	140	●

Prod. Gr. 690

Scotch-Brite™ non-woven abrasive pads and rolls

For application by hand or for use on hand-held sanders

Application:

Ident. No. 006–016: For cleaning, deburring, finishing and sanding surfaces. Ideally suited to complicated or detailed work

Ident. No. 205–211: Universal hand pads for most standard applications.

Execution:

- Resin-bonded fleece material

- **Ident. No. 006–016:**
  - Achieves a highly consistent and even finish
  - Does not alter the geometry of the workpiece

Advantage:

- CF-HP with aluminium oxide: Tough abrasive grain for a fine, matt finish
- CF-HP with silicon carbide: Hard, sharp abrasive grain provides a distinctive finish with a fine structure
- **Ident. No. 006–016:** CP-HP: High cutting performance and dense, even finish

Notes:

Ident. No. 205–211: Usable both wet and dry.

Ident. No. 006

Ident. No. 205–211
Fleece abrasive roller

				Hand pad		Abrasive roll	
			Type description	CP-HP		CF-RL	
			Length x width	224 x 158 mm		10000 x 100 mm	
Material of abrasive medium	Surface structure	Colour	Number of pieces per packet (PCS)	69296... Ident. No.		69296... Ident. No.	
Aluminium oxide	Medium	Brown	20	006	●	-	-
Aluminium oxide	Very fine	Red	20	011	●	-	-
Silicon carbide	Ultra fine	Grey	20	016	●	-	-
Aluminium oxide	Fine	Red	1	-	-	205	●
Silicon carbide	Ultra fine	Grey	1	-	-	211	●

Prod. Gr. 6DM

Accessories for		69296 205
69296... Scotch-Brite™ hand block PH-AC	Ident. No.	090 ●

3M Scotch-Brite™ CF-SR non-woven abrasive roll

In handy tear-off roll

Application:
For roughening painted surfaces, deburring, finishing, matting and cleaning of various surfaces

Execution:
- Nylon fibre fleece with resin-bonded abrasive
- Pre-cut roll with 35 pads (115x150 mm)

Advantage:
- Does not alter the workpiece geometry
- Easy to detach without waste

Notes:
Usable both wet and dry.

Ident. No. 111

		Type description	CF-RL		CF-SR	
		Length x width	4000 x 150 mm		4000 x 150 mm	
Material of abrasive medium	Surface structure	Colour	69296... Ident. No.		69296... Ident. No.	
Aluminium oxide	Very fine	Violet	106	●	-	-
Silicon carbide	Ultra fine	Grey	-	-	111	●

Prod. Gr. 6DM

ATORN SCD GB 610 AR non-woven discs

Application:
Particularly suitable for cleaning and finishing work

Execution:
- Very good on stainless steel
- Achieves matt and semi-gloss surfaces

Advantage:
- The discs have a punched 22 mm hole
- The 22 mm hole can optionally be pressed out of the disc
- The ZB 340 adhesive backing pad ensures concentric running

Technical data:
- Bore diameter: 22 mm
- Number of pieces per packet: 10 PCS

NEW

Washer Ø (mm)	Surface structure	76201... Ident. No.	
125	Very fine	105	●
115	Rough	100	●
115	Medium	101	○
115	Very fine	102	●
125	Rough	103	●
125	Medium	104	●

Prod. Gr. 6CS

ORION® Miniature flap wheels

For use on flexible shafts and electrical or pneumatic straight grinders

Application:
For machining in hard-to-reach places and of very small surfaces, e.g. fittings made of light or heavy metal, in tool construction, with pressing, casting or die-cast moulds or similar.

Execution:
- Plastic-bonded abrasive cloth discs
- Cast resin core
- Adjusts to the shape of the workpiece during grinding

Technical data:
- Binding: Plastic
- Number of pieces per packet: 10 PCS

		Grid size	80		120		150	
Head Ø x head length	Shank Ø (mm)	Recommended rotation speed (rpm)	76042... Ident. No.		76042... Ident. No.		76042... Ident. No.	
10 x 10 mm	3	26000	008	●	012	●	015	●
15 x 15 mm	3	24000	058	●	062	●	065	●
15 x 15 mm	6	24000	108	●	112	●	115	●
20 x 10 mm	3	20000	158	●	162	●	165	●
20 x 10 mm	6	20000	208	●	212	●	215	●
20 x 15 mm	3	20000	258	●	262	●	265	●
20 x 15 mm	6	20000	308	●	312	●	315	●

Prod. Gr. 6LH

POLINOX fleece grinding points
For an exceptional silk-matt sanding finish

General usage information:

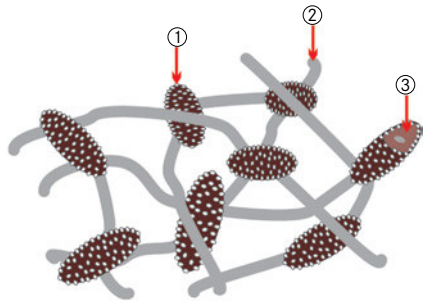
Non-woven abrasives are used when other grinding tools have reached the limit of their use or no longer achieve the required result.

Ideal for matting and satin-finishing of metals, cleaning oxidised non-ferrous base metals, uniform brush-matting of stainless steel, roughening of plastics in preparation for bonding and for levelling the surfaces of weld seams. Abrasive fleece can be used for wet or dry sanding.

Flexible shafts, electric and pneumatic straight grinders can be used as tool drives. POLINOX® fleece sanding tips perform best at a recommended cutting speed of 10-20 m/s.

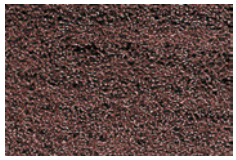
Advantages:

- Optimum contour following thanks to high flexibility
- Cool grinding and low thermal load on the workpiece
- No tool clogging thanks to the open structure and high flexibility of the fleece material



① Abrasive grain ② Synthetic fibres ③ Resin

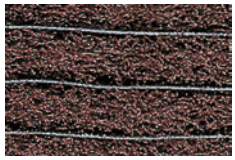
Special features and application options:



PNL model:

The abrasive fleece elements are arranged radially. Dense packing of the layers ensures a long service life.

PNL sanding tips are used chiefly for **surface conditioning** to obtain a **fine grinding finish**.



PNZ model:

The abrasive fleece elements are arranged radially with abrasive cloth interlayers.

This structure enables **improved stock removal** and produces a **coarser grinding finish**.

PNG model:

Made of multiple elements of strongly corrugated abrasive fleece strips wound around a core, arranged radially.

The wavy structure of the abrasive fleece permits **matt finishing of surfaces without visible transitions**.

POLINOX non-woven sanding tips
Shaft diameter 6 mm, shaft length 40 mm

Technical data:

- Shank diameter: 6 mm

	Material of abrasive medium	Head Ø x head length	Grid size	Max. rotation speed (rpm)	Recommended rotation speed (rpm)	Number of pieces per packet (PCS)	Type description POLINOX PNG 76044... Ident. No.		POLINOX PNZ 76044... Ident. No.		POLINOX PNL 76044... Ident. No.	
	Corundum	100 x 50 mm	100	6000	3000	5	010	●	-	-	-	-
	Corundum	100 x 50 mm	180	6000	3000	5	018	●	-	-	-	-
	Corundum	100 x 50 mm	280	6000	3000	5	028	●	-	-	-	-
	Silicon carbide	100 x 50 mm	100	6000	3000	5	110	○	-	-	-	-
	Silicon carbide	100 x 50 mm	180	6000	3000	5	118	●	-	-	-	-
	Corundum	40 x 20 mm	100	15000	7500	10	-	-	205	●	-	-
	Corundum	40 x 20 mm	180	15000	7500	10	-	-	210	●	-	-
	Corundum	50 x 30 mm	100	12000	6000	10	-	-	215	●	-	-
	Corundum	50 x 30 mm	180	12000	6000	10	-	-	220	●	-	-
	Corundum	60 x 50 mm	100	10000	5000	10	-	-	225	●	-	-
	Corundum	60 x 50 mm	180	10000	5000	10	-	-	230	●	-	-
	Corundum	80 x 50 mm	100	7500	4000	10	-	-	235	●	-	-
	Corundum	80 x 50 mm	180	7500	4000	10	-	-	240	●	-	-
	Corundum	100 x 50 mm	100	6000	3000	5	-	-	245	●	-	-
	Corundum	100 x 50 mm	180	6000	3000	5	-	-	250	●	-	-
	Corundum	40 x 20 mm	100	15000	7500	10	-	-	-	-	305	●
	Corundum	40 x 20 mm	180	15000	7500	10	-	-	-	-	310	●
	Corundum	40 x 20 mm	280	15000	7500	10	-	-	-	-	315	●
	Corundum	50 x 30 mm	100	12000	6000	10	-	-	-	-	320	●
	Corundum	50 x 30 mm	180	12000	6000	10	-	-	-	-	325	●
	Corundum	50 x 30 mm	280	12000	6000	10	-	-	-	-	330	●
	Corundum	60 x 50 mm	100	10000	5000	10	-	-	-	-	335	●
	Corundum	60 x 50 mm	180	10000	5000	10	-	-	-	-	340	●
	Corundum	60 x 50 mm	280	10000	5000	10	-	-	-	-	345	●
	Corundum	80 x 50 mm	100	7500	4000	10	-	-	-	-	350	●
	Corundum	80 x 50 mm	180	7500	4000	10	-	-	-	-	355	●
	Corundum	80 x 50 mm	280	7500	4000	10	-	-	-	-	360	●

Prod. Gr. 6AB

ATORN Grinding flaps, synthetic corundum

For use on flexible shafts and electrical or pneumatic straight grinders

Application:
For machining small parts, narrow curves, pipes, moulds, models, fittings etc. Particularly suitable for levelling, deburring, surface and weld seam processing as well as for flush surface finishing.

Advantage:
- Perfect fit on the workpiece thanks to flexible abrasive flaps
- consistently high material removal over the full service life
- optimised air supply prevents discolouration from occurring

Technical data:
- Binding: Synthetic resin
- Material to be processed: Stainless steel | Metal | Wood | Plastic | Steel | Universal use
- Number of pieces per packet: 10 PCS

		Grid size	60		80		120		150		240		40		320	
Head Ø x head length	Shank Ø (mm)	Recommended rotation speed (rpm)	76043... Ident. No.		76043... Ident. No.		76043... Ident. No.		76043... Ident. No.		76043... Ident. No.		76043... Ident. No.		76043... Ident. No.	
10 x 10 mm	3	38000	002	●	004	●	006	●	009	●	010	●	-	-	-	-
20 x 10 mm	3	19000	022	●	025	●	026	●	028	●	030	●	-	-	-	-
20 x 15 mm	3	19000	042	●	044	●	046	●	048	●	050	●	-	-	-	-
30 x 5 mm	3	16000	062	●	064	●	066	●	068	●	070	●	-	-	-	-
30 x 10 mm	3	16000	082	●	084	●	086	●	088	●	-	-	-	-	-	-
20 x 10 mm	6	19000	102	●	104	●	106	●	109	●	110	○	100	●	112	●
20 x 15 mm	6	19000	122	●	125	●	126	●	128	●	130	●	120	●	132	●
30 x 5 mm	6	16000	142	●	144	●	146	●	148	●	150	●	140	●	152	●
30 x 10 mm	6	16000	162	●	164	●	166	●	168	●	170	●	160	●	172	●
30 x 15 mm	6	16000	182	●	184	●	186	●	188	●	190	●	180	●	192	●
40 x 15 mm	6	12000	202	●	204	●	206	●	209	●	210	●	200	●	212	●
40 x 20 mm	6	12000	222	●	225	●	226	●	228	●	230	●	220	●	232	●
50 x 15 mm	6	9000	242	●	244	●	246	●	248	●	250	●	240	●	252	●
50 x 20 mm	6	9000	262	●	264	●	266	●	268	●	270	●	260	●	272	●
50 x 30 mm	6	9000	282	●	284	●	286	●	288	●	290	●	281	●	292	●
60 x 20 mm	6	8000	302	●	304	●	306	●	309	●	310	●	300	●	312	●
60 x 30 mm	6	8000	322	●	325	●	326	●	328	●	330	●	320	●	332	●
60 x 40 mm	6	8000	342	●	344	●	346	●	348	●	350	●	340	●	352	●
80 x 30 mm	6	6000	362	●	364	●	366	●	368	●	370	●	360	●	372	●
80 x 50 mm	6	6000	382	●	384	●	386	●	388	●	390	●	380	●	392	●

Prod. Gr. 6LA

ATORN Non-woven abrasive matting body

Synthetic corundum

Application:
For matting and satin finishing metals, matting non-ferrous metals and cleaning oxidised non-ferrous heavy metals. Smoothing and final sanding of workpiece surfaces.

Execution:
- Made of multiple non-woven lamellas, which are positioned around the axis of the tool in a fan pattern
- Extra soft non-woven abrasive for optimum adaptation to workpiece contours
- Creates a smooth, matte finish

Advantage:
- Longer service life thanks to increased material density and precise machining

Technical data:
- Material of abrasive medium: Aluminium oxide (normal corundum)
- Shank diameter: 6 mm
- Number of pieces per packet: 10

			Surface structure	Rough		Medium		Fine	
			Fleece grid size	100		180		280	
			Colour	Brown		Brown		Brown	
Head Ø x head length	Recommended rotation speed (rpm)	Max. rotation speed (rpm)		76043... Ident. No.		76043... Ident. No.		76043... Ident. No.	
40 x 20 mm	7500	14000		650	●	660	●	670	●
50 x 30 mm	6000	11000		652	●	662	●	672	●
60 x 30 mm	5000	9000		654	●	664	●	674	●
60 x 50 mm	5000	9000		656	●	666	●	676	●
80 x 50 mm	4000	7000		658	●	668	●	678	●

Prod. Gr. 6LA

ATORN Non-woven abrasive matting body

Synthetic corundum with colour coding

Application:
For matting and satin finishing metals, matting non-ferrous metals and cleaning oxidised non-ferrous heavy metals. Smoothing and final sanding of workpiece surfaces.

Execution:
- made of multiple non-woven lamella which are positioned around the axis of the tool in a fan shape
- To achieve virtually shoulder-free line matting on stainless steel surfaces

Advantage:
- Significantly longer service life thanks to double impregnation and material density
- Colour-coded tools ensure the easy allocation of grit size

Technical data:
- Material of abrasive medium: Aluminium oxide (normal corundum)
- Shank diameter: 6 mm

Ident. No. 700

Ident. No. 710

Ident. No. 720

				Surface structure	Rough		Medium		Fine	
				Fleece grid size	80		180-240		280-320	
				Colour	Orange		Yellow		Green	
Head Ø x head length	Recommended rotation speed (rpm)	Max. rotation speed (rpm)	Number of pieces per packet		76043... Ident. No.		76043... Ident. No.		76043... Ident. No.	
40 x 25 mm	7100	15200	10		700	●	710	●	720	●
50 x 25 mm	5700	12200	10		703	○	713	○	723	●
60 x 40 mm	4700	10100	5		706	●	716	●	726	●
80 x 50 mm	3500	7600	5		709	○	719	●	729	●

Prod. Gr. 6LA

ATORN Non-woven abrasive matting body

Silicon carbide

Application:
For matting and satin finishing metals, matting non-ferrous metals and cleaning oxidised non-ferrous heavy metals. Smoothing and final sanding of workpiece surfaces.

Execution:
- made of multiple non-woven lamella which are positioned around the axis of the tool in a fan shape
- Extra soft non-woven abrasive for optimum adaptation to workpiece contours
- Ideal for stainless steel machining
- Creates a smooth, matte finish

Advantage:
- Longer service life thanks to increased material density and precise machining

Technical data:
- Material of abrasive medium: Silicon carbide
- Shank diameter: 6 mm
- Number of pieces per packet: 10

			Surface structure	Rough		Medium		Fine	
			Fleece grid size	100		180		280	
Head Ø x head length	Recommended rotation speed (rpm)	Max. rotation speed (rpm)		76043... Ident. No.		76043... Ident. No.		76043... Ident. No.	
40 x 20 mm	7500	14000		750	●	760	●	770	●
50 x 30 mm	6000	11000		752	●	762	●	772	●
60 x 30 mm	5000	9000		754	●	764	●	774	●
60 x 50 mm	5000	9000		756	●	766	●	776	●
80 x 50 mm	4000	7000		758	●	768	●	778	●

Prod. Gr. 6LA

ATORN Abrasive non-woven/cloth matting body

Synthetic corundum

Application:
For cleaning and derusting oxidised metals and non-ferrous metals, and for texturing, roughening and pre-grinding workpiece surfaces

Execution:
- Made of non-woven and cloth lamellas, which are positioned alternately around the axis of the tool in a fan pattern
- Extra soft abrasive fleece for optimum adaptation to workpiece contours
- The combination of non-woven abrasive and abrasive cloth significantly enhances the sanding effect

Advantage:
- Longer service life thanks to increased material density and precise machining
- Increased removal thanks to the combination with synthetic corundum abrasive cloth

Technical data:
- Material of abrasive medium: Aluminium oxide (normal corundum)
- Shank diameter: 6 mm

				Surface structure	Rough		Medium		Fine	
				Colour	Brown		Brown		Brown	
Head Ø x head length	Grid size	Recommended rotation speed (rpm)	Max. rotation speed (rpm)	Number of pieces per packet	76043... Ident. No.		76043... Ident. No.		76043... Ident. No.	
40 x 20 mm	80	7500	15200	10	500	●	-	-	-	-
50 x 30 mm	80	6000	12200	10	503	●	-	-	-	-
60 x 30 mm	80	5000	10100	10	506	●	-	-	-	-
60 x 50 mm	80	5000	10100	10	509	●	-	-	-	-
80 x 50 mm	80	4000	7600	10	512	●	-	-	-	-
100 x 50 mm	80	3000	6100	5	516	●	-	-	-	-
40 x 20 mm	150	7500	15200	10	-	-	520	●	-	-
50 x 30 mm	150	6000	12200	10	-	-	523	●	-	-
60 x 30 mm	150	5000	10100	10	-	-	526	●	-	-
60 x 50 mm	150	5000	10100	10	-	-	529	●	-	-
80 x 50 mm	150	4000	7600	10	-	-	532	●	-	-
100 x 50 mm	150	3000	6100	5	-	-	535	○	-	-
40 x 20 mm	240	7500	15200	10	-	-	-	-	540	●
50 x 30 mm	240	6000	12200	10	-	-	-	-	543	●
60 x 30 mm	240	5000	10100	10	-	-	-	-	546	●
60 x 50 mm	240	5000	10100	10	-	-	-	-	549	○
80 x 50 mm	240	4000	7600	10	-	-	-	-	552	○
100 x 50 mm	240	3000	6100	5	-	-	-	-	555	●

Prod. Gr. 6LA

ATORN Abrasive non-woven/cloth matting body

Ceramic abrasive grain with colour coding

Application:
For metalworking and machining stainless steels in equipment, container, automotive and mould engineering and in the tool industry. Specially designed for processing stainless steel

Execution:
- Made of a combination of ceramic abrasive grain non-woven and cloth lamellas, which are positioned alternately around the axis of the tool in a fan pattern.
- To achieve virtually shoulder-free line matting on stainless steel surfaces
- Colour-coded tools ensure the easy assignment of fineness structure
- Combining non-woven abrasive with abrasive cloth made of ceramic abrasive grain considerably enhances the sanding effect and achieves a “brushed” grinding finish

Advantage:
- Long service life thanks to double impregnation
- High degree of removal and long service life thanks to the use of ceramic abrasive grain

Technical data:
- Material of abrasive medium: Ceramic grain
- Shank diameter: 6 mm

Ident. No. 600

Ident. No. 610

Ident. No. 620

				Surface structure	Rough		Medium		Fine	
				Colour	Orange		Yellow		Green	
Head Ø x head length	Grid size	Recommended rotation speed (rpm)	Max. rotation speed (rpm)	Number of pieces per packet	76043... Ident. No.		76043... Ident. No.		76043... Ident. No.	
40 x 25 mm	60	7100	15200	10	600	●	-	-	-	-
50 x 25 mm	60	5700	12200	10	602	●	-	-	-	-
60 x 40 mm	60	4700	10100	5	604	●	-	-	-	-
80 x 50 mm	60	3500	7600	5	606	●	-	-	-	-
40 x 25 mm	120	7100	15200	10	-	-	610	○	-	-
50 x 25 mm	120	5700	12200	10	-	-	612	○	-	-
60 x 40 mm	120	4700	10100	5	-	-	614	●	-	-
80 x 50 mm	120	3500	7600	5	-	-	616	●	-	-
40 x 25 mm	240	7100	15200	10	-	-	-	-	620	●
50 x 25 mm	240	5700	12200	10	-	-	-	-	622	●
60 x 40 mm	240	4700	10100	5	-	-	-	-	624	○
80 x 50 mm	240	3500	7600	5	-	-	-	-	626	●

Prod. Gr. 6LA

ATORN Coarse cleaning disc, silicon carbide

Application:
Optimal results when cleaning welding seams on stainless steels, but also when removing corrosion, scaling, discolouration, stubborn paints and coatings

Execution:
- The dia. 19 mm plastic hole core with 2 keyways fits all commercially available roller drives

Advantage:
- No clogging of the tool thanks to the open non-woven structure
- Uniform, reproducible sanding results

Technical data:
- Material of abrasive medium: Silicon carbide
- Colour: Black
- Max. rotation speed: 4800 rpm
- Recommended rotation speed: 2400 rpm
- Number of pieces per packet: 1

Ø x width x drill hole		100 x 100 x 19 mm
76044...	Ident. No.	695
		●

Prod. Gr. 6LA

ATORN Abrasive flap disc, abrasive cloth
Synthetic corundum

Application:
Suitable for larger areas, e.g. in container and equipment engineering. For removing rust, oxide layers, minor scratches and for strong texturing (pattern finishes) and satin finishing of metals

Execution:
- Made of synthetic corundum cloth lamellas, which are positioned in a plastic core around the axis in a fan pattern
- The dia. 19 mm plastic hole core with 4 keyways fits all commercially available roller drives
- Synthetic resin-bonded abrasive flaps

Technical data:
- Material of abrasive medium: Aluminium oxide (normal corundum)
- Max. rotation speed: 5700 rpm
- Recommended rotation speed: 3800 rpm

Ø x width x drill hole	Grid size	Number of pieces per packet	76044... Ident. No.	
100 x 50 x 19 mm	40	8	500	●
100 x 50 x 19 mm	60	8	503	●
100 x 50 x 19 mm	80	8	506	●
100 x 50 x 19 mm	120	8	509	○
100 x 100 x 19 mm	40	1	520	●
100 x 100 x 19 mm	60	1	523	●
100 x 100 x 19 mm	80	1	526	●
100 x 100 x 19 mm	120	1	529	●

Prod. Gr. 6LA

ATORN Abrasive flap disc, non-woven abrasive
Synthetic corundum

Application:
For matting and satin finishing metals, matting non-ferrous metals and cleaning oxidised non-ferrous heavy metals. Smoothing and final sanding of workpiece surfaces.

Execution:
- made of multiple non-woven lamellas which are positioned in a plastic core around the axis in a fan shape
- The dia. 19 mm plastic hole core with four keyways fits all commercially available roller drives.
- Extra soft non-woven abrasive for optimum adaptation to the workpiece
- Creates a smooth, matte finish

Advantage:
- double impregnation has a positive effect on the service life, significantly increasing it

Technical data:
- Material of abrasive medium: Aluminium oxide (normal corundum)
- Colour: Brown
- Max. rotation speed: 4800 rpm

Ø x width x drill hole	Fleece grid size	Design	Recommended rotation speed (rpm)	Number of pieces per packet	76044... Ident. No.	
100 x 50 x 19 mm	80	Coarse	2800	8	600	●
100 x 50 x 19 mm	120	Medium	2800	8	603	●
100 x 50 x 19 mm	180	Fine	2800	8	606	●
100 x 50 x 19 mm	280	Very fine	2800	8	609	○
110 x 100 x 19 mm	80	Coarse	2400	1	620	●
110 x 100 x 19 mm	120	Medium	2400	1	623	●
110 x 100 x 19 mm	180	Fine	2400	1	626	●
110 x 100 x 19 mm	280	Very fine	2400	1	629	●

Prod. Gr. 6LA

ATORN Abrasive flap disc, non-woven abrasive

with colour coding

Application:
For matting and satin finishing metals, matting non-ferrous metals and cleaning oxidised non-ferrous heavy metals. Smoothing and final sanding of workpiece surfaces

Execution:
- Made of multiple non-woven lamellas, which are positioned in a plastic core around the axis in a fan pattern
- The dia. 19 mm plastic hole core with 4 keyways fits all commercially available roller drives
- Creates a smooth, matte finish

Advantage:
- Colour coding prevents the tools from getting mixed up
- More trimming material compared to conventional rollers ensures a longer service life and generates less heat during machining

Technical data:
- Material of abrasive medium: Aluminium oxide (normal corundum)
- Max. rotation speed: 4800 rpm
- Recommended rotation speed: 2800 rpm
- Number of pieces per packet: 1

Ident. No. 650

Ident. No. 653

Ident. No. 656

Ø x width x drill hole		115 x 100 x 19 mm	115 x 100 x 19 mm	115 x 100 x 19 mm
Colour		Orange	Yellow	Green
Fleece grid size		80	180-240	280-320
Design		Coarse	Medium	Fine
76044...	Ident. No.	650 ●	653 ●	656 ●

Prod. Gr. 6LA

ATORN Abrasive non-woven/cloth flap disc

Synthetic corundum

Application:
Suitable for larger surfaces, e.g. in tank and equipment manufacturing, for removing rust, oxide layers, minor scratches and for the strong texturing (pattern finishes) and burnishing of metals.

Execution:
- Made of fleece and abrasive cloth lamella which are positioned in a plastic core around the axis in a fan shape
- The dia. 19-mm plastic hole core with 4 keyways fits all commercially available roller drives.
- The use of synthetic corundum abrasive cloths achieves a higher degree of material removal and a coarser grinding finish.

Advantage:
- Longer service life and reduced heat generation thanks to 110 mm diameter

Technical data:
- Material of abrasive medium: Aluminium oxide (normal corundum)
- Colour: Brown
- Recommended rotation speed: 2800 rpm

Ø x width x drill hole	Design	Max. rotation speed (rpm)	Number of pieces per packet	76044... Ident. No.	
100 x 50 x 19 mm	Coarse	4800	8	550	●
100 x 50 x 19 mm	Medium	4800	8	553	●
100 x 50 x 19 mm	Fine	4800	8	556	●
110 x 100 x 19 mm	Extra-coarse	4700	1	570	●
110 x 100 x 19 mm	Coarse	4700	1	573	●
110 x 100 x 19 mm	Medium	4700	1	576	●
110 x 100 x 19 mm	Fine	4700	1	579	●

Prod. Gr. 6LA

ATORN Abrasive non-woven/cloth flap disc
with colour coding

Application:
Suitable for larger areas, e.g. in tank and equipment manufacturing. For removing rust, oxide layers, minor scratches and for strong texturing (pattern finishes) and burnishing of metals. Specially designed for machining stainless steel

Execution:
- Made of ceramic abrasive grain non-woven and abrasive cloth lamellas, which are positioned in a plastic core around the axis in a fan pattern
- The dia. 19 mm plastic hole core with 4 keyways fits all commercially available roller drives
- Double-impregnated abrasive fleece achieves the required grinding finish with quick and shoulder-free results

Advantage:
- Colour coding prevents the tools from being confused
- More trimming material compared to conventional rollers ensures a longer service life and generates less heat during machining
- The combination with ceramic grain abrasive fleece enhances the grinding effect and provides a striking grind pattern (brushed effect)
- Extremely high stability thanks to double impregnation

Technical data:
- Material of abrasive medium: Ceramic grain
- Max. rotation speed: 4800 rpm
- Recommended rotation speed: 2400 rpm
- Number of pieces per packet: 1
- Free from iron and sulphur: Yes

Ident. No. 590

Ident. No. 595

Ø x width x drill hole		115 x 100 x 19 mm	115 x 100 x 19 mm
Colour		Orange	Yellow
Design		Extra-coarse	Medium
76044...	Ident. No.	590 ●	595 ●

Prod. Gr. 6LA

ATORN Crimped flap disc, non-woven abrasive
with colour coding

Application:
For cloud-free matting, satin finishing and polishing of pre-ground sheets, cleaning of oxide layers and removal of discolouration. Smoothing and final sanding of workpiece surfaces. Suitable for malleable iron, grey cast iron, zinc injection moulding, forged steels, C-steel, deep-drawing steel, stainless steels, non-ferrous metals and wood.

Execution:
- made of multiple non-woven lamellas which are positioned in a plastic core around the axis in a fan-like, corrugated arrangement
- The dia. 19 mm plastic hole core with 2 keyways fits all commercially available roller drives.

Advantage:
- Shoulder-free line matting of large surfaces thanks to the corrugated design
- Extremely high stability thanks to double impregnation
- Colour coding prevents the tools from being mixed up.

Technical data:
- Material of abrasive medium: Aluminium oxide (normal corundum)
- Max. rotation speed: 4800 rpm
- Recommended rotation speed: 2400 rpm
- Number of pieces per packet: 1

Ident. No. 680

Ident. No. 682

Ident. No. 684

Ident. No. 686

Ident. No. 688

Ø x width x drill hole	Colour	Fleece grid size	Design	76044... Ident. No.	
100 x 100 x 19 mm	Orange	80	Extra-coarse	680	●
100 x 100 x 19 mm	Red	120	Coarse	682	●
100 x 100 x 19 mm	Yellow	180-240	Medium	684	●
100 x 100 x 19 mm	Green	280-320	Fine	686	●
100 x 100 x 19 mm	Purple	400-600	Very fine	688	●

Prod. Gr. 6LA

ATORN Backing pad with shank dia. 6 mm

Suitable for Roloc mount

Application:
For the use of tools with Roloc mount

Execution:
- Suitable for straight grinders, flexible shaft drive, angle grinders

Advantage:
- Highly efficient thanks to rapid tool change

Technical data:
- Number of pieces per packet: 1

Washer Ø (mm)		51	76
76067...	Ident. No.	570 ●	571 ●

Prod. Gr. 6CS

ATORN Ceramic sanding disc

Suitable for Roloc mount

Application:
for the machining of hard metal surfaces, such as unalloyed steel, stainless steel, aluminium and materials with super alloys

Advantage:
- Self-sharpening, aggressive ceramic abrasive grain
- Cooler sanding and top-size surface coating also reduce the temperature in the sanding zone
- Excellent removal rate
- Highly efficient thanks to rapid tool change

Technical data:
- Number of pieces per packet: 50 PCS

Grid size		36	60	80	120	36	60	80	120
Washer Ø (mm)		51	51	51	51	76	76	76	76
Recommended rotation speed (rpm)		20000	20000	20000	20000	12000	12000	12000	12000
76067...	Ident. No.	521 ●	522 ●	523 ●	525 ●	526 ●	527 ●	528 ●	529 ●

Prod. Gr. 6CS

ATORN Miniature Flexidisc segmented flap disc

Suitable for Roloc mount

Application:
For universal, coarse sanding tasks with high removal rate. Ideal for sanding welding seams in hard to reach places.

Advantage:
- Very user friendly thanks to simple operation and low-vibration working
- Highly efficient thanks to rapid tool change

Technical data:
- Number of pieces per packet: 10 PCS

Grid size		40	60	40	60
Washer Ø (mm)		50	50	75	75
Recommended rotation speed (rpm)		20000	20000	13000	13000
76067...	Ident. No.	551 ●	552 ●	553 ●	554 ○

Prod. Gr. 6CS

ATORN Zirconia sanding disc

Suitable for Roloc mount

Application:
for machining steel, stainless steel, titanium and aluminium

Advantage:
- High sanding performance thanks to top-size surface coating, which prevents workpiece tarnishing
- Highly efficient thanks to rapid tool change

Technical data:
- Number of pieces per packet: 50 PCS

Grid size		36	40	60	80	120	36	40	60	80	120
Washer Ø (mm)		51	51	51	51	51	76	76	76	76	76
Recommended rotation speed (rpm)		20000	20000	20000	20000	20000	12000	12000	12000	12000	12000
76067...	Ident. No.	501 ●	502 ●	503 ●	504 ●	505 ●	506 ●	507 ●	508 ●	509 ●	511 ●

Prod. Gr. 6CS

ATORN Coarse cleaning disc

Suitable for Roloc mount

Application:
For coarse cleaning, e.g. suitable for removing paint, scale, discolouration, rust and adhesive residues

Execution:
- Coarse, non-woven cleaning abrasive, developed from a special combination of synthetic fibres and ceramic abrasive grains

Advantage:
- Optimum contour adaptation and no tool jamming thanks to a high level of flexibility and an open structure
- Highly efficient thanks to rapid tool change

Notes:
For maximum performance, use at a recommended cutting speed of 15-20 m/s. This achieves an ideal compromise between removal rate, surface quality, temperature load of the workpiece, and tool wear

Technical data:
- Number of pieces per packet: 10 PCS

Ident. No. 561, 563

Washer Ø (mm)		51	51	76	76
Recommended rotation speed (rpm)		7000	7000	5500	5500
Colour		Red	Black	Red	Black
Material of abrasive medium		Ceramic grain	Aluminium oxide	Ceramic grain	Aluminium oxide
76067...	Ident. No.	561 ●	562 ●	563 ●	564 ●

Prod. Gr. 6CS

ATORN Pressed non-woven compact sanding disc

Suitable for Roloc mount

Application:
for machining aluminium, bronze, stainless steel, GFRP, CFRP, titanium, titanium alloys, cast steel, cobalt-based alloys, copper and brass

Advantage:
- No material clogging
- No interruptions due to sticking, slipping or coming loose
- Achieves a very fine and homogeneous sanding finish
- Highly efficient thanks to rapid tool change
- Very user friendly thanks to simple operation and low-vibration working

Technical data:
- Number of pieces per packet: 10 PCS

Washer Ø (mm)		51	51	76	76
Surface structure		Fine	Medium	Fine	Medium
Recommended rotation speed (rpm)		7000	7000	5500	5500
76067...	Ident. No.	541 ○	542 ●	543 ●	544 ●

Prod. Gr. 6CS

ATORN Non-woven sanding disc

Suitable for Roloc mount

Application:
For machining aluminium, bronze, stainless steel, GFRP, CFRP, titanium, titanium alloys, cast steel, cobalt-based alloys, copper and brass.

Advantage:
- For light deburring work, for removing pre-finishing marks, rust or oxidation
- Reinforced non-woven discs for versatile use
- Highly efficient thanks to rapid tool change

Technical data:
- Number of pieces per packet: 25 PCS

Ident. No. 533

Washer Ø (mm)		51	51	51	76	76	76
Surface structure		Rough	Medium	Fine	Rough	Medium	Fine
Recommended rotation speed (rpm)		7000	7000	7000	5500	5500	5500
76067...	Ident. No.	531 ●	532 ●	533 ●	534 ●	535 ●	537 ●

Prod. Gr. 6CS

ATORN Complete set zirconia with tools suitable for Roloc quick-change device

Suitable for straight grinders, flexible shaft drive, angle grinders

Application:

Ident. No. 581: Complete set, zirconia, 38 pieces featuring tools equipped with Roloc quick-change system

Ident. No. 582: Complete set, ceramic, 38 pieces featuring tools equipped with Roloc quick-change system

Execution:

- Suitable for straight grinders, flexible shaft drive, angle grinders

Advantage:

- Highly efficient thanks to rapid tool change

Technical data:

- Number of pieces in assortment/set: 38 PCS

Material of abrasive medium		Zirconium conrundum	Ceramic grain
Composition of set		4x zirconia sanding discs, grain 36, 40, 60, 80, 120, 3x non-woven sanding discs, coarse, medium, very fine, 1x non-woven compact discs, hard, soft, 1x miniature Flexi-Disc flap disc, grain 40, 60, 1x Clean cleaning disc, red, black, 1x felt disc for high-gloss polishing, 1x adapter with M14 thread for angle grinder, 1x backing pad, dia. 51 mm, shank dia. 6 mm	4x ceramic sanding discs, grain 36, 60, 80, 120, 3x non-woven sanding discs, coarse, medium, very fine, 1x non-woven compact discs, hard, soft, 1x miniature Flexi-Disc flap disc, grain 40, 60, 1x Clean cleaning disc, red, black, 1x felt disc for high-gloss polishing, 1x adapter with M14 thread for angle grinder, 1x backing pad, dia. 51 mm, shank dia. 6 mm
76067...	Ident. No.	581 ○	582 ●

Prod. Gr. 6CS

Ident. No. 581

Ident. No. 582

ATORN Adapter with M14 thread

Suitable for Roloc mount

Application:

M14 adapter for use on commercially available angle grinders

Advantage:

- Highly efficient thanks to rapid tool change

76067...	Ident. No.	572 ○

Prod. Gr. 6CS

PFERD TOOLS COMBIDISC sanding disc holder SBH

screw connection with internal thread

Application:

For use on straight or angle grinders and flexible shaft machines, for holding COMBIDISC grinding discs.

Execution:

- Quick-change screw connection for grinding discs with metal internal thread

Advantage:

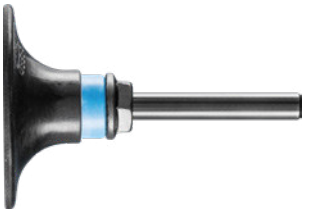
- Simple handling with rapid grinding disc replacement
- No velcro, no slipping, no loosening of the grinding disc due to heat
- Vibration-free concentricity due to permanently centred seating of the grinding disc

Technical data:

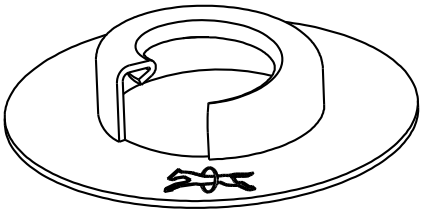
- Design: Medium hard
- Shank diameter: 6 mm
- Shaft length: 40 mm

Type description	Max. rotation speed (rpm)	76067... Ident. No.	
SBH 38 M	25000	003	●
SBH 50 M	19000	005	●

Prod. Gr. 6AB



Ident. No. 003



Combidisc system

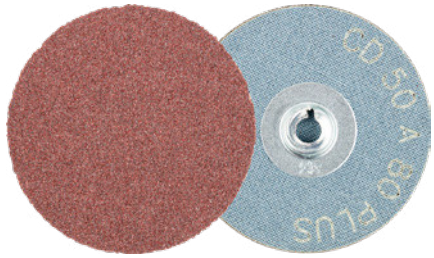
COMBIDISC A-PLUS corundum sanding discs

For universal use on metals and other materials

Application:
For universal use from rough to fine grinding. Particularly suitable for edge grinding.

Advantage:
- Higher removal rate due to stiffer base material
- Very high tear-resistance for long service life

Technical data:
- Washer diameter: 50 mm
- Min./max. recommended rotation speed: 8000-13000 rpm
- Material of abrasive medium: Corundum
- Number of pieces per packet: 100 PCS



Grid size	76067... Ident. No.	
36	036	●
60	060	●
80	080	●
120	120	●

Prod. Gr. 6AB

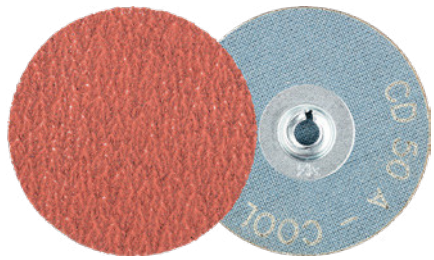
COMBIDISC A-COOL corundum sanding discs

For difficult-to-machine materials such as stainless steel (INOX), soft aluminium alloys etc.

Application:
For universal coarse to fine grinding on hard-to-machine materials such as INOX or nickel-based alloys. Suitable for roughening, levelling, deburring, sharpening, staged finishing and for machining surfaces and weld seams.

Advantage:
- Active grinding additives in the coating noticeably increase the removal rate, prevent clogging and facilitate cooler grinding.

Technical data:
- Washer diameter: 50 mm
- Min./max. recommended rotation speed: 8000-13000 rpm
- Material of abrasive medium: Corundum
- Number of pieces per packet: 100 PCS



Grid size	76067... Ident. No.	
60	260	●
80	280	●

Prod. Gr. 6AB

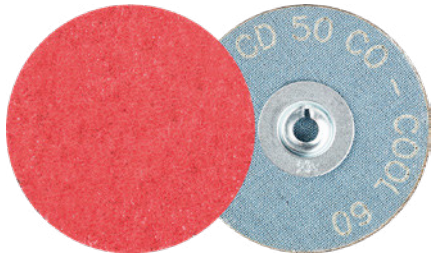
COMBIDISC CO-COOL ceramic abrasive grain sanding discs

For maximum removal

Application:
For aggressive grinding with maximum removal rate on hard, poorly heat-conducting materials.

Advantage:
- Ceaseless maximum performance due to self-sharpening ceramic grain
- Active grinding additives in the coating noticeably increase the removal rate, prevent clogging and facilitate cooler grinding

Technical data:
- Material of abrasive medium: Ceramic grain
- Number of pieces per packet: 100 PCS



Washer Ø (mm)	Grid size	Min./max. recommended rotation speed	76067... Ident. No.	
38	36	5000-16000 rpm	306	●
38	60	5000-16000 rpm	308	●
38	80	5000-16000 rpm	310	●
38	120	5000-16000 rpm	312	●
50	36	3800-13000 rpm	336	●
50	60	3800-13000 rpm	360	●
50	80	3800-13000 rpm	380	●
50	120	3800-13000 rpm	420	●

Prod. Gr. 6AB

COMBIDISC flap disc Mini-POLIFAN corundum A

for universal use

Application:
For universal, coarse grinding tasks with high removal performance. Ideal for grinding welding seams in hard to reach places.

Advantage:
- Increased service life and removal rate compared with grinding discs

Technical data:
- Washer diameter: 50 mm
- Min./max. recommended rotation speed: 12000-14000 rpm
- Number of pieces per packet: 10 PCS

Ident. No. 604

Grid size	76067... Ident. No.	
40	604	●
60	606	●
80	608	●

Prod. Gr. 6AB

COMBIDISC non-woven discs

Hard version, corundum abrasive grain, CD system

Application:
For universal surface processing on metals, e.g. eliminating pre-finishing marks, removing oxidation and light deburring work. For achieving matt and satin surfaces.

Advantage:
- Open structure prevents clogging of the disc

Notes:
Adding oil or water when grinding results in an even finer surface finish, cooler grinding and a longer service life.

Technical data:
- Number of pieces per packet: 50 PCS

		Surface structure	Rough		Medium		Very fine	
Washer Ø (mm)	Min./max. recommended rotation speed		76067... Ident. No.		76067... Ident. No.		76067... Ident. No.	
38	7000-10000 rpm		470	●	485	●	490	●
50	5500-7500 rpm		500	●	510	●	520	●

Prod. Gr. 6AB

Tool holder for COMBIDISC-Mini-POLIFAN

For COMBIDISC®-Mini-POLIFAN®, CD system

Technical data:
- Suitable for disc diameter: 50 mm
- Shank diameter: 6 mm
- Length: 40 mm
- Number of pieces per packet: 1 PCS

76067...	Ident. No.	695 ●

Prod. Gr. 6AB

ORION® Bench grinder wheels

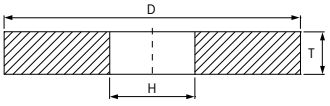
Ceramic bond, type 1

Application:
Maximum operating speed: 40 m/s. Not suitable for wet grinding.

Advantage:
- smooth running
- in stackable individual packaging
- Includes Reducing ring

Delivery:
Bore diameter 32 mm = reduction 32/20/16 -
Bore diameter 51 mm = reduction 51/32 -
Bore diameter 76 mm = reduction 76/40

Technical data:
- Form: 1



Type 1

Ident. No. 051

Example application

Material to be processed			High-alloy steel, hardened | Low-alloy steel, hardened | HSS		High-alloy steel, hardened | Low-alloy steel, hardened | HSS		High-alloy steel, hardened | Low-alloy steel, hardened | HSS		Cast metal | Carbide		Non-alloy and low-alloy steel, unhardened		Non-alloy and low-alloy steel, unhardened		Cast metal | Carbide	
Material of abrasive medium			White fused aluminium oxide		White fused aluminium oxide		White fused aluminium oxide		Green silicon carbide		Normal corundum		Normal corundum		Green silicon carbide	
Surface structure			Medium		Medium		Fine		Fine		Rough		Medium		Medium	
Grid size			46		60		80		80		36		60		60	
Washer Ø (mm)	Washer thickness (mm)	Bore Ø (mm)	69496... Ident. No.		69496... Ident. No.		69496... Ident. No.		69496... Ident. No.		69496... Ident. No.		69496... Ident. No.		69496... Ident. No.	
125	20	32	001	●	003	●	005	●	015	●	-	-	-	-	-	-
150	20	32	-	-	061	●	065	●	071	●	051	●	055	●	-	-
175	20	32	-	-	111	●	-	-	-	-	101	●	105	●	115	●
200	20	32	201	●	-	-	-	-	-	-	-	-	-	-	-	-
175	25	51	-	-	151	●	155	●	161	●	141	●	145	●	-	-
200	25	51	-	-	-	-	251	●	255	●	241	●	245	●	-	-

Material to be processed			High-alloy steel, hardened | Low-alloy steel, hardened | HSS		High-alloy steel, hardened | Low-alloy steel, hardened | HSS		High-alloy steel, hardened | Low-alloy steel, hardened | HSS		Cast metal | Carbide		Non-alloy and low-alloy steel, unhardened		Non-alloy and low-alloy steel, unhardened		Cast metal | Carbide	
Material of abrasive medium			White fused aluminium oxide		White fused aluminium oxide		White fused aluminium oxide		Green silicon carbide		Normal corundum		Normal corundum		Green silicon carbide	
Surface structure			Medium		Medium		Fine		Fine		Rough		Medium		Medium	
Grid size			46		60		80		80		36		60		60	
Washer Ø (mm)	Washer thickness (mm)	Bore Ø (mm)	69496... Ident. No.		69496... Ident. No.		69496... Ident. No.		69496... Ident. No.		69496... Ident. No.		69496... Ident. No.		69496... Ident. No.	
200	32	32	263	●	265	●	267	●	269	●	259	●	261	●	-	-
200	32	51	-	-	281	●	285	●	291	●	271	●	275	●	-	-
300	40	76	-	-	355	●	-	-	360	●	340	●	345	●	-	-

Prod. Gr. 6LO

3M Scotch-Brite™ wound compact discs - for deburring and finishing

Wound Scotch-Brite™ non-woven fibre with incorporated silicon carbide

Application:

Ident. No. 015–020: For deburring of steel, aluminium or cast parts, for rounding edges on stainless steel parts.

Ident. No. 030–040: For finishing on nearly all metals or for removal of light draw marks on stainless steel profiles.

Execution:

- **Ident. No. 015–020:** Can be profiled, red marking
- **Ident. No. 030–040:** Can be profiled, blue marking

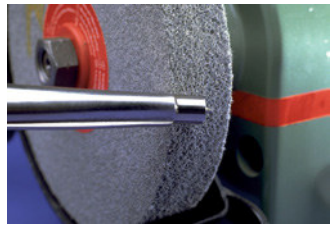
Advantage:

- **Ident. No. 015–020:** Creates smooth, round corners without secondary grades with long service life
- **Ident. No. 030–040:** Does not produce chatter marks, achieves distinctive streak effect

Technical data:

- Washer diameter: 152 mm
- Bore diameter: 25.4 mm
- Washer thickness: 25.4 mm
- Max. rotation speed: 6000 rpm
- Number of pieces per packet: 1 PCS

Ident. No. 015–020



Type description		DB-WL	DB-WL	FS-WL	FS-WL
Hardness		7 (medium hard)	9 (extremely hard)	2 (soft)	6 (medium)
Surface structure		Fine	Fine	Medium	Fine
69473...	Ident. No.	015 ●	020 ●	030 ●	040 ●

Prod. Gr. 6DM

ORION® Surface grinding wheels (ISO 525)

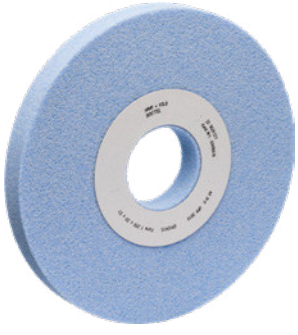
Ceramic bond

Advantage:

- Low wear
- Cool grinding
- Smooth cutting

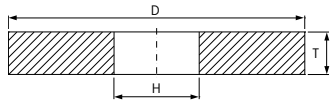
Notes:

Ensure that an adequate coolant supply is available. Discs are not suitable for dry sanding. Recommended operating speed is: 20–30 m/s.



Ident. No. 616
Sintered corundum and white corundum, shape 1

Ident. No. 760–770
White corundum, shape 7



Type 1

Material to be processed					Non-alloy and low-alloy steel, hardened | Non-alloy and low-alloy steel, unhardened | High-alloy steel, hardened | High-alloy steel, unhardened		High-alloy steel, hardened | HSS | Stainless steel		Non-alloy and low-alloy steel, hardened | Non-alloy and low-alloy steel, unhardened | High-alloy steel, hardened | High-alloy steel, unhardened	
Material of abrasive medium					White fused aluminium oxide		Sintered aluminium oxide and white fused aluminium oxide		White fused aluminium oxide	
Surface structure					Medium		Medium		Fine	
Grid size					46		60		80	
Form	Washer Ø (mm)	Washer thickness (mm)	Bore Ø (mm)	Cut-out clearance	69496... Ident. No.		69496... Ident. No.		69496... Ident. No.	
1	200	20	51	-	611	●	616	●	621	●
1	200	25	32	-	641	●	646	●	651	●
1	225	25	51	-	671	●	-	-	681	●
1	300	30	76.2	-	730	○	735	●	740	●
7	300	50	76.2	155 x 10 x 10 mm	760	●	-	-	770	●
1	350	50	127	-	800	●	805	○	810	●

Prod. Gr. 6LO

ORION® Cup grinding wheels (ISO 525)

Ceramic bond, type 6

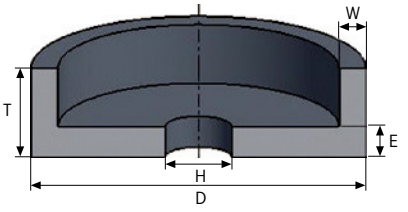
Application:
For regrinding metal cutting tools such as drills, milling cutters etc. on tool and pattern making machines.

Execution:
- **Ident. No. 005–035:**
  - HSS and special steels = grain 60–80
  - Low-alloy steels = grain 46–60

Advantage:
- cool grinding
- long service life
- superior surface finish

Notes:
Not suitable for wet grinding.

Ident. No. 055
Green silicon carbide



Type 6

Material to be processed							Non-alloy and low-alloy steel, hardened | High-alloy steel, hardened | HSS		Carbide	
Material of abrasive medium							White fused aluminium oxide		Green silicon carbide	
Grid size	Surface structure	Washer Ø (mm)	Washer thickness (mm)	Bore Ø (mm)	Wall thickness (mm)	Base thickness (mm)	69472... Ident. No.		69472... Ident. No.	
60	Medium	80	40	20	10	10	005	●	-	-
60	Medium	100	50	20	10	10	025	●	-	-
80	Fine	100	50	20	10	10	035	●	055	●

Prod. Gr. 6LO

DIAPOINT single-diamond dressing tools

For dressing ceramic sanding discs

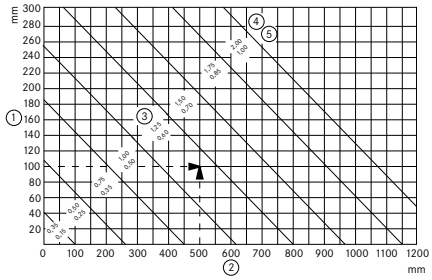
Application:
Suitable for all machines with corresponding holder. **Chucking:** Inclination of dressing tool to sanding disc centre from 5° to 15° required. We recommend **selecting the appropriate diamond weight** for individual diamond dressing tools according to the following diagram depending on the sanding disc to be adjusted.

Execution:
- Universal, traditional dressing tool with a single diamond with protruding working tip

Notes:
When ordering single-diamond dressing tools with cylindrical shaft, please specify the **dimension and length of the shaft**. **Holder** for manual dressing of grinding wheels, see no. 61220. **If the sharpness decreases,** rotate the dressing tool by approx. 60° around its own axis. Do this in good time: the blunt surface should be no greater than approx. 0.5 mm²

Technical data:
- Min./max. side feed per revolution: 0.05-0.15 m/s
- Min./max supply per throughput: 0.01-0.03 mm
- Number of pieces per packet: 1 PCS

No. 61124 050



	Shank style	Morse taper		Morse taper		Morse taper		Morse taper		Cylindrical		Cylindrical	
	Morse taper size	MK 0		MK 0		MK 1		MK 1					
	Natural tip quality	3		2		3		2		3		2	
DIN	Weight of diamond (carat)	61124... Ident. No.		61135... Ident. No.		61124... Ident. No.		61135... Ident. No.		61124... Ident. No.		61135... Ident. No.	
228	0.5	050	●	050	●	350	●	350	●	-	-	-	-
228	0.7	070	○	070	●	-	-	370	●	-	-	-	-
228	1.0	100	○	100	○	400	●	-	-	-	-	-	-
228	0.4	-	-	040	○	-	-	-	-	-	-	-	-
-	0.5	-	-	-	-	-	-	-	-	650	○	650	○
-	0.4	-	-	-	-	-	-	-	-	-	-	640	○
-	0.7	-	-	-	-	-	-	-	-	-	-	670	○

Prod. Gr. 610

Multi-grain dressing tool DIAROND

For dressing straight ceramic-bonded sanding discs

Application:
Ident. No. 010: For all straight ceramic sanding discs. **Chucking:** Dressing tool is clamped vertical to the spindle axis
Ident. No. 015–025: For all straight ceramic sanding discs. **Chucking:** Dressing tool is clamped vertical to the spindle axis

Execution:
- Standard dressing tool for machines with a suitable mounting
- With cylindrical, sintered diamond insert with many working tips

Advantage:
- Maintenance-free over the entire service life
- Robust and hard-wearing where handled incorrectly
- Can be used up fully
- For use with higher dressing traverse speed than single diamonds

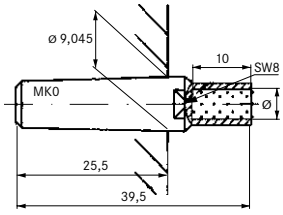
Notes:
Not suitable for profile sanding discs. For new use, it is recommended to perform several dressing strokes with increased infeed For **particularly aggressive hard abrasives,** a more wear-resistant dressing tool connection R is available

Technical data:
- Min./max supply per throughput: 0.01-0.03 mm
- Min./max. side feed per revolution: 0.3-0.5 m/s
- Number of pieces per packet: 1 PCS

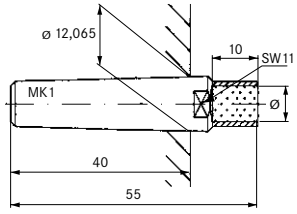
Ident. No. 010

Ident. No. 015

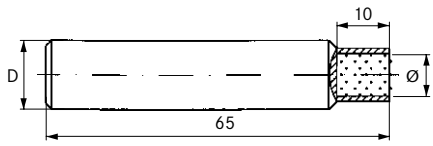
Ident. No. 020



Ident. No. 010
Design MK0



Ident. No. 015, 025
Design MK1



Ident. No. 020
Cylindrical design

		Shank style	Morse taper		Morse taper		Cylindrical	
		Morse taper size	MK 0		MK 1			
		DIN	228		228			
		Shank Ø (mm)					12	
Ø (mm)	Weight of diamond (carat)	Suitable for min./max. sanding disc Ø	Suitable for min./max. sanding disc width	61200... Ident. No.		61200... Ident. No.		61200... Ident. No.	
8	2.5	150-400 mm	20-80 mm	010	●	015	●	020	●
11	5.0	400-600 mm	0-300 mm	-	-	025	●	-	-

Prod. Gr. 610

Accessories for		61200 015	61200 025
61220... Holder for dressing diamonds Type A, for manual use	Ident. No.	010 ●	010 ●

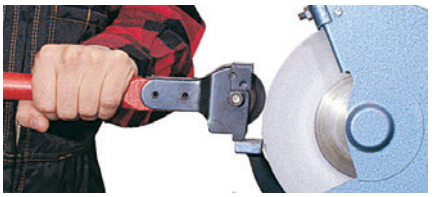
Sanding disc dressing tool made of steel

For dressing straight sanding discs

Execution:
- Sharpening roller consists of specially hardened discs made of Swedish steel that are joined together and equipped with U-shaped teeth
- Sharpening roller runs on hardened, lubricated shaft

Advantage:
- The teeth retain their sharpness and hardness until the wheel is completely worn down.

Technical data:
- Number of pieces per packet: 1 PCS



					Sanding disc dressing tool made of steel		Replacement wheels for steel sanding disc dressing tools	
Suitable for min./max. sanding disc Ø	Suitable for min./max. sanding disc width	Handle length (mm)	Roll width (mm)	Roll Ø (mm)	61964... Ident. No.		61965... Ident. No.	
125-250 mm	0-32 mm	285	12	35	005	●	005	●
300-500 mm	40-65 mm	435	24	55	010	●	010	●
300-500 mm	70-100 mm	435	51	55	020	●	020	●

Prod. Gr. 694

Sanding disc dressing tool

For dressing grinding wheels

Execution:
- The dressing tool consists of a round steel handle and a replaceable ceramic dressing cup.
- Dressing cup version: rotating, with ball bearings, conical, coarse grain
- **Ident. No. 020–030:** Dressing cup with sheet steel jacket

Delivery:

Ident. No. 030: Dressing cup attachment: Cone with bolt

						Sanding disc dressing tool		Replacement dressing cups for sanding disc dressing tool	
Size	Handle length (mm)	Handle Ø (mm)	Fastening thread	Roll Ø (mm)	Number of pieces per packet (PCS)	61955... Ident. No.		61956... Ident. No.	
00	100	22	M6	35	1	010	●	010	●
0	230	30	M10	45	1	020	●	020	●
1	230	30	-	55	1	030	●	030	●

Prod. Gr. 694

Diamond saver

Coarse grain, hard silicon carbide dressing rod in plastic sleeve

Application:

As a cost-effective alternative to dressing diamonds.

Outer Ø (mm)		25
Length (mm)		370
Material of handle		Wood
61950...	Ident. No.	020 ●

Prod. Gr. 610

ORION® Dressing stone for diamond and boron nitride sanding discs

Type 9010, grain size 180

Execution:
- Made of white corundum
- Unground

Grain size (µm)		180
Form		Rectangular
Material of abrasive medium		White fused aluminium oxide
Length x width x height		100 x 25 x 13 mm
Number of pieces per packet (PCS)		1
60597...	Ident. No.	010 ●

Prod. Gr. 601

ORION® Diamond multi-grain hand dressing tool

For precise dressing and profiling of ceramic sanding discs

Application:

For accurate dressing and profiling of ceramic grinding wheels.

Form	Lining length x lining width	Length (mm)	Weight of diamond (carat)	61230... Ident. No.	
T	25 x 8 mm	200	1.5	010	●
P	25 x 8 mm	200	1.5	020	●

Prod. Gr. 601

Ident. No. 010
Type T

Ident. No. 020
Type P

ORION® Diamond hand lapping tool

For carbide cutters

Application:

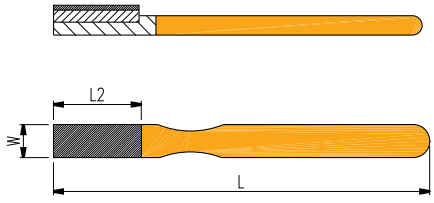
For the maintenance and re-machining of cemented carbide cutting edges.

Execution:
- **Ident. No. 010–030:** Highly wear-resistant and suitable for robust applications
- **Ident. No. 040:** Primarily designed for precision cutting operations

Advantage:
- Good grip
- High dimensional stability
- Long service life
- Use of the hand lapping tool increases the service life of the cemented carbide cutting edges

			Binding	Metal		Plastic	
			Range of applications	For standard cutting and milling tools		For fine boring and precision turning tools	
L2 x W	L (mm)	Grain size (µm)		60400... Ident. No.		60400... Ident. No.	
30 x 8 mm	140	64		010	●	-	-
40 x 12 mm	150	107		020	●	-	-
40 x 12 mm	150	46		030	●	-	-
30 x 9 mm	140	91		-	-	040	●

Prod. Gr. 601



Adhesive tapes

	One-sided adhesive tapes	2253

Marking equipment and markers

	Permanent marker	2257
	Paint marker	2260
	Permanent paint sticks and all-purpose markers	2262

Cloth-backed tape for all-purpose use

tesa® 4615 PCR

Application:
For holding together layers such as plastic films or paper sheets; for securing and bundling pipes, cables and loose objects. For sealing, marking and masking

Execution:
- High initial tack on a wide variety of materials
- Smooth unwinding
- Can be torn off by hand
- Water-resistant and durable

Technical data:
- Width of tape x length of strap: 50 mm x 50 mm
- Type of adhesive: Synthetic natural rubber
- Adhesive tape backing material: PE-coated fabric

NEW

Ident. No. 607

Colour		Grey	Black
69776...	Ident. No.	607 ○	608 ●

Prod. Gr. 6RP

Fabric adhesive tape 1900

Application:
Simple, universal fabric adhesive tape for temporary repair, bundling, reinforcing

Execution:
- hand-tear
- Waterproof

Advantage:
- Adapts to irregular surfaces without separating
- Good adhesion on different surfaces

Technical data:
- Type description: 1900
- Width of tape x length of strap: 50 mm x 50 m
- Thickness: 0.17 mm
- Type of adhesive: Rubber/resin
- Adhesive tape backing material: PE-coated fabric
- Max. short-term temperature resistance: 60 °C
- Breaking elongation: 20 %

Ident. No. 101

Ident. No. 102

Colour		Black	Silver
69771...	Ident. No.	101 ●	102 ●

Prod. Gr. 6RM

Fabric adhesive tape 2903

Application:
For bundling, packaging, connecting, sealing, protecting and colour coding products.

Advantage:
- Very good adhesion on different surfaces
- Fabric allows straight, tool-free tearing off in both longitudinal and transverse directions
- Can easily be torn by hand
- Good mouldability of the backing material for use on uneven surfaces

Technical data:
- Type description: 2903
- Width of tape x length of strap: 48 mm x 50 m
- Thickness: 0.15 mm
- Type of adhesive: Rubber/resin
- Adhesive tape backing material: PE-coated fabric
- Breaking elongation: 30 %

Ident. No. 111

Ident. No. 121

Colour		Black	Silver
69771...	Ident. No.	111 ●	121 ●

Prod. Gr. 6RM

3M Premium fabric adhesive tapes 389

Heat-resistant up to 70°C

Application:
For industrial applications such as marking, strengthening, repairing, sealing joints and air-conditioning ducts, bundling pipes, materials etc.

Execution:
- Close-meshed fabric adhesive tape with matt surface
- Polyethylene coating

Advantage:
- Excellent adhesive strength on a variety of surfaces
- Outstanding moisture resistance
- Adapts easily for use on uneven surfaces
- Good tear resistance and flexibility

Technical data:
- Width of tape x length of strap: 50 mm x 50 m
- Thickness: 0.26 mm
- Type of adhesive: Rubber/resin
- Adhesive tape backing material: PE-coated rayon fabric
- Breaking elongation: 6 %

Ident. No. 220

Ident. No. 222

Ident. No. 224

Ident. No. 226

Ident. No. 230

Colour		Silver grey	Dark blue	Red	White	Black
69771...	Ident. No.	220 ●	222 ●	224 ●	226 ●	230 ●

Prod. Gr. 6RM

3M Soft aluminium adhesive tapes 1436 P/F

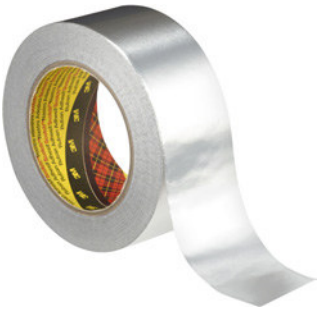
Economical alternative for simple applications

Application:
For sealing and insulation in the construction industry and in air conditioning technology.

Execution:
- With an easy-to-remove protective cover
- Suitable for use as a moisture barrier

Advantage:
- Good adhesion to a wide variety of surfaces
- Protective cover enables punched pieces to be produced
- Flame retardant according to DIN 4102 B1

Technical data:
- Thickness: 0.075 mm
- Colour: Silver
- Type of adhesive: Rubber/resin
- Min./max. temperature resistance: -25 to 70 °C
- Max. short-term temperature resistance: 100 °C
- Breaking elongation: 3 %



Width of tape x length of strap		50 mm x 50 m	75 mm x 50 m
69771...	Ident. No.	385 ●	395 ●

Prod. Gr. 6RM

3M Soft aluminium adhesive tapes 431

Suitable for long-term applications

Application:
For masking, sealing, heat and light reflection, covering surfaces during aluminium anodising and for use as a moisture barrier.

Execution:
- A combination of robust aluminium and durable adhesive for problem-free long-term applications
- Suitable for use as a moisture barrier

Advantage:
- Outstanding sealing properties thanks to good moisture shielding (water vapour diffusion)
- High level of resistance to ageing and weathering
- Good resistance to chemicals
- Strong heat and light reflection
- Low flammability (class L)

Technical data:
- Type description: 431
- Thickness: 0.08 mm
- Colour: Silver grey
- Type of adhesive: Acrylate
- Adhesive tape backing material: Soft aluminium
- Min./max. temperature resistance: -54 to 149 °C
- Breaking elongation: 5 %

Ident. No. 380

Width of tape x length of strap		25 mm x 55 m	50 mm x 55 m
69771...	Ident. No.	380 ●	390 ●

Prod. Gr. 6RM

Multi-purpose soft PVC tape 764i

For marking, bundling, holding, sealing

Execution:
- Soft to the touch and elastic, with high adhesive strength
- Abrasion-resistant

Advantage:
- High initial adhesive strength
- Good resistance to solvents
- Very easy to use, even on uneven surfaces

Technical data:
- Type description: 764i
- Width of tape x length of strap: 50.8 mm x 33 m
- Thickness: 0.1 mm
- Type of adhesive: Rubber/resin
- Adhesive tape backing material: Soft-PVC
- Min./max. temperature resistance: 16 to 29 °C
- Breaking elongation: 180 %

Ident. No. 550

Ident. No. 555

Ident. No. 560

Ident. No. 565

Colour		Blue	White	Orange	Red	Black	Green	Yellow
69772...	Ident. No.	550 ●	555 ●	560 ●	565 ●	570 ●	575 ●	580 ●

Prod. Gr. 6RM

Universal adhesive packing tape

tesapack® 64014 PP

Application:
Universal tape for sealing lightweight shipping boxes.

Execution:
- Quiet unwinding
- Can be applied by hand or with all common hand-held tape dispensers
- Very high resistance to UV, ageing and temperature for a long service life

Technical data:
- Type description: tesapack® 64014 PP
- Type of adhesive: Acrylate
- Adhesive tape backing material: PP foil

NEW

Ident. No. 602

Width of tape x length of strap		50 mm x 100 m	38 mm x 66 m	50 mm x 66 m	50 mm x 66 m
Colour		Havanna	Transparent	Transparent	Havanna
69776...	Ident. No.	602 ○	604 ○	605 ●	606 ●

Prod. Gr. 6RP

Scotch® PP packaging adhesive tapes 305

For light cardboard packaging and film packaging

Execution:
- Limited UV resistance
- With FDA approval

Advantage:
- Unrolls quietly

Technical data:
- Width of tape x length of strap: 50 mm x 66 m
- Thickness: 0.043 mm
- Type of adhesive: Acrylate
- Adhesive tape backing material: Bi-axial stretched PP film

Ident. No. 470

Colour		Brown	Transparent
69772...	Ident. No.	470 ●	475 ●

Prod. Gr. 6RM

Scotch® PVC packaging adhesive tapes 6890

High-quality, low-noise packaging tape

Execution:
- Humidity-resistant and resistant to chemicals
- High adhesive strength and tear resistance

Technical data:
- Type description: 6890
- Width of tape x length of strap: 50 mm x 66 m
- Thickness: 0.051 mm
- Type of adhesive: Natural rubber
- Adhesive tape backing material: PVC
- Breaking elongation: 70 %

Colour		Brown	Transparent
69772...	Ident. No.	485 ●	490 ●

Prod. Gr. 6RM

Ident. No. 485

Ident. No. 490

Soft PVC adhesive marking tapes

For indoor use

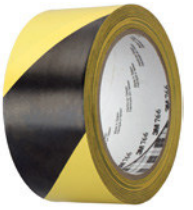
Application:
For marking, barricading, bundling, protecting and covering. Also suitable for making the floor. Ideal for indicating hazards.

Execution:
- Highly elastic backing material

Advantage:
- Solvent-resistant
- High initial adhesive strength
- Supple even on uneven surfaces

Type description		766i	767i
Width of tape x length of strap		50 mm x 33 m	50 mm x 33 m
Thickness (mm)		0.125	0.129
Colour		Black | Yellow	Red | White
Type of adhesive		Rubber/resin	Rubber/resin
Adhesive tape backing material		PVC	PVC
Breaking elongation (%)		180	180
69772...	Ident. No.	505 ●	515 ●

Prod. Gr. 6RM



Ident. No. 505

Ident. No. 515

Warning tape, red/white

Execution:
- Durable and extremely tear-resistant PE film
- Printed on both sides
- Not adhesive

69772...	Ident. No.	540 ●

Prod. Gr. 6RM

Extremely robust hand dispenser for adhesive tapes

Ideal for continuous use

Application:
For use with packaging adhesive tapes with a length of up to 66 m and width of 50 mm.

Execution:
- With notch trigger
- Two pressure rollers
- Extremely robust

69772...	Ident. No.	601 ●

Prod. Gr. 686

ATORN permanent marker DUO M+F

Colour blue

Application:
For writing and marking on almost all surfaces

Execution:
- Handy marker with 2 tips
- Line widths F approx. 0.6 mm
- M round tip approx. 1.5 mm

Advantage:
- Extremely smudge resistant and waterproof
- Dry in seconds, so ideal for left-handed users
- Colour-intensive, low-odour ink
- DRY SAFE - can be left without the lid for days without drying

Technical data:
- Colour: Blue

69794...	Ident. No.	110 ●

Prod. Gr. 6CH

Permanent marker 3000

Application:
Permanent marker for marking and labelling almost all materials, e.g. paper, cardboard, metal, plastic and glass.

Execution:
- Ready to use. The cap can be placed on the end of the barrel to prevent it from being lost. Wide range of colours.
- Durable marker with a long service life; quick-drying (also perfect for left-handed use), smudge-proof, waterproof and resistant to fading in sunlight
- Universal marker with sturdy nib and high-quality aluminium barrel, perfect for organisation in offices, at home, when relocating, in workshops or in warehouses

Technical data:
- Shape of tip: Round tip
- Min./max. line thickness: 1.5-3 mm
- Material to be processed: Carton | Paper | Plastic | Wood | Metal

Ident. No. 020

Colour		Black	Red	Blue	Green
69796...	Ident. No.	020 ●	021 ●	022 ●	023 ●

Prod. Gr. 6RL

Permanent marker 3000/10 S system box

Application:
Permanent markers for marking and labelling almost all materials, e.g. paper, cardboard, metal, plastic and glass

Execution:
- Ready to use. The cap can be placed on the end of the barrel to prevent it from being lost. Wide range of colours.
- Durable marker with a long service life; quick-drying (also perfect for left-handed use), smudge-proof, waterproof and resistant to fading in sunlight
- Universal marker with sturdy nib and high-quality aluminium barrel, perfect for organisation in offices, at home, when relocating, in workshops or in warehouses

Technical data:
- Shape of tip: Round tip
- Min./max. line thickness: 1.5-3 mm
- Number of pieces per packet: 10
- Material to be processed: Carton | Paper | Plastic | Wood | Metal

69796...	Ident. No.	025 ●

Prod. Gr. 6RL

Permanent marker 3300

Application:
Permanent markers for marking and labelling almost all materials, e.g. paper, cardboard, metal, plastic and glass.

Execution:
- Ready to use. The cap can be placed on the end of the barrel to prevent it from being lost. Wide range of colours.
- Durable markers with a long service life; quick-drying (also perfect for left-handed use), smudge-proof, waterproof and resistant to fading in sunlight
- Universal markers with high-quality aluminium barrel. The strong chisel nib enables both broad and fine lines. For use in offices, at home, when relocating or in warehouses

Technical data:
- Shape of tip: Chisel tip
- Min./max. line thickness: 1-5 mm
- Material to be processed: Carton | Paper | Plastic | Wood | Metal

Ident. No. 040

Colour		Black	Red	Blue	Green	-
Number of pieces per packet		-	-	-	-	4
69796...	Ident. No.	040 ●	041 ●	042 ●	043 ●	045 ●

Prod. Gr. 6RL

edding® Permanent marker No.1

Application:
Permanent marker for marking and labelling almost all materials, e.g. paper, cardboard, metal, plastic and glass.

Execution:
- Ready to use. Handy pocket size. Pluggable cap prevents loss.
- Durable marker with a long service life; quick-drying (also perfect for left-handed use), smudge-proof and resistant to dirt and moisture
- Universal marker with sturdy round nib, perfect for organisation in offices, at home, when relocating, in workshops or in warehouses

Technical data:
- Shape of tip: Chisel tip
- Min./max. line thickness: 1-5 mm
- Material to be processed: Carton | Paper | Plastic | Wood | Metal | Glass

Ident. No. 000

Colour		Black	Red	Blue	Green
69796...	Ident. No.	000 ●	001 ●	002 ●	003 ●

Prod. Gr. 6RL

edding® Permanent marker 400

Application:
Permanent marker for fine marking and labelling of almost all materials, e.g. paper, cardboard, metal, plastic and glass.

Execution:
- Fine stroke width. Ready to use. The practical clip prevents it from rolling away and can be attached to clothing and objects. The cap can be placed on the end of the barrel to prevent it from being lost. Wide range of colours.
- Durable marker with a long service life; quick-drying (also perfect for left-handed use), smudge-proof, waterproof and resistant to fading in sunlight
- Slim universal marker with fine nib for thin lines, perfect for organisation in offices, at home, in workshops or in warehouses

Technical data:
- Shape of tip: Round tip
- Material to be processed: Carton | Paper | Plastic | Wood | Metal | Glass

Ident. No. 060

Colour		Black	Red	Blue	Green
69796...	Ident. No.	060 ●	061 ●	062 ●	063 ●

Prod. Gr. 6RL

MARKAL® Locking varnish

Application:
User-friendly visual method for identifying vibrations, loosening or manipulation of nuts, bolts, screws and assemblies

Execution:
- Contains no xylene

Advantage:
- Highly visible colour marking, hardens to easily breakable film
- Ideal for quality control and warranty work
- Safe on most surfaces, adheres perfectly to metal

Notes:
We recommend that you request the safety data sheet with your first order.

Technical data:
- Contents: 50 ml
- Min./max. ambient temperature: -20 to 70 °C
- Material to be processed: Stainless steel | Aluminium | Steel | Iron | Plastic | Concrete | Stone | Asphalt | Masonry | Rubber | Textiles | Non-ferrous heavy metal

Colour		Red	Yellow	White	Orange	Black	Blue	Green	Purple
69795...	Ident. No.	000 ●	005 ●	010 ●	015 ●	020 ●	025 ●	030 ●	035 ●

Prod. Gr. 6RK

Pica Gel signal marker
For universal use

Application:
For permanent markings on all materials, both indoors and outdoors.

Execution:
- Chloride-free; therefore ideal for marks on stainless steel
- Variable line thickness, approx. 2-8 mm
- With practical quiver protector for perfect one-handed operation

Advantage:
- Highly permanent
- Fast-drying
- Light- and weather-resistant
- Temperature-resistant up to 1000°C
- Time-saving: Considerably faster marking than with a tube marker

Notes:
Extremely cost-effective: 1 Pica Gel replaces up to four 50 ml tubes

Technical data:
- Max. temperature resistance: 1000 °C
- Material to be processed: Rubber | Ceramics | Tiling | Glass | Plastic | Wood | Steel | Stainless steel | Leather

Ident. No. 310

Ident. No. 320

Ident. No. 330

Ident. No. 340

Colour		White	Red	Blue	Yellow
69794...	Ident. No.	310 ●	320 ●	330 ●	340 ●

Prod. Gr. 650

MARKAL Quik Stik mini marker

Compact solid-colour pen

Application:
Ideally suited for line markings on smooth or rough surfaces

Execution:
- Fast-drying
- Light- and weather-resistant
- With no xylene or ethylene glycol monobutyl ether
- Heat-resistant up to 300°C

Advantage:
- Marks virtually any surface, whether it is wet, smooth, rough or hot
- Leaves strong, durable marks on almost any surface

Technical data:
- Line thickness: 6 mm
- Max. temperature resistance: 300 °C
- Material to be processed: Steel | Iron | Glass | Wood | Rubber | Ceramics | Plastic

Ident. No. 200

Ident. No. 203

Ident. No. 205

Ident. No. 207

Colour		White	Yellow	Red	Black
69795...	Ident. No.	200 ●	203 ●	205 ●	207 ●

Prod. Gr. 6RK

MARKAL Dura-Ink 5 deep-hole marker

Application:
For precise markings on small surfaces.

Execution:
- With micro tip
- Smudge-proof and waterproof industrial ink for permanent marking
- Xylene-free

Advantage:
- The extended tip is ideal for marking through openings as well as in hard-to-reach areas.

Technical data:
- Line thickness: 1 mm
- Material to be processed: Metal | Plastic | Glass | Cardboard | Paper | Wood | Textiles

Ident. No. 300

Colour		Black	Red
69795...	Ident. No.	300 ●	305 ●

Prod. Gr. 6RK

Pica-Ink deep-hole marker

Very slim marker for marking hard-to-reach spots

Application:
For all dry materials

Execution:
- With self-readjusting and patented telescopic tip made of stainless steel
- Waterproof markings on almost all dry surfaces

Advantage:
- Permanent
- Can be removed using alcohol and spirit
- Can be left open for up to one day without drying out
- Patented telescopic tip: Up to 3x writing performance by using the full 7 mm of abrasive length of the fibre tip, instead of 2 mm

Technical data:
- Line thickness: 1.5 mm
- Material to be processed: Metal | Plastic | Ceramics | Tiling | Glass | Wood | Laminate

Colour		Black	Red	Blue
69794...	Ident. No.	200 ●	205 ●	210 ●

Prod. Gr. 650

Pica Dry deep-hole marker and refills

For marking and writing even on dusty, rough, oily or damp surfaces

Application:

Ident. No. 199: Ideal for fine markings on dry surfaces only.

Execution:

- **Ident. No. 100:**
  - Marker with all-purpose graphite lead, 2B
  - Shaft with roll stopper
  - "LONGLIFE CAP" with extra-strong clip and robust sharpener for long-term use
  - Effective protection from dust and moisture: Push-button as a protective cap and shaft with sealing ring
- **Ident. No. 190–197:** For almost all surfaces, whether dry or damp, smooth or rough, dusty or oily, light or dark
- **Ident. No. 199:** Graphite refill leads in special hardness H

Advantage:

- **Ident. No. 100:**
  - Automatic lead feeder integrated in the stainless steel tube
  - Can be wiped off all smooth surfaces with a cloth
  - Extremely sustainable as it can be refilled: Easy to change the refill from behind
- **Ident. No. 190:** Hardness 2B – easily removable from smooth surfaces
- **Ident. No. 199:** Hardness H for precise marking – not easily removable

Delivery:

Ident. No. 190: Set of pencil refills, consisting of 4 x graphite lead, 2 x red lead, 2 x yellow lead

Technical data:

- Line thickness: 2.8 mm

Ident. No. 100

Colour			Black	Colourful	Red	Yellow	Graphite	Anthracite
Number of pieces per packet			1	8	10	10	10	10
	Type							
69794...	Markers	Ident. No.	100 ●	-	-	-	-	-
69794...	Replacement leads	Ident. No.	-	190 ●	193 ●	195 ●	197 ●	199 ●

Prod. Gr. 650

DURA-INK® permanent marker

Universal use

Application:

For permanent markings on metal, cardboard, plastic, glass, timber/sawn wood, materials and fabrics.

Advantage:

- Clip caps for easy, secure storage of markers
- Impact-resistant barrel and extra-tough tip for long-term use with no loss of precision
- With wear-resistant ink formula for long-lasting markings

Ident. No. 705

Ident. No. 755

Type		DURA-INK® 15	DURA-INK® 15	DURA-INK® 15	DURA-INK® 15	DURA-INK® 55	DURA-INK® 55	DURA-INK® 55	DURA-INK® 55
Colour		Red	Black	Blue	Green	Red	Black	Blue	Green
Shape of tip		Round tip	Round tip	Round tip	Round tip	Chisel tip	Chisel tip	Chisel tip	Chisel tip
Line thickness (mm)		1.5	1.5	1.5	1.5	-	-	-	-
Min./max. line thickness		-	-	-	-	1.5-4.5 mm	1.5-4.5 mm	1.5-4.5 mm	1.5-4.5 mm
69794...	Ident. No.	700 ●	705 ●	710 ●	715 ●	750 ●	755 ●	760 ●	765 ●

Prod. Gr. 6RK

Paint marker SL.100

For permanent marking on almost all surfaces

Execution:

- Sturdy, medium-sized round tip: abrasion-resistant and extremely durable

Advantage:

- Xylene-free formula minimises risk to user's health
- Fast-drying paint means work can continue with no downtime
- Bright, UV and weather-resistant paints for highly effective, long-lasting markings

Notes:

Not for use on dirty, rough or wet surfaces.

Technical data:

- Line thickness: 3 mm
- Min./max. ambient temperature: -20 to 50 °C
- Max. temperature resistance: 100 °C
- Material to be processed: Steel | Iron | Non-ferrous heavy metal | Concrete | Stone | Plastic | Glass | Rubber | Ceramics | Tiling | Textiles | Cardboard

Ident. No. 575

Colour			White	Yellow	Red	Blue	Green	Black
69794...	SL.100	Ident. No.	570 ●	575 ●	580 ●	585 ●	590 ●	595 ●

Prod. Gr. 6RK

Pro-Line paint marker

For permanent marking on surfaces that are difficult to mark

Application:
Ident. No. 500–515: For applications on oily and greasy surfaces
Ident. No. 550–565: For applications at temperatures of up to 982°C

Advantage:
- Xylene-free formula minimises risk to user's health
- **Ident. No. 550–565:** Outstanding heat resistance

Technical data:
- Line thickness: 3 mm
- Min./max. ambient temperature: -46 to 66 °C

Ident. No. 500

Ident. No. 550

Type		PRO-LINE® HP	PRO-LINE® HP	PRO-LINE® HP	PRO-LINE® HP	PRO-LINE® HT	PRO-LINE® HT	PRO-LINE® HT	PRO-LINE® HT
Colour		White	Yellow	Red	Black	White	Yellow	Black	Blue
Number of pieces per packet		-	-	-	-	12	12	12	12
Material to be processed		Steel | Iron | Aluminium | Plastic | Rubber	Steel | Iron | Aluminium | Plastic | Rubber	Steel | Iron | Aluminium | Plastic | Rubber	Steel | Iron | Aluminium | Plastic | Rubber	Metal | Glass | Ceramics	Metal | Glass | Ceramics	Metal | Glass | Ceramics	Metal | Glass | Ceramics
69794...	Ident. No.	500 ●	505 ●	510 ●	515 ●	550 ●	555 ●	560 ●	565 ●

Prod. Gr. 6RK

Pro-Line Fine paint marker

Application:
For fine line marking

Advantage:
- Xylene-free formula minimises risk to user's health

Technical data:
- Line thickness: 1.5 mm
- Material to be processed: Steel | Textiles | Plastic | Glass

Ident. No. 105

Colour		White	Yellow	Black	Red	Blue
69795...	Ident. No.	100 ●	105 ●	110 ●	115 ●	120 ●

Prod. Gr. 6RK

PAINT-RITER™ WATER-BASED paint marker

Solvent-free water-based paint marker

Application:
Water-based, low-odour paint marker suitable for marking virtually all types of clean surface.

Execution:
- weather- and UV-resistant

Advantage:
- Smooth, continuous marking – valve-actuated tip only releases paint as required
- Medium bullet tip resists wear to give an extremely long service life
- Water-based paint formulation that does not contain solvents and does not release volatile organic compounds. It therefore meets the user safety and environmental protection requirements

Technical data:
- Line thickness: 3 mm
- Min./max. ambient temperature: 4 to 66 °C
- Material to be processed: Steel | Iron | Plastic | Rubber | Cardboard | Glass

Ident. No. 153

Colour		White	Yellow	Red	Black
69795...	Ident. No.	151 ●	152 ●	153 ●	154 ●

Prod. Gr. 6RK

SL.130 paint marker

Removable paint marker for temporary marking

Application:
Chalk-based paint marker easily wiped off any smooth, non-porous surface using water, without leaving traces or residue

Advantage:
- Ideal for temporarily visible markings
- Medium bullet tip resists wear to give an extremely long service life
- Smooth, continuous marking – valve-actuated tip only releases paint as required

Technical data:
- Line thickness: 3 mm
- Min./max. ambient temperature: 5 to 40 °C
- Max. temperature resistance: 80 °C
- Material to be processed: Steel | Iron | Rubber | Glass | Artificial stone | Non-ferrous heavy metal

Ident. No. 650

Colour		Green	Pink	Orange
69794...	Ident. No.	650 ●	655 ●	660 ●

Prod. Gr. 6RK

Trades markers set 13 pieces

Mechanical universal marker (refillable)

Application:
Refillable markers for weather-resistant marking on all surfaces; for example smooth, rough, rusty or dirty surfaces.

Execution:
- Abrasion-resistant
- Weather- and UV-resistant

Advantage:
- TRADES-MARKER® offer the versatile marking properties of a wax pen with paper sleeve, combined with a simple push-button mechanism for saving costs and resources
- Owing to the push mechanism, easy to use with just one hand

Delivery:
1 holder, 12 refills

Technical data:
- Line thickness: 3 mm
- Material to be processed: Steel | Iron | Metal | Stone | Tiling | Ceramics | Wood | Textiles | Glass | Plastic

Ident. No. 405

Ident. No. 415

Colour		White	Yellow	Red	Black
69795...	Ident. No.	400 ●	405 ●	410 ●	415 ●

Prod. Gr. 6RK

PAINTSTIK® ORIGINAL B permanent paint stick

For marking rough, rusty, smooth and dirty surfaces

Advantage:
- Weather- and UV-resistant

Technical data:
- Line thickness: 17 mm
- Min./max. ambient temperature: -46 to 66 °C
- Number of pieces per packet: 12
- Material to be processed: Concrete | Iron | Rubber | Wood | Plastic | Glass | Stone | Steel

Ident. No. 600

Ident. No. 605

Colour		White	Yellow
69794...	Ident. No.	600 ●	605 ●

Prod. Gr. 6RK

GOT BIG PLANS?
WE WELCOME THE CHALLENGE.
OUR SPECIALIST ADVISERS PLAN EVERYTHING DOWN TO THE LAST DETAIL AND CAN HELP YOU WITH SELECTING, PLANNING AND IMPLEMENTATION.
07
06
05
04
crown
Do you need more than just a hammer, pair of pliers or a screwdriver? We have the full range for you. Machining tools, handling systems and measuring technology. However, we also offer tailor-made system solutions, large and small machinery and complete factory equipment. In total, more than 120,000 products.
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Mains-operated power tools

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metabo Drills

For drilling in steel up to max. Ø 16mm

Execution:

- **Ident. No. 022:**
  - Spindle with hexagon socket for working with screwdriver bits without a drill chuck
  - With adjusting wheel for pre-selecting the rotation speed
  - With Vario (V) electronics for working with rotation speeds suitable for the material
- **Ident. No. 036:**
  - drill spindle with hexagon socket
  - variable speed
  - rotating carbon brush bridge for maximum performance
  - cable-protecting ball joint for maximum freedom of movement when working
  - safety coupling

Delivery:

Ident. No. 036: in cardboard box

Ident. No. 022

Ident. No. 036

Model		BE 650	BE 850-2
Manufacturer Article Number		600741850	600573810
Nominal voltage (V)		230	230
Max. drilling Ø in steel (mm)		13	13
Max. drilling Ø in wood (mm)		30	40
Power input (W)		650	850
Power output (W)		320	490
Idle speed 1st gear min./max.		0-1500 rpm	0-1100 rpm
Idle speed 2nd gear min./max.		-	0-3100 rpm
Max. torque (Nm)		-	36
Min./max. drill chuck span width		1.5-13 mm	1.5-13 mm
Material of gear housing		-	Aluminium die casting
Drill chuck type		-	Quick action chuck
Weight (kg)		1.8	2.6
Cable length (m)		2.5	4
With speed control		Yes	-
With rubber-coated handle		Yes	Yes
With overload protection		No	No
With restart protection		No	No
With electronic feedback		Yes	No
With impulse function		No	No
With right/left-hand rotation		Yes	Yes
70005...	Ident. No.	022 ●	036 ●

Prod. Gr. 745

BOSCH Drills

For drilling in steel up to max. Ø 16 mm

Application:

No. 70016 041: ideal for drilling holes in formwork

Execution:

- control electronics for precise spot drilling
- **No. 70002:** variable speed to suit the material
- **No. 70016 038:**
  - adjustment wheel for speed preselection
  - 2-speed planetary gear unit
  - Ball bearings and anti-friction bearings throughout for long service life and precise work
  - Overload coupling
- **No. 70016 041:**
  - synchronised 2-speed draw-key transmission; switchover possible during operation
  - Switch is operated and locked with one finger

Advantage:

- **No. 70016 041:** also suitable for mixing

Delivery:

No. 70002: in cardboard box

No. 70016: depth stop, additional handle, in box

No. 70002 006

No. 70016 038

Model		GBM 6 RE	GBM 10 RE	GBM 13-2 RE	GBM 16-2 RE
Manufacturer Article Number		BOSCH GBM 6RE	0601473600	06011B2002	0601120503
Nominal voltage (V)		230	230	230	230
Max. drilling Ø in steel (mm)		6.5	10	13	16
Max. drilling Ø in aluminium (mm)		8	10	20	20
Max. drilling Ø in wood (mm)		15	25	32	40
Power input (W)		350	600	750	1050
Power output (W)		136	360	353	570
Idle speed 1st gear min./max.		0-4000 rpm	0-2600 rpm	0-1000 rpm	0-600 rpm
Idle speed 2nd gear min./max.		-	-	0-3000 rpm	0-1450 rpm
Max. torque (Nm)		12.3	20	39.5	50
Width across corners (mm)		-	-	29	-
Drill chuck type		Quick action chuck	Quick action chuck	-	Gear ring drill chuck
Weight (kg)		1.2	1.7	2.4	3.7
With rubber-coated handle		No	Yes	Yes	Yes
70002...	Ident. No.	004 ●	006 ●	-	-
70016...	Ident. No.	-	-	038 ●	041 ●

Prod. Gr. 731

Angle drills

For drilling in steel up to max. Ø 10mm

Application:
ideal for hard-to-reach areas

Execution:
- **Ident. No. 005:**
  - accelerator electronics and speed preselection with adjusting wheel
  - rugged bevel gear drive for long service life
  - transmission head height only 74 mm
- **Ident. No. 021:**
  - metal gear head
  - clockwise/anti-clockwise rotation and continuously variable accelerator electronics for universal use, e.g. for thread cutting up to M6.
  - conical drill shaft holder
  - transmission head height: 96 mm

Delivery:
in cardboard box

Ident. No. 005

Ident. No. 021

Model			GWB 10 RE	WBP 10
Manufacturer Article Number			0601132703	72055160000
Nominal voltage (V)			230	230
Max. drilling Ø in steel (mm)			10	10
Max. drilling Ø in aluminium (mm)			12	15
Max. drilling Ø in wood (mm)			22	25
Power input (W)			400	500
Power output (W)			170	270
Idle speed 1st gear min./max.			0-1300 rpm	0-18301 rpm
Max. torque (Nm)			5.5	8
Min./max. drill chuck span width			-	0.8-10 mm
Width across corners (mm)			23	17
Drill chuck type			Gear ring drill chuck	Gear ring drill chuck
Weight (kg)			1.7	1.6
With rubber-coated handle			No	No
BOSCH	70105...	Ident. No.	005 ●	-
FEIN	70105...	Ident. No.	-	021 ●

FEIN = Prod. Gr. 704
BOSCH = Prod. Gr. 731

Impact drills, 1-speed and 2-speed

For drilling in masonry up to max. 24 mm

Application:
No. 70020: for drilling boreholes in particularly hard materials using mechanical impact.
No. 70021 011–70021 026, 70021 052: For drilling holes in especially sturdy materials with mechanical force
No. 70021 048: for the most demanding applications with large diameters (drilling, working with hollow drilling bits and hole saws) as well as screw-driving and mixing.

Execution:
- **No. 70020:**
  - adjustment wheel for pre-selecting the speed
  - wear-free cast aluminium gear case
  - spindle with hexagon socket
  - rotating carbon brush bridge
  - safety coupling
  - cable-protecting ball joint
- **No. 70021 011:** speed preselection with adjustment wheel for working with different materials
- **No. 70021 011, 70021 048:**
  - Wear-free metal gear case
  - Rotating carbon brushes
  - Ball joint for maximum freedom of movement and protection from cable breakage
- **No. 70021 026:** With Rotation Control Clutch - protects the user and machine from overloading or blocking
- **No. 70021 026, 70021 052:**
  - Robust metal gear housing for long service life
  - With kickback control
  - With speed pre-selection
- **No. 70021 048:**
  - Mechanical overload clutch
  - torque pre-selection for uniform driving in of screws

Advantage:
- **No. 70021 026–70021 048:** clutch claws unlock and torque is minimised to prevent the tool blocking abruptly

Delivery:
No. 70020 191–70021 011: quick-action drill chuck, extra handle, depth stop, in plastic case
No. 70021 026, 70021 052: In case
No. 70021 048: Quick-action drill chuck, extra handle, depth stop, in plastic case

No. 70020

No. 70021 011

No. 70021 048

No. 70021 052

Model			GSB 16 RE	GSB 20-2 Professional	GSB 21-2 RCT	GSB 24-2 Professional	SBEV 1000-2
Manufacturer Article Number			060114E500	060117B400	060119C700	060119C801	600783500
Nominal voltage (V)			230	230	230	230	230
Max. drilling Ø in steel (mm)			13	13	16	16	16
Max. drilling Ø in wood (mm)			30	40	40	40	40
Max. drilling Ø in concrete (mm)			16	18	22	22	20
Max. drilling Ø in masonry (mm)			18	20	24	24	22
Power input (W)			750	850	1300	1100	1010
Power output (W)			380	430	695	630	540
Idle speed 1st gear min./max.			0-2800 rpm	0-1000 rpm	0-900 rpm	0-900 rpm	0-1000 rpm
Idle speed 2nd gear min./max.			-	0-3000 rpm	0-3000 rpm	0-3000 rpm	0-2800 rpm
Max. impact rate (rpm)			47600	51000	51000	-	53200
Max. torque (Nm)			-	36	-	40	-
Min./max. drill chuck span width			1.5-13 mm	1.5-13 mm	1.5-13 mm	1.5-13 mm	1.5-13 mm
Drill chuck type			Quick action chuck	Quick action chuck	Quick action chuck	Quick action chuck	Quick action chuck
Weight (kg)			2.2	2.9	2.9	2.9	2.7
With rubber-coated handle			Yes	Yes	Yes	Yes	Yes
With overload protection			-	Yes	-	-	No
With restart protection			-	-	-	-	Yes
With electronic feedback			No	-	Yes	-	Yes
With impulse function			-	-	-	-	No
With right/left-hand rotation			Yes	-	Yes	-	Yes
BOSCH	70021...	Ident. No.	011 ●	026 ●	048 ●	052 ●	-
metabo	70020...	Ident. No.	-	-	-	-	191 ●

BOSCH = Prod. Gr. 731
METABO = Prod. Gr. 745

ATORN Hammer drill bit with four cutting edges

with SDS-Plus shank

HM | Z 4

Application:
Cutter with multiple cutting edges for concrete and reinforcements

Execution:
- Extremely robust with four cutting edges and two spiral flutes for a long service life
- Large drilling dust grooves and spiral
- Hammer drill bit with four cutting edges combining speed and robustness

Advantage:
- With an embedded carbide head for extreme resistance in reinforcements and powerful drilling progress
- Particularly fast drilling progress, does not get caught on reinforcements
- Optimised head and spiral design ensure highly effective drilling dust removal and minimal dust deflagration, even in deep drill holes
- Computer-generated spiral leads to very low levels of vibration and reduces the strain on the user
- Centring point ensures easy drilling

Technical data:
- Number of cutting edges: 4 PCS

Number of pieces per packet			1		11	
Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	70180... Ident. No.		70180... Ident. No.	
5	50	110	500	●	-	-
5	100	160	501	●	-	-
6	50	110	502	●	-	-
6	100	160	503	●	560	●
6	150	210	504	●	-	-
6	200	260	505	●	-	-
8	50	110	506	●	-	-
8	100	160	507	●	561	●
8	150	210	508	●	-	-
8	200	260	509	●	-	-
10	50	110	510	●	-	-
10	100	160	511	●	562	●
10	150	210	512	●	-	-
10	200	260	513	●	-	-

Number of pieces per packet			1		11	
Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	70180... Ident. No.		70180... Ident. No.	
12	100	160	514	●	563	●
12	150	210	515	●	-	-
12	200	260	516	●	-	-
12	250	310	517	●	-	-
12	400	450	518	●	-	-
14	100	160	519	●	-	-
14	160	210	520	●	-	-
14	200	260	521	●	-	-
14	250	310	522	●	-	-
14	400	450	523	●	-	-
16	150	200	524	●	-	-
16	200	260	525	●	-	-
16	250	300	526	●	-	-
16	400	450	527	●	-	-

Prod. Gr. 1AH

ATORN Hammerbohrer Vierschneider Satz

with SDS-Plus shank

HM | Z 4

Application:
Cutter with multiple cutting edges for concrete and reinforcements

Execution:
- Extremely robust with four cutting edges and two spiral flutes for a long service life
- Large drilling dust grooves and spiral
- Hammer drill bit with four cutting edges combining speed and robustness

Advantage:
- With an embedded carbide head for extreme resistance in reinforcements and powerful drilling progress
- Particularly fast drilling progress, does not get caught on reinforcements
- Optimised head and spiral design ensure highly effective drilling dust removal and minimal dust deflagration, even in deep drill holes
- Computer-generated spiral leads to very low levels of vibration and reduces the strain on the user
- Centring point ensures easy drilling

Technical data:
- Included in delivery: Box 5/6/8 x 50/110 and 6/8/10/12 x 100/160 mm
- Number of pieces in assortment/set: 7 PCS

70180...	Ident. No.	580 ●

Prod. Gr. 1AH

ATORN Cylindrical stone drill bit (DIN 8039)

HM | Z 2 | HA

Application:
A genuine all-rounder for true professionals: Suitable for almost all materials and available for all standard power tools. A must-have drill bit for every tradesperson.

Execution:
- Ideal for a wide range of materials used in construction
- Save time and money by using a drill bit that is compatible with a range of materials and composite materials
- Reliable universal drill bit.

Advantage:
- Enables drilling into smooth and hard surfaces thanks to the diamond-ground carbide transverse cutting edge
- Can also be used with lower impact force when drilling in masonry and stone

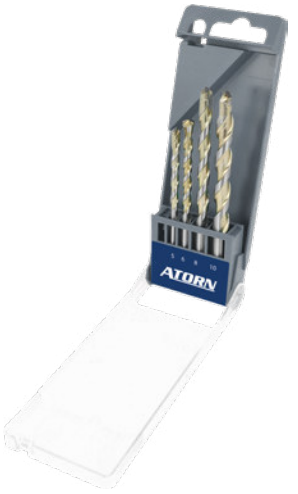
Cutting edge Ø (mm)	Shank Ø (mm)	Chip flute length (mm)	Length (mm)	70180... Ident. No.	
5	5	50	95	601	●
6	6	60	100	602	●
8	8	80	120	604	●
10	10	80	120	606	●
12	12	90	150	608	●
6	6	110	150	603	●
8	8	135	200	605	●
10	10	135	200	607	●
12	12	150	220	609	●
14	14	200	260	610	●
4	4	45	85	600	●

Prod. Gr. 1AH

ATORN Cylindrical stone drill bit set

set of four

HM | Z 2



Application:
A genuine all-rounder for true professionals: Suitable for almost all materials and available for all standard power tools. A must-have drill bit for every tradesperson.

Execution:
- Ideal for a wide range of materials used in construction
- Save time and money by using a drill bit that is compatible with a range of materials and composite materials
- Reliable universal drill bit.

Advantage:
- Enables drilling into smooth and hard surfaces thanks to the diamond-ground carbide transverse cutting edge
- Can also be used with lower impact force when drilling in masonry and stone

Technical data:
- Included in delivery: 5x95/6x100/8/120/10x120 mm
- Number of pieces in assortment/set: 4 PCS

70180...	Ident. No.	640 ●

Prod. Gr. 1AH

BOSCH Hammer drill bit SDS max-7

For use in stone, concrete and masonry

Z 2

Application:
Ideal for use at the highest drilling speeds

Execution:
- Suitable for all SDS plus hammer drills.

Advantage:
- Highest drilling speeds
- S-cutters made of carbide and inclined side cutters enable very fast drilling
- Vibration-optimised flute design provides excellent power transmission and increased speed

Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	70180... Ident. No.	
16	1200	1340	300	○
18	1200	1340	301	○
20	1200	1320	302	○
22	1200	1320	303	○
25	1200	1320	304	○
28	1200	1320	305	○
32	1200	1320	306	○
35	400	520	307	○
35	600	720	308	○
35	800	920	309	○

Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	70180... Ident. No.	
35	1200	1320	310	○
38	400	520	311	○
38	600	720	312	○
40	400	520	313	○
40	600	720	314	○
40	800	920	315	○
40	1200	1320	316	○
45	400	520	317	○
52	400	520	318	○

Prod. Gr. 732

BOSCH Expert SDS max-8X hammer drill bit

For use in stone, concrete and masonry

Z 4

Ident. No. 200

Application:
Ideal for drilling holes in reinforced concrete, e.g. for setting chemical anchor points and/or reinforcement joints.

Execution:
- Suitable for all SDS max hammer drills.

Advantage:
- Lasts up to three times longer than a standard drill bit
- Extremely durable drill bit tip with Bosch Carbide Technology.
- The first choice for construction workers. Durable and powerful.

Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	70180... Ident. No.	
12	200	340	200 242	○ ●
12	400	540	201	●
12	600	740	202	○
12	800	940	203	○
14	200	340	204	●
14	400	540	205	●
14	600	740	206	○
14	800	940	207	○
16	200	340	208 243	● ●
16	400	540	209 244	● ●
16	600	740	210	○
16	800	940	211	○
18	200	340	212 245	● ●
18	400	540	213 246	● ○
18	600	740	214	○
18	800	940	215	○
20	200	320	216 247	● ●
20	400	520	217 248	● ●
20	600	720	218	○
20	800	920	219	○

Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	70180... Ident. No.	
22	200	320	220	○
22	400	520	221 249	● ●
22	600	720	222	○
22	800	920	223	○
24	200	320	224	○
24	400	520	225 250	○ ○
25	200	320	226	○
25	400	520	227 251	● ●
25	600	720	228	○
25	800	920	229	○
26	200	320	230	○
26	400	520	231	○
28	200	320	232	○
28	400	520	233	●
28	600	720	234	○
28	800	920	235	○
30	200	320	236	○
30	400	520	237	●
32	200	320	238	○
32	400	520	239 252	● ●
32	600	720	240	○
32	800	920	241	○

Prod. Gr. 732

BOSCH Expert SDS plus-7X hammer drill bit

For universal use in stone, tiles, wood and non-ferrous metals

Z 4

Ident. No. 000

Application:
Ideal for drilling holes in reinforced concrete, e.g. for anchoring interior installations such as air-conditioning units, heating pipes, electrical cables and lighting.

Execution:
- Suitable for all SDS plus hammer drills.

Advantage:
- Lasts up to three times longer than a standard drill bit
- Extremely durable drill bit tip with Bosch Carbide Technology.
- Ideal for electrical work. Durable and powerful.

Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	70180... Ident. No.	
3.5	50	115	000	●
3.5	100	165	001	●
4	50	115	002	●
4	100	165	003	●
5	50	115	004	●
5	100	165	005	●
5	150	215	006	●
5	200	265	007	●
5	250	315	008	●
5	400	465	009	○
5.5	50	115	010	●
5.5	100	165	011	●
5.5	150	215	012	●
5.5	200	265	013	●
5.5	250	315	014	○
5.5	400	465	015	○
6	50	115	016	●
6	100	165	017	●
6	150	215	018	●
6	200	265	019	●
6	250	315	020	●
6	400	465	021	○
6.5	50	115	022	○
6.5	100	165	023	●
6.5	150	215	024	●
6.5	200	265	025	●
6.5	250	315	026	○
6.5	400	465	027	○
7	50	115	028	○
7	100	165	029	●
7	150	215	030	○
7	200	265	031	○
8	50	115	032	●
8	100	165	033	●
8	150	215	034	●
8	200	265	035	●
8	250	315	036	●
8	300	365	037	●
8	400	465	038	●
9	100	165	039	○
9	150	215	040	○
10	50	115	041	●
10	100	165	042	●
10	150	215	043	●
10	200	265	044	●
10	250	315	045	●
10	300	365	046	●
10	400	465	047	●
10	550	600	048	○
10	950	1000	049	○

Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	70180... Ident. No.	
11	100	165	050	○
11	150	215	051	○
11	200	265	052	○
12	100	165	053	●
12	150	215	054	●
12	200	265	055	●
12	250	315	056	●
12	300	365	057	●
12	400	465	058	●
12	550	600	059	○
12	950	1000	060	○
13	100	165	061	○
13	150	215	062	○
13	200	265	063	○
14	100	165	064	●
14	150	215	065	●
14	200	265	066	●
14	250	315	067	●
14	300	365	068	●
14	400	465	069	●
14	550	600	070	○
14	950	1000	071	○
15	100	165	072	●
15	200	265	073	●
15	400	465	074	○
16	150	215	075	●
16	200	265	076	●
16	250	315	077	●
16	400	465	078	●
16	550	600	079	○
16	950	1000	080	○
17	150	215	081	○
17	250	315	082	○
18	400	450	084	●
18	550	600	085	○
18	950	1000	086	○
20	200	250	087	○
20	400	450	088	●
20	550	600	089	○
20	950	1000	090	○
22	200	250	091	○
22	400	450	092	○
22	550	600	093	○
22	950	1000	094	○
24	400	450	095	○
25	400	450	096	○
25	550	600	097	○
25	950	1000	098	○
28	400	450	099	○
30	400	450	100	○

Prod. Gr. 732

BOSCH Expert SDS plus-7X hammer drill bit

As a set

Z 4

Application:
Ideal for drilling holes in reinforced concrete, e.g. for anchoring interior installations such as air-conditioning units, heating pipes, electrical cables and lighting.

Execution:
- Suitable for all SDS plus hammer drills.

Advantage:
- Lasts up to three times longer than a standard drill bit
- Extremely durable drill bit tip with Bosch Carbide Technology.
- Ideal for electrical work. Durable and powerful.

Ident. No. 150

Ident. No. 151

Ident. No. 152

Ident. No. 153

Composition of set	Number of pieces in assortment/set (PCS)	70180... Ident. No.	
5; 6; 6; 8; 8; 10; 12 mm	7	150	●
6; 8; 10 mm	3	151	●
5; 6; 6; 8; 10 mm	5	152	●
6; 6; 8; 8; 10 mm	5	153	●

Prod. Gr. 732

BOSCH Expert CYL-9 MultiConstruction drill bit

For use in stone, concrete, reinforced concrete and masonry

Application:
Ideal for drilling holes in various materials. Can be used in impact drilling for concrete and stone and rotary drilling for clay brick, tiles, panels, wood and plastic.

Advantage:
- Up to five times more precise than a standard drill bit
- Precise drilling with the patented Bosch Centering Geometry.
- The cylindrical shank is suitable for keyed drill chucks.
- The first choice for building work: maximum precision and versatile.

Ident. No. 420

Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	70180... Ident. No.	
3	40	70	420	●
3.5	40	70	421	●
4	45	75	422	●
4	80	130	423	●
4	40	75	441	○
5	50	85	424 442	● ○
5	90	150	425	●
5.5	50	85	426 443	● ○
5.5	100	150	427	●
6	60	100	428 444	● ○
6	90	150	429	●
6	200	250	454	○
6.5	60	100	430	●
6.5	90	150	431	●
6.5	200	250	455	○

Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	70180... Ident. No.	
7	60	100	432 445	● ○
7	90	150	433	●
7	200	250	456	○
8	80	120	434 446	● ○
8	90	150	435	●
8	200	250	457	○
9	80	120	436	●
10	80	120	437 447	● ○
10	90	150	438	●
10	200	250	458	○
11	90	150	439	●
12	90	150	440	●
12	200	250	459	○
14	150	200	460	●
14	200	250	461	●
16	150	200	462	○

Prod. Gr. 732

BOSCH Expert CYL-9 MultiConstruction drill bit

As a set

Application:
Ideal for drilling holes in various materials. Can be used in impact drilling for concrete and stone and rotary drilling for clay brick, tiles, panels, wood and plastic.

Advantage:
- Up to five times more precise than a standard drill bit
- Precise drilling with the patented Bosch Centering Geometry.
- The cylindrical shank is suitable for keyed drill chucks.
- The first choice for building work: maximum precision and versatile.

Composition of set	Number of pieces in assortment/set (PCS)	70180... Ident. No.	
4; 5; 6; 8 mm	4	448 452	● ○
5.5; 6; 6; 8 mm	4	449	●
4; 5; 6; 6; 8; 10; 12 mm	7	450	●
5; 5.5; 6; 6; 7; 8; 10 mm	7	451	●
5.5; 6; 7; 8 mm	4	453	○

Prod. Gr. 732

Ident. No. 448

BOSCH EXPERT HEX-9 HardCeramic drill bit

In box

Application:
Ideal for drilling into hard tiles.

Advantage:
- Lasts up to ten times longer than a standard tile drill bit

- Extremely durable drill bit tip with Bosch Carbide Technology.
- Start holes accurately thanks to a specially designed centring point.
- Hexagonal shaft for maximum power transmission in standard drill chucks and in hexagonal shanks.

Ident. No. 472

Cutting edge Ø (mm)	Length (mm)	70180... Ident. No.	
3	90	470	○
4	90	471	○
5	90	472	○
6	90	473	○

Cutting edge Ø (mm)	Length (mm)	70180... Ident. No.	
7	90	474	○
8	90	475	○
10	90	476	○
12	90	477	○

Prod. Gr. 732

BOSCH EXPERT HEX-9 HardCeramic drill bit

As a set

Application:
Ideal for drilling into hard tiles.

Advantage:
- Lasts up to ten times longer than a standard tile drill bit

- Extremely durable drill bit tip with Bosch Carbide Technology.
- Start holes accurately thanks to a specially designed centring point.
- Hexagonal shaft for maximum power transmission in standard drill chucks and in hexagonal shanks.

Ident. No. 482

Composition of set	Number of pieces in assortment/set (PCS)	70180... Ident. No.	
5; 6; 8 mm	3	478	●
6 mm	5	479 482	○ ●
4; 5; 6; 8; 10 mm	5	480	●
5 mm	5	481	●

Prod. Gr. 732

BOSCH HEX-9 MultiConstruction drill bit

For use in stone, concrete, reinforced concrete and masonry

Application:
The HEX-9 MultiConstruction drill bit has a long service life when drilling almost all materials

Advantage:
- The carbide tip allows holes to be started accurately and provides excellent guidance during drilling.
- Two-spiral U-shape for excellent dust removal and a long service life.

Ident. No. 406

Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	70180... Ident. No.	
3	45	90	400	●
4	45	90	401	●
5	50	100	402	●
5.5	60	100	403	●
5.5	90	150	404	●
6	60	100	405	●
6	90	150	406	●

Cutting edge Ø (mm)	Chip flute length (mm)	Length (mm)	70180... Ident. No.	
6.5	60	100	407	●
7	50	100	408	●
7	90	150	409	●
8	50	100	410	●
10	90	150	411	●
12	90	150	412	●

Prod. Gr. 732

BOSCH HEX-9 MultiConstruction drill bit

As a set

Application:
The HEX-9 MultiConstruction drill bit has a long service life when drilling almost all materials

Advantage:
- The carbide tip allows holes to be started accurately and provides excellent guidance during drilling.
- Two-spiral U-shape for excellent dust removal and a long service life.

Ident. No. 413

Composition of set	Number of pieces in assortment/set (PCS)	70180... Ident. No.	
5; 6; 8 mm	3	413	●
4; 5; 6; 6; 8 mm	5	414	●
5.5; 6; 6; 7; 8 mm	5	415	●

Prod. Gr. 732

ORION® Spirit level

Levelling aid

Application:
facilitates drilling and screw-driving in hard-to-reach spots. suitable for all electric hand drills.

Execution:
- equipped with removable, robust and ergonomically shaped handle
- Mounted on spindle neck
- With depth stop

70056...	Ident. No.	030 ●

Prod. Gr. 794

Bench drill stands

For hand drills and impact drills in stationary use

Application:
Ident. No. 019: Solid design for precise drilling.
Ident. No. 201: Industrial drill stand for drills up to 16 mm drilling capacity.

Execution:
- **Ident. No. 019:**
  - With integrated return spring and depth stop.
  - Use of the max. drilling depth of 65 mm is possible without repositioning.
  - Milled work surface with clamping grooves, e.g. for fixing vices.
- **Ident. No. 110:**
  - Adjustable depth stop
  - Asymmetrical arrangement of the column on the base plate allows larger workpieces to be processed
  - The structure of the feed drive mechanism enables the maximum drilling depth of 65 mm to be reached with one swivel movement
- **Ident. No. 201:**
  - Double drill motor guide for extra-large drilling tools
  - Base plate with hole pattern for Demmeler and Siegmund system 28 welding tables
  - Integrated coolant tank with flexible jointed hose
  - Manual feed wheel can be positioned on either side
  - Tool-free adjustable slide height

Advantage:
- Guarantees secure and precise work

Ident. No. 019

Ident. No. 110

Ident. No. 201

Manufacturer Article Number			MBS 165	600890000	90320223000
Model			MBS 165	890	IBS 16
Adapter Ø (mm)			43	43	53
Height (mm)			500	500	400
Overhang (mm)			165	165	-
Max. working stroke (mm)			65	65	145
Base plate length x base plate width			220 x 213 mm	220 x 213 mm	370 x 255 mm
Weight (kg)			5	5.5	8
Included in delivery			Not included: quick-action chuck for sheet metal | pipes and profiles.	-	Coolant tank | 1x flex adjustable coolant hose | 1x reducing ring dia. 43 mm
MAXION	70025...	Ident. No.	019 ●	-	-
metabo	70025...	Ident. No.	-	110 ●	-
FEIN	70025...	Ident. No.	-	-	201 ●

FEIN = Prod. Gr. 704
METABO = Prod. Gr. 745
MAXION = Prod. Gr. 768

Angle drill and screw attachment

For hand drills and impact drills

Application:

Ident. No. 015: For use on hand-held drills and hammer drills.

Ident. No. 025: For easy screw-driving in hard-to-reach places.

Execution:

- Suitable for clockwise and anti-clockwise rotation
- **Ident. No. 015:**
  - Suitable for drills with spindle neck diameter of 43 mm
  - Spindle with hexagon socket for screwdriver bits
  - Quick-clamping coupling
- Transmission ratio 1:1
- Drill chuck connecting thread 1/2 inch - 20 UNF
- Bit clamping socket
- **Ident. No. 025:**
  - With 1/4 inch (6.35 mm) hexagonal shaft
  - Magnetic bit holder
  - Only 30 mm corner-to-corner
  - Suitable for cordless screwdrivers up to a maximum of 14 Nm and 400 rpm
  - Gear unit made of special steel
  - Angle screwdriver attachment with 105° inclination

Ident. No. 015

Ident. No. 025

Manufacturer Article Number			631078000	630442000
70052...	Angle drill and screw attachment	Ident. No.	015 ●	-
70052...	Angle screwdriver attachment	Ident. No.	-	025 ●

Prod. Gr. 745

Magnetic core drills

With Weldon shank

Application:

For drilling large diameters on magnetic workpieces.

Execution:

- Large stroke, therefore suitable for use with core drill bits, twist drills and countersinks
- Magnetic base with high retention force allows working on vertical surfaces and overhead
- Integrated coolant container for easily metered internal cooling of the core drill bit
- Bright LED light
- Restarting protection
- Hard-wearing 5-meter mains cable with rubber sheath
- Lockable carriage for comfortably changing tools

Advantage:

- Chip guard installable without tools protects user from metal chips and contact with tools
- Handle for comfortable carrying and lifting
- Protection circuit starts motor only when magnet is activated

Delivery:

Ident. No. 011: Ejector pin, securing belt, hexagon socket key size 4, chip guard, in plastic case

Ident. No. 021: Industrial holder for Weldon shank 19 mm, ejector pins 75 and 100 mm, ejector drift Morse taper 2, securing belt, hexagon socket key size 5, chip guard, plastic case

Ident. No. 011

Ident. No. 021

Model		MAG 32	MAG 50
Tool holding device		Weldon	MT 2 Weldon
Max. drilling Ø of core drill bit in steel (mm)		32	50
Max. drilling Ø in steel (mm)		13	20
Max. drilling depth (mm)		50	50
Idle speed 1st gear min./max.		-	250-100 rpm
Idle speed 2nd gear min./max.		-	200-450 rpm
Max. idle speed (rpm)		700	-
Power input (W)		1000	1200
Power output (W)		520	620
Baseplate width (mm)		189	190
Baseplate length (mm)		90	90
Max. working stroke (mm)		160	160
Weight (kg)		11.9	12.7
With right/left-hand rotation		No	Yes
With electronic feedback		No	Yes
With overload protection		No	Yes
70142...	Ident. No.	011 ○	021 ●

Prod. Gr. 745

Magnetic core drills - with QuickIN holder

In universal and automatic versions

Application:

Ident. No. 011: For drilling large diameters on magnetic workpieces.

Ident. No. 028–036: For universal use, such as core, spiral, thread drilling as well as countersinking and reaming

Ident. No. 042: With extra large lifting range for all drilling operations, such as core, twist, thread drilling, countersinking and reaming

Execution:

- Clockwise/anti-clockwise rotation
- integrated coolant tank
- Manual feed wheel can be positioned on either side
- **Ident. No. 011, 036:** electronic speed adjustment
- **Ident. No. 011–036:**
  - Tilt sensor
  - Speed memory “Memory Function”
- **Ident. No. 028:** Electronic speed adjustment.
- **Ident. No. 028–036:** convenient magnetic retention force indicator
- **Ident. No. 036–042:** Torque safety clutch
- **Ident. No. 042:**
  - Mechanical 4-speed gearing
  - tilt sensor
  - Rotation speed reduction

Advantage:

- **Ident. No. 011:**
  - small, lightweight and powerful
  - easy and confusion-free operating concept
  - high magnetic retention force
- **Ident. No. 036:** digitally actuated drill feed saves times and money when drilling large volumes

Delivery:

Ident. No. 011–036: incl. coolant tank, lashing strap, swarf hook, centring pin, in plastic case

Ident. No. 042: Delivered in case with 1 coolant tank, 1 lashing strap with ratchet tool, 1 swarf hook, 2 centring pins, 1 protective cover, 1 taper drift, 1 Allen key 5 and 6 mm, 1 additional handle

Ident. No. 011

Ident. No. 028

Ident. No. 036

Ident. No. 042

Model		KBU 35 Q	KBM 50 U	KBM 50 auto	KBU110-4M
Type		universal	universal	fully automatic	universal
Tool holding device		QuickIN	QuickIN | MT3	QuickIN | QuickIN Max | MT3	MT 4 Weldon 32
Max. drilling Ø of core drill bit in steel (mm)		35	50	50	-
Max. drilling Ø in steel (mm)		16	23	23	-
Max. thread-cutting performance		M36	M16	-	M36
Max. countersunk Ø (mm)		31	50	-	60
Max. drilling depth (mm)		50	50	50	100
Idle speed 1st gear min./max.		-	130-260 rpm	130-260 rpm	100-190 rpm
Idle speed 2nd gear min./max.		-	260-520 rpm	260-520 rpm	160-290 rpm
Min./max. rotation speed at nominal load in 1st gear		130-520 rpm	-	-	-
Idle speed 3rd gear min./max.		-	-	-	270-500 rpm
Max. idle speed (rpm)		130	-	-	750
Max. rotation speed at nominal load (rpm)		-	-	-	430
Power input (W)		1100	1200	1200	1700
Power output (W)		550	610	600	850
Baseplate width (mm)		175	195	195	240
Baseplate length (mm)		80	90	90	120
Max. working stroke (mm)		260	145	145	280
Adherence strength		10000 N	12.5 kN	12.5 kN	23 kN
Weight (kg)		10.6	13.9	16.2	39
With right/left-hand rotation		-	-	-	Yes
70145...	Ident. No.	011 ●	028 ●	036 ●	042 ○+

Prod. Gr. 704

Drive arbours for magnetic core drills

for core drilling units

Application:

Ident. No. 302: For the use of FEIN core drills on table or pillar drills as well as all other core-drilling units with MK chuck

Ident. No. 303: For the use of FEIN core drills on table or pillar drills as well as core-drilling units with MK chuck: KBM 50 U, KBM 50 auto

Delivery:

Ident. No. 302: includes hand pump 450 ml

70145...	QuickIN shank MK 3 with integrated coolant feed, drill dia. 12–65 mm, cutting depth 50 mm	Ident. No.	301 ●
70145...	QuickIN shank MT 2 drill Ø 12–35 mm, cutting depth 50 mm	Ident. No.	302 ●
70145...	QuickIN shank MT 3 drill Ø 12–65 mm, cutting depth 50 mm	Ident. No.	303 ○

Prod. Gr. 704

Ident. No. 301

Ident. No. 302

Centring point for magnetic core drills

Execution:

- Diameter: 6.35 mm

70145...	Centering pin, length = 82 mm	Ident. No.	522 ●
70145...	Centering pin, length = 100 mm	Ident. No.	524 ●
70145...	Centering pin, length = 125 mm	Ident. No.	526 ●
70145...	Centering pin, length = 135 mm	Ident. No.	528 ●

Prod. Gr. 704

Ident. No. 522

Carbide core drill bit with QuickIN holder

For maximum service life and optimum cutting performance

Technical data:

- Cutting depth: 35 mm

Drill Ø (mm)	70147... Ident. No.	
12	120	●
13	130	●
14	140	●
15	150	●
17	170	●
18	180	●
19	190	●
20	200	●
21	210	●
22	220	●
25	250	●

Drill Ø (mm)	70147... Ident. No.	
26	260	●
28	280	●
30	300	●
32	320	●
35	350	●
40	400	●
45	450	●
50	500	●
55	550	●
60	600	●
65	650	●

Prod. Gr. 704

HSS Nova core drill bit with QuickIN holder for FEIN magnetic core drills

Cutting depth 50 mm

Technical data:

- Cutting depth: 50 mm

Drill Ø (mm)	70146... Ident. No.	
12	121	●
13	131	●
14	141	●
15	151	●
16	161	●
17	171	●
18	181	●
19	191	●
20	201	●

Drill Ø (mm)	70146... Ident. No.	
21	211	●
22	221	●
24	241	●
25	251	●
26	261	●
27	271	●
28	281	●
30	301	●
32	321	●

Prod. Gr. 704

BOSCH Impact wrenches and drivers

With 1/2 inch square drive/1 inch square drive

Application:
for heavy-duty screw connections on trucks, agricultural machinery, in commercial vehicle construction, in heavy industry and the petrochemical industry

Execution:
- suspension hook for attaching to a spring balancer
- torsion rods (special accessories) guarantee that the required torque is maintained
- V-slot impact mechanism with low back torque and long service life
- additional handle with support plate can be fitted in two positions for improved handling

Model		GDS 30
Manufacturer Article Number		0601435103
Power input (W)		920
Suitable for screw		M30
Max. torque for hard screwing application (Nm)		1000
Max. torque for soft screwing application (Nm)		500
Tool holding device		1-inch external square
Weight (kg)		7.3
With rubber-coated handle		No
71031...	Ident. No.	010 ●

Prod. Gr. 731

Makita Impact wrenches and drivers

With 1/2 inch square drive

Application:
for driving in and extracting screws and nuts with high torque.

Execution:
- impact mechanism housing made of high-pressure die-cast aluminium
- **Ident. No. 071:** electronic control
- **Ident. No. 090:** Rocker switch for switching rapidly between clockwise and anti-clockwise rotation

Advantage:
- **Ident. No. 071:** carbon brush can be replaced from the outside
- **Ident. No. 090:** Carbon brush can be replaced from the outside

Delivery:
Size 24 socket wrench insert, O-ring, locking pin, in size 2 MAKPAC

Notes:
indicated screw sizes refer to standard screws

Ident. No. 071

Ident. No. 090

Manufacturer Article Number		TW0200J	TW0350J
Power input (W)		380	400
Suitable for screw		M10 - M16	M12 - M20
Max. torque for hard screwing application (Nm)		200	350
Max. idle speed (rpm)		2200	2000
Max. impact rate (rpm)		2200	2000
Tool holding device		1/2-inch external square	1/2-inch external square
Weight (kg)		2.2	3
71031...	Ident. No.	071 ●	090 ●

Prod. Gr. 715

BOSCH Rotary hammer drills

For drilling in concrete up to max. 45 mm

Application:

Ident. No. 076–091: For drilling and chiselling with pneumatic impact mechanism, in stone and concrete.

Ident. No. 237: for drilling and chipping in stone and concrete with pneumatic impact mechanism.

Execution:

- Vibration Control vibration damping
- **Ident. No. 076:** replacement chuck for switching rapidly between drilling with impact in concrete and drilling without impact in wood and metal
- **Ident. No. 076, 237:** continuous speed control
- **Ident. No. 076–091:** Overload coupling
- **Ident. No. 091:**
  - speed preselection
  - Turbo-Power function for extra power when chipping
  - Automatic switch lock
  - service display and standby display
- **Ident. No. 091–237:** ball joint for preventing cable breakage
- **Ident. No. 237:**
  - overload coupling
  - rotatable brush plate for equal force in clockwise and anti-clockwise rotation

Advantage:

- clutch claws unlock and torque is minimised to prevent the tool blocking abruptly

Delivery:

Ident. No. 076: Grease tube, quick-action drill chuck 13 mm, replacement SDS-plus drill chuck, additional handle, depth stop 310 mm, in tool case

Ident. No. 091: Grease tube, machine cloth, additional handle, in tool case

Ident. No. 237: Machine cloth, additional handle, depth stop 210 mm, additional handle, in L-Boxx

Technical data:

- With rubber-coated handle: Yes
- With soft start: No
- With chisel function: Yes
- With restart protection: No

Ident. No. 076

Ident. No. 091

Model		GBH 2-28	GBH set 4-32 DFR	GBH 5-40 DCE
Manufacturer Article Number		0611267501	0611332180 BOSCH BOHRH	0611264080 GBH 5-40 DC
Max. impact energy (J)		3.2	4.2	8.8
Max. impact rate (rpm)		4000	3600	3050
Min./max. impact rate		0-4000 rpm	0-3600 rpm	1500-3050 rpm
Power input (W)		880	900	1150
Max. recommended drilling Ø in concrete (mm)		16	32	40
Max. drilling Ø in wood (mm)		30	32	-
Max. drilling Ø in steel (mm)		13	13	-
Max. core drill bit Ø (mm)		68	90	90
Weight (kg)		2.9	4.7	6.8
With electronic feedback		No	No	Yes
With reverse switch off		Yes	No	No
70170...	Ident. No.	237 ●	076 ●	091 ●

Prod. Gr. 731

BOSCH Chisel with SDS-plus/max drive arbour

For rotary hammer drills with rotary stop

Application:

For cutting and machining stone and metal.

Ident. No. 611

Type		SDS-plus point chisel	SDS-plus flat chisel	SDS-plus spade chisel	SDS-max spade chisel
Manufacturer Article Number		2609390576	2609390394	2608690101	2608690097
Length (mm)		250	250	250	350
Width of cutting edge (mm)		-	20	40	50
70175...	Ident. No.	611 ●	621 ●	632 ●	707 ○

Prod. Gr. 732

metabo® Angle grinder

With disc Ø 115 to 230 mm

Execution:

- **Ident. No. 222, 298–330:** Cut-out carbon brushes protect the motor
- **Ident. No. 222–316:** Metabo S-automatic: mechanical safety coupling
- **Ident. No. 228, 263:** Compact angle grinder with the smallest grip circumference in its performance class
- **Ident. No. 243:** Tool-free, quick disc change at the touch of a button with Metabo M-Quick system
- **Ident. No. 263:**
  - Vario-Constamatic (VC) full-wave electronics with adjusting wheel: for working with material-appropriate speeds which remain almost constant under load
  - With electronic overload protection and soft start
- **Ident. No. 298–316:** Tacho-Constamatic (TC) full-wave electronics: consistent rotation speed under load for good work progress
- **Ident. No. 328–330:** Metabo S-automatic mechanical safety coupling
- **Ident. No. 330:** Integrated autobalancer

Advantage:

- **Ident. No. 228, 263:** Gear case can be swivel-mounted in 90° increments for left-handed operation or for separation

Delivery:

Ident. No. 222: Protective cover, support flange, M-Quick clamping nut, extra handle

Ident. No. 228, 263: Protective hood, support flange, M-Quick clamping nut, extra handle Metabo VibraTech (MVT)

Ident. No. 243: Protective hood, support flange, M-Quick clamping nut, extra handle

Ident. No. 298–316, 330: Protective cover, support flange, M-Quick clamping nut, extra VibraTech (MVT)handle

Ident. No. 328: protective cover, support flange, M-Quick clamping nut, additional Metabo Vibra Tech (MVT) handle

Ident. No. 228

Ident. No. 328

Model		W 9-115 Quick	W 11-125 Quick	WQ 1100-125	WEV 11-125 Quick	WE 15-125 Quick	WEV 15-125 Quick	WEA 17-125 Quick	WEV 17-125 Quick
Motor design		-	4 pole motor	-	4 pole motor	-	-	-	-
Washer Ø (mm)		115	125	125	125	125	125	125	125
Power input (W)		900	1100	1100	1100	1550	1550	1700	1700
Power output (W)		550	700	700	640	940	940	1040	1040
Idle speed (rpm)		10500	-	-	-	11000	-	11000	-
Min./max. idle speed		-	7500-11000 rpm	-	2800-10500 rpm	-	2800-11000 rpm	-	2800-11000 rpm
Tool holding device		-	Metabo Quick	Metabo Quick	Metabo Quick	-	-	-	-
Thread dimension of spindle		M14	M14	M14	M14	M14	M14	M14	M14
Weight (kg)		2.1	2.3	2.2	2.1	2.5	2.5	2.5	2.5
With restart protection		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
With soft start		No	Yes	-	Yes	Yes	Yes	Yes	Yes
With overload protection		No	No	No	Yes	Yes	Yes	Yes	Yes
With electronic feedback		No	-	-	Yes	Yes	Yes	Yes	Yes
With reverse switch off		No	No	No	Yes	Yes	Yes	Yes	Yes
With speed pre-selection		No	-	-	Yes	No	Yes	No	Yes
With disc brake		No	Yes	Yes	Yes	No	No	No	No
With quick clamping system		Yes	-	-	-	Yes	Yes	Yes	Yes
With dead man function		No	No	No	No	No	No	No	No
70373...	Ident. No.	222 ●	228 ●	243 ●	263 ●	298 ●	316 ●	330 ●	328 ●

Prod. Gr. 745

metabo® Flat head angle grinder

With disc Ø 125 mm

Application:

Specially developed for removing weld slag, rust or paint in narrow frame constructions and for working in tight spaces

Execution:

- Metabo S-automatic mechanical safety clutch
- electronic safety cut-off: reduces kick-back if the disc is blocked
- Smallest achievable angle: 43°
- **Ident. No. 800:** Cut-out carbon brushes for protecting the motor
- **Ident. No. 810:** cut-out carbon brushes for protecting the motor

Delivery:

Ident. No. 800: Protective cover, support flange, M-Quick clamping nut, additional handle, lamellar grinding disc Flexiamant Super Convex (P60)

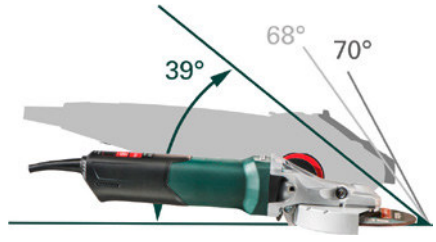
Ident. No. 810: protective cover, support flange, M-Quick clamping nut, additional handle, Flexiamant Super Convex lamellar grinding disc (125 mm; P60), Flexiamant Super FKS 60 rough grinding disc

Technical data:

- Washer diameter: 125 mm
- Thread dimension of spindle: M14
- With restart protection: Yes
- With soft start: Yes
- With overload protection: Yes
- With electronic feedback: Yes
- With reverse switch off: Yes
- With disc brake: No
- With quick clamping system: Yes
- With dead man function: No

Ident. No. 800

Ident. No. 810



Ident. No. 800
Smallest achievable angle

Model		WEF 9-125 Quick	WEF 15-125 Quick
Power input (W)		910	1550
Power output (W)		430	940
Idle speed (rpm)		10000	11000
Weight (kg)		2.1	2.7
70373...	Ident. No.	800 ●	810 ●

Prod. Gr. 745

BOSCH Angle grinder

With discs Ø 115 mm to 125 mm

Execution:
- Direct cooling
- **Ident. No. 021:** 6-stage speed preselection for different materials
- **Ident. No. 600–610:** Switch lock
- **Ident. No. 610:**
  - 6-level speed pre-selection for different materials
- KickBack Stop

Delivery:
Ident. No. 021: holding flange, protective cover, clamping nut, extra handle, two-hole spanner, in box
Ident. No. 600–610: Holding flange, protective cover, clamping nut, extra handle, two-hole spanner, in box

Ident. No. 021

Ident. No. 610

Model		GWS 7-115 E	GWS 19-125 CI	GWS 19-125 CIE
Washer Ø (mm)		115	125	125
Power input (W)		300	1900	1900
Power output (W)		720	1220	1220
Idle speed (rpm)		-	11500	-
Min./max. idle speed		2800-11000 rpm	-	2800-11500 rpm
Thread dimension of spindle		M14	M14	M14
Weight (kg)		1.9	3	3
With restart protection		Yes	Yes	Yes
With soft start		No	Yes	Yes
With overload protection		No	Yes	Yes
With electronic feedback		No	Yes	Yes
With reverse switch off		No	No	No
With speed pre-selection		Yes	No	Yes
With disc brake		No	No	No
With dead man function		No	No	No
70371...	Ident. No.	021 ●	600 ●	610 ●

Prod. Gr. 731

Angle grinder

with discs dia. 125 mm to 150 mm

Application:
Ref. no. 051-052, 055-057: For effective grinding, cutting and deburring work in harsh working environments.
Ref. no. 053-054: For effective grinding, cutting and deburring work in harsh working environments for stainless steel machining.

Version:
- Optimum cooling and temperature monitoring.
- Tool-free changing of abrasives in seconds.
- Effortless work due to slim size, compact design and low weight with good balance.
- Industrial-grade cable H07, 4 m length.

Advantage:
- FEIN PowerDrive motor with fully enclosed motor housing and separately installed motor electronics for maximum service life.
- Optimum protection of the motor against aggressive ceramic and mineral dusts.
- Extensive user protection through many electronic functions.

Technical data:
- Motor design: Brushless motor
- Power input: 1500 W
- Power output: 1050 W
- Thread dimension of spindle: M14
- With restart protection: Yes
- With soft start: Yes
- With overload protection: Yes
- With reverse switch off: Yes

Ident. No. 467

Model		CG 15-125 BL	CG 15-125 BL Inox	CG 15-125 BLP	CG 15-125 BLP Inox	CG 15-150 BL	CG 15-150 BLP
Washer Ø (mm)		125	125	125	125	150	150
Min./max. idle speed		3800-9000 rpm	2800-7000 rpm	3800-9000 rpm	2800-7000 rpm	2800-7000 rpm	2800-7000 rpm
Weight (kg)		-	3.807	3.733	3.83	-	3.9062
95074...	Ident. No.	465 ●	466 ○	467 ○	468 ○	469 ○	470 ○

Prod. Gr. 704

BOSCH Angle grinder

With X-LOCK

Application:
For cutting and grinding metal, tiles and bricks

Execution:
- Faster and more convenient tool changing due to keyless click system X-LOCK
- **Ident. No. 109:**
  - With speed preselection
  - With restart protection
- **Ident. No. 119:**
  - Direct motor cooling
  - With constant electronics and speed pre-selection
  - incl. kickback control and vibration control grab handle for added user protection
  - With overload protection, restart protection and soft start

Delivery:
Additional handle, protective hood, in box

Technical data:
- Washer diameter: 125 mm
- Tool holding device: X-LOCK
- With restart protection: Yes
- With speed pre-selection: Yes
- With disc brake: No
- With quick clamping system: No

Ident. No. 109

Ident. No. 119

Model		GWX 9-125 S	GWX 19-125 S
Power input (W)		900	1900
Power output (W)		450	1220
Min./max. idle speed		2800-11000 rpm	2800-11500 rpm
Weight (kg)		2.1	2.5
With soft start		No	Yes
With overload protection		No	Yes
With electronic feedback		No	Yes
With reverse switch off		No	Yes
With dead man function		Yes	No
70371...	Ident. No.	109 ●	119 ●

Prod. Gr. 731

Quick clamping nut for tool-free discs

Suitable for all angle grinders with M14 spindle thread

	BOSCH		metabo	
Manufacturer Article Number	70371... Ident. No.		70373... Ident. No.	
1603340031	100	●	-	-
630800000	-	-	130	●

BOSCH = Prod. Gr. 732
METABO = Prod. Gr. 745

No. 70371

No. 70373

metabo® INOX angle grinder - with disc Ø 125 mm

With adjustable speed for perfect stainless steel machining

Application:

Ident. No. 502: Ideal for stainless steel machining: robust, high-torque angle grinder with high gear reduction and reduced adjustable rotation speed for cool grinding

Ident. No. 510: Specially developed for removing weld slag, rust or paint in narrow frame constructions and for working in tight spaces

Execution:

- **Ident. No. 502:**
  - Vario Tacho Constamatic (VTC) full-wave electronics with adjusting wheel: for working with material-appropriate speeds which remain constant under load
  - Metabo M-Quick system: for faster, tool-free cutter replacement at the push of a button
  - Metabo S-automatic: mechanical safety coupling
  - With electronic overload protection, soft start and restart protection
- **Ident. No. 510:**
  - Metabo S-automatic mechanical safety clutch
  - cut-out carbon brushes for protecting the motor
  - speed adjustment for perfect machining of stainless steel

Advantage:

- **Ident. No. 502:** Gear case can be swivel-mounted in 90° increments for left-handed operation or for separation

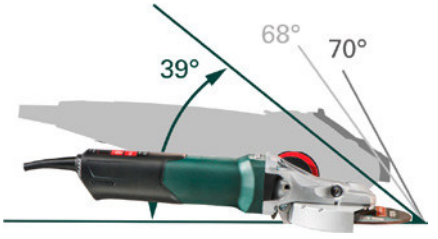
Delivery:

Ident. No. 502: Protective hood, support flange, M-Quick clamping nut, extra handle Metabo VibraTech (MVT)

Ident. No. 510: Protective cover, support flange, M-Quick clamping nut, additional handle, lamellar grinding disc Flexiamant Super Convex (125 mm; P60)

Ident. No. 510

Ident. No. 502



Smallest achievable angle

Model		WEV 17-125 Quick	WEVF 10-125 Quick Inox
Washer Ø (mm)		125	125
Power input (W)		1700	1000
Power output (W)		1040	590
Min./max. idle speed		2000-7600 rpm	2000-7600 rpm
Tool holding device		Metabo Quick	-
Thread dimension of spindle		M14	M14
Weight (kg)		2.5	2.3
With restart protection		Yes	Yes
With soft start		Yes	Yes
With overload protection		Yes	Yes
With electronic feedback		Yes	Yes
With reverse switch off		Yes	Yes
With speed pre-selection		Yes	Yes
With disc brake		Yes	No
With quick clamping system		-	Yes
With dead man function		No	No
70373...	Ident. No.	502 ●	510 ●

Prod. Gr. 745

metabo® Straight grinder

With variable rotation speed

Application:

Ident. No. 007: High rotation speed makes it ideal for milling and grinding work.

Ident. No. 017: Long grinding spindle makes it ideal for use in hard-to-reach places.

Ident. No. 027: Ideal for grinding inner and outer surfaces in conjunction with disc sanders, thanks to extremely high torque.

Execution:

- adjustment wheel for pre-selecting the speed
- VC electronics for working at appropriate speeds for the material, speeds remain virtually constant under load
- Electronic overload protection
- Safety motor cut-off and restart protection
- Precision collet chuck for precise concentricity
- **Ident. No. 027:** Robust and smooth running planetary gearbox provides high torques

Delivery:

Ident. No. 027: Collet chuck, open-end spanner, protective cap, additional handle, in box

Ident. No. 007

Ident. No. 027

Model		GE 710 Compact	GE 710 Plus	GE 950 G Plus
Min./max. idle speed		13000-34000 rpm	10000-30500 rpm	2500-8700 rpm
Power input (W)		710	710	950
Power output (W)		430	430	510
Spindle-neck Ø (mm)		43	43	43
Max. clamping Ø (mm)		8	8	8
Weight (kg)		1.4	1.6	1.7
Included in delivery		Collet | open-end wrench | in cardboard box	Collet | open-end wrench | in cardboard box	Collet chuck | open-end wrench | protective cap | additional handle | in cardboard box
70309...	Ident. No.	007 ●	017 ●	027 ●

Prod. Gr. 745

BOSCH Straight grinder

With fixed or variable speed

Application:
For fine finishing, smoothing and deburring.

Execution:
- Kickback stop, direct cooling, cut-out carbon brushes
- **Ident. No. 020–051:** 6-level speed pre-selection for different materials

Advantage:
- **Ident. No. 010–020:** Long service life due to double-sealed ball bearings

Delivery:
Ident. No. 010–020: 2 x open-end spanners size 19, clamping unit
Ident. No. 051: Single open-ended spanners 13 mm and 19 mm, clamping unit

Ident. No. 020

Model		GGS 28 C	GGS 28 CE	GGS 8 CE
Idle speed (rpm)		30000	-	-
Min./max. idle speed		-	10000-28000 rpm	2500-8000 rpm
Power input (W)		600	650	750
Power output (W)		350	380	420
Spindle-neck Ø (mm)		43	43	43
Max. clamping Ø (mm)		8	8	8
Weight (kg)		1.4	1.4	1.7
With electronic feedback		Yes	Yes	Yes
With soft start		Yes	Yes	Yes
With overload protection		Yes	Yes	Yes
70301...	Ident. No.	010 ●	020 ●	051 ●

Prod. Gr. 731

metabo Milling and grinding motor

710 W

Application:
For driving flexible shafts. For universal use. Motor upgradeable to router with milling attachment (accessory).

Execution:
- adjustment wheel for pre-selecting the speed
- VC electronics for working at appropriate speeds for the material, speeds remain virtually constant under load
- Hardened and polished replaceable collet chuck for precise concentricity of tools
- Electronic overload protection
- Safety motor cut-off and restart protection

Delivery:
Two open-end spanners, in box

Technical data:
- Model: FME 737
- Min./max. idle speed: 13000-34000 rpm
- Power input: 710 W
- Power output: 430 W
- Spindle-neck diameter: 43 mm
- Max. clamping diameter: 8 mm
- Weight: 1.4 kg

70309...	Ident. No.	090 ○

Prod. Gr. 745

BIAX Professional Power Drive unit with flexible shaft, 20/3 G, set

710 watt, voltage 230 V

Application:
Ident. No. 012: For fine grinding, milling and polishing tasks, particularly in mould making
Ident. No. 015: Universal tool for milling, grinding, brushing or polishing

Execution:
- Overload protection of the motor thanks to automatic shutdown
- Machine can be operated when suspended or standing
- Soft start
- **Ident. No. 012:** Higher level of safety due to restart protection
- **Ident. No. 015:** Start-up current limitation prevents current peaks and protects the motor

Advantage:
- Constant speed even under loads
- Automatic cut-off when carbon brushes become worn
- **Ident. No. 015:**
  - No pulsing in low speed range
  - Fewer mechanical wear parts because there is no gear
  - Fully encapsulated sensorless electronics – no clogging with metal chips

Delivery:
Ident. No. 012: With flexible shaft DV 6, straight handpiece
Ident. No. 015: With DV 8 flexible shaft, straight handpiece

Technical data:
- IP protection class: IP 20

Ident. No. 012
MB 20/3 G

Ident. No. 015
MB 30 E

Model		MB 20/3 G	MB 30 E
Manufacturer Article Number		10405005	010403410
Power input (W)		710	1300
Min./max. rotation speed		13000-34000 rpm	5000-15000 rpm
Sound-pressure level (dB)		78	75
Max. clamping Ø (mm)		6	-
Weight (kg)		2.9	5.2
72120...	Ident. No.	012 ●	015 ○

Prod. Gr. 749

DREMEL® Drive unit with flexible shaft

Voltage 230 V, 50 Hz, shock-proof, noise-suppressed

Application:
For light grinding, milling or drilling tasks.

Execution:
- Quick-change system: EZ Twist
- Soft-grip handle
- Replaceable carbon brushes
- Collet chuck lock
- Integrated suspension loop

Delivery:
Dremel 3000, flexible shaft, 25 accessories including SpeedClic, carrying case.

Model		3000-1/25
Manufacturer Article Number		F0133000JP
Min./max. clamping Ø		0.8-3.2 mm
Min./max. rotation speed		10000-33000 rpm
Power input (W)		130
Weight (kg)		0.55
72140...	Ident. No.	041 ●

Prod. Gr. 768

FLEX BSE 14-3 100 brush sanding machine set

1,400 watt, voltage 230 V

Application:
For optimal processing of various materials when satin-finishing, texturing, polishing, brushing, smoothing, removing rust, deburring steel and stainless steel surfaces

Execution:
- Microprocessor electronics: Speed pre-selection, constant speed maintenance using a tachometric generator, soft start-up, restart inhibitor after power failure, overload protection and temperature monitoring
- A unique tool attachment with quick-action coupling for tool-free changing of the system's attachments for burnishing and tube belt sanding
- Tool-free grinding tool replacement via patented quick-change system
- Adjustable protective cover: for striking tools up to dia. 125 mm
- **Ident. No. 011:** spindle lock
- **Ident. No. 012:** Spindle lock

Advantage:
- The grinding attachment for burnishing can be adjusted variably, allowing work to be carried out close to edges; also suitable for narrow rollers

Delivery:
Ident. No. 011: Grinding attachment satin-finishing BS 00, rubber air roller, air pump, abrasive fleece A 280/fine, Superfinishing sleeves S 600 and S 500, MESHFLEX A 400 sanding sleeve, 3 each of sanding sleeves: ZIRCOFLEX P 80, ZIRCOFLEX P 20, CERAFLEX K 20, CORUFLEX P 80, transport case L-BOXX® 238.
Ident. No. 012: Includes Burnishing grinding attachment

Ident. No. 011

Ident. No. 012

Type		set	Solo
Power input (W)		1400	1400
Power output (W)		880	880
Min./max. idle speed		3500-1000 rpm	3500-1000 rpm
Max. Ø of roll		125	125
Max. tool width (mm)		125	125
Tool holding device		Inner diameter 19 mm	Inner diameter 19 mm
Weight (kg)		2.9	2.9
70563...	Ident. No.	011 ●	012 ●

Prod. Gr. 707

FLEX BRE 14-3 125 tube belt sander set

1,400 watt, voltage 230 V

Execution:
- Microprocessor electronics: with constant speed maintenance system by means of tachogenerator, soft start, overload protection and speed pre-selection
- Adjustable protective hood: for grinding tools up to 125 mm
- Tool-free grinding tool replacement via patented quick-change system
- spindle lock
- Single-pole switch
- High-quality, sprung sanding arm: made of light metal with two deflection rollers. For optimum wrapping of tubes up to max. 270°
- Sanding belt dimensions: 760 x 40 mm

Delivery:
Pipe band grinding attachment BR 25, Superfinishing-Band S 600 and S 500, MESHFLEX A 240 sanding belt and A 400, 5 each of sanding belts CORUFLEX in P 80, P 20, P 220, transport case L-BOXX® 238

Manufacturer Article Number		433446
Power input (W)		1400
Power output (W)		880
Min./max. belt speed		3.5-10 m/s
Max. pipe Ø (mm)		125
Weight (kg)		3.6
70565...	Ident. No.	011 ●

Prod. Gr. 707

FLEX Belt filing machine TRINOFLEX FBE 8-4 140

880 watt, 230 V

Application:
For sanding and filing at inaccessible spots.

Execution:
- With rotation speed preselection, keeps constant rotation speed by means of tachometer generator, soft start, power-on inhibitor after power failure, overload protection and temperature monitoring
- Powerful motor with high efficiency for high output power
- VE electronics: for continuously variable pre-selection of belt speed
- Sanding head: pivots 140°, 9 mm or 30 mm sanding arms can be used
- Sanding arm adjustable for belt lengths 520 mm and 533 mm
- Machining length of sanding arm up to approx. 12 cm

Advantage:
- Quick belt change system: for fast, tool-free replacement
- A unique tool attachment with quick-action coupling for tool-free changing of the system's attachments for burnishing, tube belt sanding and filing

Delivery:
Band file grinding attachment BF 140, various sanding belts, in L-BOXX

Technical data:
- Model: FBE 8-4 140 Set
- Manufacturer Article Number: 453455
- Power input: 800 W
- Power output: 325 W
- Min./max. belt speed: 3-8 m/s
- Suitable for strap dimension: 533 x 4-30 mm | 533 x 4-9 mm
- Weight: 2.6 kg

70570...	Ident. No.	022 ●

Prod. Gr. 707

FLEX ZIRCOFLEX sanding belt for belt filing machine FBE 8-4 140

With self-sharpening zirconia alumina

Width of tape x length of strap		9 mm x 533 mm	9 mm x 533 mm	9 mm x 533 mm	30 mm x 533 mm	30 mm x 533 mm	30 mm x 533 mm
Grid size		40	60	120	40	60	120
Material of abrasive medium		Corundum	Corundum	Corundum	Corundum	Corundum	Corundum
Included in delivery		10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.
70570...	Ident. No.	404 ●	406 ●	412 ●	504 ●	506 ●	512 ●

Prod. Gr. 707

Ident. No. 404

BOSCH Multi-cutters

Voltage 230 V, 50 Hz

Application:
Ident. No. 021: For tasks in construction, renovation and the automotive field.
Ident. No. 040: for heavy-duty tasks in construction, renovation and the automotive sector.

Execution:
- 3D quick-action clamping system
- **Ident. No. 021:** softgrip
- **Ident. No. 040:** robust metal cap for particularly demanding applications

Advantage:
- **Ident. No. 021:** unique snap-in function for tool-free accessory changes in only 3 seconds
- **Ident. No. 040:** unique snap-in feature enables tool-free accessory changes in just 3 seconds

Delivery:
Ident. No. 021: includes 6 x plunge-cut saw blade, 10 x sandpaper, 2 x segmented saw blade, 2 x abrasive pad, in L-BOXX
Ident. No. 040: 25 x grinding discs, K 10x80, 10x120, 5x240, Starlock BIM segmented saw blade for wood & metal

Model		GOP 30-28	GOP 55-36
Manufacturer Article Number		0601237000	0601231101
Power input (W)		300	550
Head height (mm)		50	-
Min./max. rotation speed		8000-20000 rpm	8000-22000 rpm
Tool holding device		Starlock Plus	Starlock Max
Oscillation stroke (Degree)		1.4	1.8
Weight (kg)		1.5	1.6
With rubber-coated handle		Yes	Yes
With working lights		No	Yes
70532...	Ident. No.	021 ●	040 ●

Prod. Gr. 731

Ident. No. 021

Ident. No. 040

Accessories for FEIN MultiMaster and other commonly available multi-purpose tools

With STARLOCK chuck

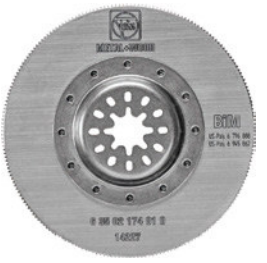
Execution:

- Fits all conventional multifunctional devices

Ident. No. 281

Ident. No. 301

Ident. No. 321



Ident. No. 331

Ident. No. 341

Ident. No. 621

Ident. No. 363

Ident. No. 511

Applications		Coarse sanding of filler | Tile adhesive | Concrete | Stone | Wood	Sheet metal up to approx. 1 mm | Plastic | GFRP | Wood | Putty | Non-ferrous metals	Sheet metal up to approx. 1 mm | Plastic | GFRP | Wood | Putty | Non-ferrous metals	Sheet metal up to approx. 1 mm | Plastic | GFRP | Wood | Putty | Non-ferrous metals	For soft materials only	Marble joints | Epoxy resin joints | Trass joints | Cement joints	Wood | Drywall | Plastics	Removing silicone joints in plumbing applications | Removing acrylic joints in plumbing applications | Removing stickers
Manufacturer Article Number		63731001210	63502097210	63502106210	63502174210	63502113210	63502114210	63502160210	63903165210
Type		carbide rasp | perforated edge length 80 mm	full HSS saw blade with metal teeth	HSS segmented saw blade	saw blade | bi-metal | segmented	segmented saw blade	segmented diamond saw blade	E-Cut Long-Life saw blade with crosscut wooden teeth	flexible spatula
Ø (mm)		-	85	85	85	85	75	-	-
Cutting width		-	-	-	-	-	2.2 mm	-	-
70533...	Ident. No.	281 ●	301 ●	321 ●	331 ●	341 ●	621 ●	363 ●	511 ●

Prod. Gr. 704

Accessories for FEIN oscillator

With STARLOCK PLUS

Execution:

- Suitable for all common multi-functional tools with StarlockPlus and StarlockMax holders and for all FEIN MultiMaster and MultiTalent tools.

No. 70533 603

No. 70533 613

No. 70533 701

No. 70534 111

No. 70534 121

Applications		Ideal for working in corners | Work without overcutting	Marble joints | Epoxy resin joints | Trass joints | Cement joints	Removing stubborn old paint | Removing adhesive residue | Removing carpets | Removing tile adhesive | Removing underfloor coverings	Sheet metal up to approx. 2 mm | Aluminium profiles | Copper pipes | Wood | Drywall | Plastics	Sheet metal up to approx. 2 mm | Aluminium profiles | Copper pipes | Wood | Drywall | Plastics
Manufacturer Article Number		63502170210	63502166210	63903234210	63502151210	63502152210
Type		carbide saw blade | segmented	segmented diamond saw blade	fixed spatula	E-Cut Universal saw blade with corrugated universal teeth	E-Cut Universal saw blade with corrugated universal teeth
Length x width		-	-	-	60 x 28 mm	60 x 44 mm
Cutting width		1.2 mm	2.2 mm	-	-	-
70533...	Ident. No.	603 ●	613 ●	701 ●	-	-
70534...	Ident. No.	-	-	-	111 ●	121 ●

Prod. Gr. 704

Accessories for FEIN oscillator

With STARLOCK MAX mount

Execution:

- Suitable for all common multi-functional devices with STARLOCKMAX mounts. Also suitable for all FEIN SuperCut tools before 04/2016 with adapter.

Technical data:

- Applications: Marble joints | Epoxy resin joints | Trass joints | Cement joints

Ident. No. 181

Ident. No. 161

Ident. No. 151

Manufacturer Article Number		63903240210	63903243210	63903242210
Type		carbide saw blade | segmented	segmented diamond saw blade	segmented diamond saw blade
Cutting width		1.2 mm	2.2 mm	1.2 mm
70534...	Ident. No.	181 ●	161 ●	151 ●

Prod. Gr. 704

Sanding discs for universal use

Corundum, resin bond, with hook-and-loop fastener

Application:
For universal use on a variety of surfaces.

Delivery:
Ident. No. 104–124: 1 pack of 5

Ident. No. 130–148: 1 pack of 50

Technical data:

- Dimensions of triangle-shaped sandpaper: 80 x 80 x 80 mm

Ident. No. 104–124

Ident. No. 130

Ident. No. 140

Type	Manufacturer Article Number	Grid size	Included in delivery	70533... Ident. No.	
Non-perforated	63717081046	40	5 pcs.	104	●
Non-perforated	63717082049	60	5 pcs.	106	●
Non-perforated	63717083043	80	5 pcs.	108	●
Non-perforated	63717084041	100	5 pcs.	110	●
Non-perforated	63717085045	120	5 pcs.	112	●
Non-perforated	63717087042	150	5 pcs.	115	●
Non-perforated	63717088040	180	5 pcs.	118	●
Non-perforated	63717090046	240	5 pcs.	124	●
Non-perforated	63717081018	40	50 piece	130	●
Non-perforated	63717082011	60	50 piece	132	●
Non-perforated	63717083015	80	50 piece	134	●
Non-perforated	63717085017	120	50 piece	136	●
Non-perforated	63717088012	180	50 piece	138	●
perforated	63717108019	40	50 piece	140	●
perforated	63717109013	60	50 piece	142	●
perforated	63717110015	80	50 piece	144	●
perforated	63717112017	120	50 piece	146	●
perforated	63717114019	180	50 piece	148	●

Prod. Gr. 704

metabo Orbital sanders

With a fixed and variable number of oscillations

Application:
For sanding wood, plastics, metals, stone, plaster and painted surfaces.

Execution:
- **Ident. No. 011:**
  - Bearing flange made from die-cast aluminium
  - Clamping system for sandpaper with and without velcro backing
  - Easy-to-empty textile bag for working without a vacuum cleaner
  - Connection option for attaching an all-purpose vacuum cleaner
- **Ident. No. 025:**
  - Rugged clamping system for sandpaper with and without Velcro, as well as abrasives up to 10 mm thick
  - Multi-sealed ball bearings and tear-resistant rubber sleeve
  - TurboBoost: Connection of additional power reserves for maximum removal
  - Abrasive pad with additional lateral suction channels for clean working
  - Vario (V) electronics for working with orbital rates suitable for the material
  - Dust trap cartridge with filter for working without an extractor connected
  - Extraction option by connecting an all-purpose vacuum cleaner

Advantage:
- **Ident. No. 025:**
  - Orbital system with double-row angular contact ball bearings for extremely quiet running and minimal vibration
  - Excellent sanding pattern without sanding whorls and grooves for professional surface treatment

Delivery:
Ident. No. 011: Textile dust bag, in plastic case
Ident. No. 025: Abrasive pad with Velcro adhesion, removable additional handle, dust trap cartridge, 1x folded filter, in box

Ident. No. 011

Ident. No. 025

Model		SR 2185	Sr E 4350 Turbo Tec
Manufacturer Article Number		600441500	611350000
Base plate length x base plate width		184 x 92 mm	190 x 92 mm
Oscillating Ø		2 mm	2.2 mm
Power input (W)		200	350
Power output (W)		80	180
Min. idle orbital rate		-	8400
Max. idle orbital rate		22300	22000
Weight (kg)		1.5	2.5
70512...	Ident. No.	011	025
		●	●

Prod. Gr. 745

BOSCH Orbital sanders

With variable number of oscillations

Application:
For sanding wood, plastics, metals, stone, plaster and painted surfaces.

Execution:
- Controllable speed for material-suitable operation
- Direct connection of vacuum cleaner or micro-filter dust box for dust-free working
- **Ident. No. 013:** Additional handle with vibration damping for comfortable gripping in any working position

Advantage:
- Ergonomically designed surfaces with Softgrip for perfect handling
- Uniform distribution of the contact pressure for high surface quality
- Lowest level of vibration in class (<2.5 m/s²) due to decoupled motor housing
- **Ident. No. 013:** Perfect sandpaper mounting, even for paper without Velcro connection, due to special paper clamping system
- **Ident. No. 023:** Innovative paper clamping system for perfectly fitting sandpaper, even for sandpaper without velcro backing

Delivery:
Micro-filter box, additional handle, in L-Boxx

Ident. No. 013

Ident. No. 023

Model		GSS 230 AVE	GSS 280 AVE
Manufacturer Article Number		0601292801	0601292901
Base plate length x base plate width		92 x 182 mm	114 x 205 mm
Oscillating Ø		2.4 mm	2.4 mm
Power input (W)		300	350
Power output (W)		140	180
Min. idle orbital rate		16000	16000
Max. idle orbital rate		22000	22000
Weight (kg)		2.4	2.7
70514...	Ident. No.	013	023
		●	●

Prod. Gr. 731

metabo Random orbital sanders

2.5 mm - 5 mm orbital circle

Application:
For finishing surfaces.

Execution:
- Vario (V) electronics and wheel for adjusting the speed to different materials
- Power Control System: prevents scratches when placing the running machine onto the material
- rugged bearing housing made from wear-free die-cast aluminium
- TurboBoost function for maximum material removal
- Removable extra handle
- grinding plate with multi-hole pattern for effective extraction and longer life of abrasive
- handle area with slip-proof soft grip surface
- extraction option by connecting an all-purpose vacuum cleaner
- **Ident. No. 200:** Patented adjustable dual orbit diameter with settings for fine finishing or high material removal

Delivery:
Support plate with Velcro adhesion, hexagon key, removable additional handle, dust trap cartridge, 1x folded filter, in box

Technical data:
- Min./max. idle speed: 4200-11000 rpm
- Min. idle speed: 4200 rpm
- Max. idle speed: 11000 rpm

Ident. No. 100

Ident. No. 200

Model		SXE 425 Turbo Tec	SXE 450 Turbo Tec
Manufacturer Article Number		600131000	600129000
Support-disc Ø (mm)		125	150
Power input (W)		320	350
Power output (W)		160	180
Oscillating Ø		5 mm	2.8 mm | 6.2 mm
Thread dimension of spindle		M6 x 16	M8 x 16
Weight (kg)		2.3	2.4
70535...	Ident. No.	**100** ●	**200** ●

Prod. Gr. 745

BOSCH Random orbital sanders

2.5 mm - 5 mm orbital circle

Application:
for sanding, intermediate sanding, fine sanding and removing paint. Can be used on wood, veneer, paint and filler as well as on mineral and acrylic surfaces.

Execution:
- Speed pre-selection for adjusting the speed to different materials
- Hook-and-loop closure for fast sanding disc replacement
- Aluminium bearing flange for long service life

Advantage:
- Constant speed and high removal rate for efficient results even on demanding surfaces

Delivery:
Ident. No. 023: 1 x multi-hole sanding disc C470, Best for Wood and Paint, grain 120, in box, backing pad, paper dust bag, suction adapter
Ident. No. 033: 1 x multi-hole sanding plate C470, Best for Wood + Paint K120; in box

Technical data:
- Min./max. idle speed: 4500-12000 rpm
- Power input: 340 W
- With rubber-coated handle: Yes
- With electronic feedback: Yes
- With overload protection: No
- With speed pre-selection: Yes
- With soft start: No
- With dead man function: No
- Min. idle speed: 4500 rpm
- Max. idle speed: 12000 rpm
- With restart protection: No

Ident. No. 023

Model		GEX 34-150	GEX 34-125
Manufacturer Article Number		0601372800	0601372300
Support-disc Ø (mm)		150	125
Oscillating Ø		4 mm	5 mm
Weight (kg)		2	2.1
70536...	Ident. No.	**023** ●	**033** ●

Prod. Gr. 731

Bench grinders
with AC or three-phase motor

Application:

Ident. No. 011: Robust and compact machine for sharpening, sanding and deburring tasks

Ident. No. 021: High-performance power tool for demanding sharpening, sanding and deburring work

Ident. No. 041: Particularly powerful power tool for heavy-duty use

Ident. No. 071: Universal combination power tool with sanding belt and sanding disc for processing wood and metal

Execution:

- **Ident. No. 011:**
  - Motor for single-phase alternating current
  - Workpiece rests adjustable without tools
  - Large spark protection screens to protect eyes
  - Vibration-damping rubber feet for secure position
- **Ident. No. 011–041:** Low-noise, low-vibration, maintenance-free induction motor
- **Ident. No. 021:**
  - Large, tilting tool support with practical V-groove for sharpening welding needles
  - Maximum work safety thanks to extra-large, sturdy eye shields
- **Ident. No. 021, 071:**
  - Suitable for the use of steel wire wheel brushes for rust removal
  - Integrated LED light for optimal illumination of the work area
  - Maximum smoothness and long disc service life thanks to high-quality mounting flanges
- **Ident. No. 021–041:** Workpiece rests are adjustable without tools
- **Ident. No. 041:**
  - Powerful three-phase motor with high torque
  - Robust die-cast aluminium protective covers
  - Protective covers with bayonet mount for quick, easy disc changes
  - Restart protection: Prevents unintentional startup after a power failure
  - Large eye shields
  - Vibration-absorbing rubber pads for stability
- **Ident. No. 071:**
  - For sanding, sharpening, deburring and derusting of steel and metals
  - Large belt sanding arm that can be continuously inclined up to 90° for two typical standard sanding belt lengths
  - Tool-free angle adjustment of the belt sanding arm
  - Flexible working on the large sanding area or alternatively on the curved section of the belt sanding arm
  - Extraction connection on the belt sanding arm, suitable for commonly used coupling bushes
  - Rubber drive wheel in the belt sanding arm with grooves for fast heat dissipation
  - Quick, tool-free sanding belt change after opening the cover

Ident. No. 011

Ident. No. 021

Ident. No. 041

Ident. No. 071

Model		DS 150 M	DS 200 Plus	DSD 200 Plus	BS 200 Plus
Manufacturer Article Number		604150000	604200000	604210000	604220000
Max. idle speed (rpm)		-	2980	2980	2980
Power input (W)		370	450	570	450
Power output (W)		260	600	750	600
Disc Ø x disc thickness		150 x 20 mm	200 x 25 mm	200 x 25 mm	200 x 25 mm
Disc hole Ø (mm)		20	32	32	32
Inner Ø of connecting piece (mm)		-	-	33	33
Weight (kg)		8.7	17.5	17.8	16.9
Tilting moment (Nm)		-	2.7	7.3	2.7
Included in delivery		Synthetic corundum sanding discs 36 P and 60 N | spark protection screens | workpiece support	Synthetic corundum sanding discs 36 P and 60 N | spark protection guards | workpiece rest | hexagon key	Synthetic corundum sanding discs 36 P and 60 N | spark protection guards | workpiece rest | hexagon key	Synthetic corundum sanding disc 60 N | fabric sanding belt G 60 spark protection guards | workpiece rest | hexagon key
70574...	Ident. No.	011 ●	021 ●	041 ●	071 ●

Prod. Gr. 745

Universal endless sanding belts
For METABO belt sanding machines

Application:

For grinding and deburring metals, unalloyed and low-alloy steels, cast iron, aluminium alloys, brass, bronze, hard metallic layers, rubber, plastics etc.

Execution:

- Suitable for universal use.
- High-quality sandpaper (synthetic corundum) with dense grain distribution, high removal rate and long service life.

Notes:

Recommended peripheral speed: 25-35 m/s

Technical data:

- Width of tape x length of strap: 50 mm x 1020 mm
- Material of abrasive medium: Corundum
- Scattering: Close scattering
- Included in delivery: 3 pcs.

Ident. No. 306–324

Grid size		60	80	100	120	180	240	400
70583...	Ident. No.	306 ●	308 ●	310 ●	312 ●	318 ●	324 ●	340 ●

Prod. Gr. 745

BOSCH Belt sander

Voltage 230 V, 50 Hz

Application:
For removing, flat-sanding, smoothing and cleaning wood, plastic and metal.

Execution:
- With speed control
- Aluminium rollers for the most demanding applications
- With robust toothed belts and metal toothed belt wheels for long tool life
- Graphite-coated abrasive pad

Advantage:
- Can be simply reversed and used as a stationary power tool

Delivery:
Fabric tape, graphite plate and dust bag; in case

Model			GBS 75 AE
Manufacturer Article Number			0601274707
Min./max. belt speed			200-330 m/s
Power input (W)			750
Power output (W)			410
Width of tape x length of strap			75 mm x 533 mm
Weight (kg)			3.4
With speed control			Yes
BOSCH	70571...	Ident. No.	056 ●

Prod. Gr. 731

BOSCH sabre saws

Stroke length 28 mm

Application:
For removing old components and for cutting pipes.

Execution:
- With constant pendulum stroke for fast sawing progress
- Anti-vibration handle and counterbalance weight
- Metal hook for suspending the device

Advantage:
- Faster tool change with one hand thanks to SDS saw blade replacement

Delivery:
Saw blade wood S 2345 X, saw blade metal S 123 XF, in plastic case

Technical data:
- Model: GSA 1300 PCE
- Manufacturer Article Number: 060164E200
- Max. cutting capacity of wood: 230 mm
- Max. cutting capacity of non-ferrous metals: 20 mm
- Min./max. idle stroke speed: 0-2900 rpm
- Power input: 1300 W
- Stroke length: 28 mm
- Weight: 4.1 kg
- With working lights: Yes
- With rubber-coated handle: Yes
- With electronic feedback: Yes
- With soft start: No

71170...	Ident. No.	023 ●

Prod. Gr. 731

ATORN Sabre saw blades for metal and wood

For the following brands BOSCH, AEG, FEIN, METABO (for FLEX all models except SR 602 VV)

Advantage:
- For extremely heavy loads
- Highly flexible
- Long service life

Delivery:
1 pack of 5

Technical data:
- Number of pieces per packet: 5 PCS
- Cutting material: Bimetal

Ident. No. 050

Corresponds to BOSCH type		S 922 BF	S 922 EF	S 922 AF	S 1122 BF	S 1122 EF	S 1022 VF	S 1211 H	S 1222 VF
Saw blade design		Restricted | Milled	Corrugated | Milled	Corrugated | Milled	Restricted | Milled	Corrugated | Milled	Restricted | Milled	Restricted | Milled	Restricted | Milled
Length (mm)		150	150	150	200	200	200	300	300
Teeth spacing (mm)		1.8	1.4	1	1.8	1.4	-	2.5	-
Min./max teeth spacing		-	-	-	-	-	1.8-2.4 mm	-	1.8-2.4 mm
Cut		Fast | straight cut	Straight cut	Fine cut	Fast | flush cut	Flush cut	Flush cut	Fast cut	Flush cut
Applications		Sheet metals (3-8 mm) | Solid pipes (Ø 10-100 mm) | Solid profiles (Ø 10-100 mm)	Sheet metals (1.5-4 mm) | Pipes (Ø 5-100 mm) | Profiles (Ø 5-100 mm)	Sheet metals (0.7-3 mm) | Fine pipes (Ø 5-10 mm) | Fine profiles (Ø 5-10 mm)	Sheet metals (3-8 mm) | Solid pipes (Ø 10-175 mm) | Solid profiles (Ø 10-175 mm)	Sheet metals (1.5-4 mm) | Pipes (Ø 5-175 mm) | Profiles (Ø 5-175 mm)	St 37 | Non-ferrous metals | Stainless steel | Steel tubes | V2A | Cast iron (3-8 mm)	St 37 | Non-ferrous metals | Profiles | Steel tubes | Steel tubes | Insulating material (3-10 mm)	St 37 | Non-ferrous metals | Cast-iron pipes (Ø 3-8 mm) | Steel pipes (Ø 3-8 mm) | Pallet construction
71134...	Ident. No.	010 ●	020 ●	030 ●	040 ●	050 ●	060 ●	070 ●	080 ●

Prod. Gr. 793

BOSCH Sabre saw blades for metal

Suitable for sabre saws with 0.5-inch universal shank systems

Execution:
- Bimetal blade has a long service life when cutting steel of standard thickness
- **Ident. No. 015:** fine tooth pitch cuts materials with common material thicknesses
- **Ident. No. 055–065:** tooth pitch is especially suitable for working at high speeds

Notes:
suitable for sabre saws with 0.5-inch universal shank systems.

Ident. No. 015

Ident. No. 055

Ident. No. 065

Model		S 922 EF	S 922 BF	S 1122 BF
Manufacturer Article Number		2608656015	2608656014	2608656019
Cutting material		Bimetal	Bimetal	Bimetal
Saw blade design		Restricted | Milled	Restricted | Milled	Restricted | Milled
Length (mm)		150	150	225
Teeth spacing (mm)		1.4	1.8	1.8
Cut		-	Fast cut	Flush cut
Applications		Sheet metals (1.5-4 mm) | Pipes (Ø 5-100 mm) | Profiles (Ø 5-100 mm)	Sheet metals (3-8 mm) | Solid pipes (Ø 10-100 mm) | Solid profiles (Ø 10-100 mm)	Sheet metals (3-8 mm) | Solid pipes (Ø 10-175 mm) | Solid profiles (Ø 10-175 mm)
Included in delivery		5 pcs.	5 pcs.	5 pcs.
71135...	Ident. No.	015 ●	055 ●	065 ●

Prod. Gr. 733

BOSCH Sabre saw blades for metal demolition work

suitable for sabre saws with 0.5-inch universal shank systems

Application:
Suitable for cutting high-strength steel and the toughest materials.

Execution:
- Carbide technology, even tooth spacing
- Teeth welded to highly elastic steel body using hard metal technology
- Wide body (25 mm) and high blade thickness (1.25 mm) allow precise cutting
- Specially designed for maximum durability with high-strength steels

Advantage:
- For effortless cutting and an ultimate blade service life

Notes:
Suitable for sabre saws with 0.5-inch universal shank systems.

Ident. No. 632

Ident. No. 636

Model		S 555 CHM	-	S 1155 CHM	S 1255 CHM
Manufacturer Article Number		2608900364	2608900365	2608900368	2608900371
Cutting material		Carbide	Carbide	Carbide	Carbide
Saw blade design		Tungsten carbide-tipped (strip)	Tungsten carbide-tipped (strip)	Tungsten carbide-tipped (strip)	Tungsten carbide-tipped (strip)
Length (mm)		100	150	225	300
Teeth spacing (mm)		3	3	3	3
Cut		Straight cut	Straight cut	Straight cut	Straight cut
Applications		Sheet metals (3-15 mm) | Closed profiles | Solid profiles (Ø 10-100 mm) | Medium-strength to strength sheet metals (2-10 mm) | Steel tubes	Sheet metals (3-15 mm) | Closed profiles | Solid profiles (Ø 10-100 mm) | Medium-strength to strength sheet metals (2-10 mm) | Steel tubes	Sheet metals (3-15 mm) | Closed profiles | Solid profiles (Ø 10-100 mm) | Medium-strength to strength sheet metals (2-10 mm) | Steel tubes	Sheet metals (3-15 mm) | Closed profiles | Solid profiles (Ø 10-100 mm) | Medium-strength to strength sheet metals (2-10 mm) | Steel tubes
Included in delivery		1 piece	-	-	-
71135...	Ident. No.	632 ●	634 ●	636 ●	638 ●

Prod. Gr. 733

BOSCH Sabre saw blades for metal and wood

suitable for sabre saws with 0.5-inch universal shank systems

Execution:
- optimised for cutting soft nails, structural steel and non-ferrous metal components in wood
- **Ident. No. 155:** Vario tooth geometry enables smooth, low-vibration cutting
- **Ident. No. 235:** Large tooth pitch (4.3 mm) and offset teeth for fast results

Advantage:
- **Ident. No. 155:** Vario tooth geometry for lower-vibration cutting
- **Ident. No. 235:** fast work progress thanks to the large tooth pitch

Notes:
suitable for sabre saws with 0.5-inch universal shank systems.

Ident. No. 115

Ident. No. 155

Ident. No. 235

Model		S 1122 HF	S 1222 VF	S 1411 DF
Manufacturer Article Number		2608656021	2608656022	2608654763
Cutting material		Bimetal	Bimetal	Bimetal
Saw blade design		Restricted | Milled	Restricted | Milled	Restricted | Milled
Length (mm)		225	300	300
Teeth spacing (mm)		2.5	-	4.3
Min./max teeth spacing		-	1.8-2.6 mm	-
Cut		Flush cut	Flush cut	Curved cut
Applications		Pallet repairs | Sheet metals | Wood with nails (5-175 mm) | Wood with metal (5-175 mm) | Tubes | Aluminium profiles (3-12 mm)	Sheet metals | Wood with nails (5-250 mm) | Wood with metal (5-250 mm) | Aluminium profiles (3-10 mm) | Plastic profiles (Ø 3-250 mm)	Wood with nails | Wood with metal | Chipboard (10-250 mm) | Aerated concrete (10-250 mm) | Plastics | GFRP | Profiles (5-60 mm)
Included in delivery		5 pcs.	5 pcs.	5 pcs.
71135...	Ident. No.	115 ●	155 ●	235 ●

Prod. Gr. 733

BOSCH Sabre saw blades for wood

suitable for sabre saws with 0.5-inch universal shank systems

Execution:

- HCS blade material for cutting wood and non-abrasive wooden materials in construction work
- **Ident. No. 505–515:** sharp polished teeth ensure tear-free cuts
- **Ident. No. 515–525:** large tooth pitch and chip areas remove material quickly and efficiently
- **Ident. No. 525:** sharp polished, offset teeth cut efficiently; the wall thickness offers ultimate stability

Notes:

suitable for sabre saws with 0.5-inch universal shank systems.

Ident. No. 505

Ident. No. 515

Ident. No. 525

Model		S 644 D	S 1531 L	S 1542 K
Manufacturer Article Number		2608650673	2608650676	2608650682
Cutting material		HCS	HCS	HCS
Saw blade design		Restricted | Ground	Restricted | Ground	Restricted | Ground
Length (mm)		150	240	240
Teeth spacing (mm)		4.3	5	8.5
Cut		Clean curved and plunge cut	Clean | fast cut	Fast cut
Applications		Construction timber (6-100 mm) | Wood wall (< 75 mm) | Boards: chip (6-60 mm) | Boards: MDF (6-60 mm) | Plywood | Plastic (6-100 mm)	Live wood | Rough timber | Free of nails (15-190 mm) | Pruning green wood (Ø < 190 mm) | Firewood (Ø 15-190 mm)	Softwood | Rough timber | Live wood | Firewood (Ø 15-190 mm)
Included in delivery		5 pcs.	5 pcs.	5 pcs.
71135...	Ident. No.	505 ●	515 ●	525 ●

Prod. Gr. 733

metabo® Jigsaws

With switchable pendulum stroke

Application:

for powerful sawing in wood, non-ferrous base metal and sheet steel.

Execution:

- variable stroke rate
- switchable shaving blower function
- Metabo Quick System
- all-purpose vacuum cleaner connection

Delivery:

protective glass, wood jigsaw blade, metal jigsaw blade, hexagon key, in plastic case

Model		STEB 65 Quick
Manufacturer Article Number		601030500
Design of the handle		Stirrup handle
Max. cutting capacity of wood (mm)		65
Max. cutting capacity of steel (mm)		6
Max. cutting capacity of non-ferrous metals (mm)		18
Min./max. idle stroke speed		600-3000 rpm
Lift height (mm)		18
Power input (W)		450
Power output (W)		230
Number of pendulum-stroke stages		4
Weight (kg)		1.9
With working lights		No
With rubber-coated handle		Yes
With electronic feedback		No
With quick clamping system		Yes
With restart protection		No
71127...	Ident. No.	005 ●

Prod. Gr. 745

BOSCH Jigsaws

With 3- or 4-stage pendulum stroke mechanism

Application:
for powerful sawing in wood, aluminium and unalloyed steel

Execution:
- adjustable 3- or 4-stage saw blade oscillating device
- speed preselection
- Dust extraction connection
- **Ident. No. 112:** tool-free saw blade changes
- **Ident. No. 114–119:** Tool-free saw blade changes
- **Ident. No. 123–143:**
  - Highly precise saw blade guide with patented double roller
  - Parking position for rapid, one-handed saw blade changes
- **Ident. No. 143:** Rugged magnesium baseplate

Delivery:
Ident. No. 112: 1x saw blade, vacuum set, splinter protection, hexagon key, in plastic case
Ident. No. 114: Saw blade T 144 D, cover hood, sliding shoe, suction nozzle, splinter protection, 1/1 L-BOXX insert, in L-BOXX 136
Ident. No. 123–143: Saw blade T 144 DP, saw blade T 244 D, saw blade T 308 B, splinter protection, extractor adapter 1/1 L-BOXX insert, in L-BOXX 136

Ident. No. 114

Ident. No. 123

Ident. No. 143

Model		GST 90 E	GST 150 CE	GST 150 BCE	GST 160 CE	GST 160 BCE
Manufacturer Article Number		060158G000	0601512003	0601513003	0601517000	0601518000
Design of the handle		Knob	Knob	Stirrup handle	Knob	Stirrup handle
Max. cutting capacity of wood (mm)		90	150	150	160	160
Max. cutting capacity of steel (mm)		10	10	10	10	10
Max. cutting capacity in aluminium (mm)		20	20	20	20	20
Min./max. idle stroke speed		500-3100 rpm	500-3100 rpm	500-3100 rpm	800-3000 rpm	800-3000 rpm
Lift height (mm)		26	26	26	26	26
Power input (W)		650	780	780	800	800
Weight (kg)		2.3	2.6	2.7	2.2	2.3
With working lights		No	No	Yes	Yes	Yes
With rubber-coated handle		No	Yes	Yes	No	No
With electronic feedback		No	Yes	Yes	Yes	Yes
With soft start		No	No	No	No	No
With quick clamping system		Yes	Yes	Yes	Yes	-
Included in delivery		-	-	Saw blade T 144 D | protective cover | sliding shoe | suction nozzle | splinter protection | 1/1 L-BOXX insert | in L-BOXX 136	-	-
71128...	Ident. No.	112 ●	114 ●	119 ●	123 ●	143 ●

Prod. Gr. 731

ATORN Jigsaw blades for metal, aluminium, wood and plastic

For the following brands BOSCH, Makita, Metabo, AEG, DeWALT, FESTOOL, FLEX, HOLZ-HER, Milwaukee

Delivery:
1 pack

Technical data:
- Included in delivery: 20 pcs.

Corresponds to BOSCH type		T 101 B	T 118 A	T 118 B	T 127 D	T 118 AF
Cutting material		HCS	HSS	HSS	HSS	Bimetal
Teeth spacing (mm)		2.5	1.2	2	3	1.2
Length (mm)		75	50	50	75	50
Saw blade design		Ground (HCS)	Corrugated (HSS)	Corrugated (HSS)	Straight-set (HSS)	Corrugated (bimetal)
Cut		-	Straight cut	Straight cut	Straight | fast cut	Straight cut
Applications		Softwood | Chipboard (3-30 mm) | Core boards (3-30 mm) | Fibreboard (3-30 mm) | Plastics (Ø < 30 mm) | Epoxy (Ø < 30 mm)	Sheet metals (1-3 mm)	Sheet metals (2.5-6 mm)	Sheet metals (3-15 mm) | Pipes (Ø < 30 mm) | Profiles (Ø < 30 mm)	Sheet metals (1-3 mm)
71130...	Ident. No.	010 ●	110 ●	120 ●	130 ●	210 ●

Prod. Gr. 793

ATORN Jigsaw blades sets for metal and wood

For the following brands: BOSCH, Makita, Metabo, AEG, DeWALT, FESTOOL, FLEX, HOLZ-HER, Milwaukee

Execution:

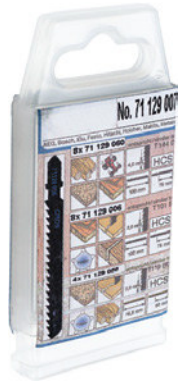
- **Ident. No. 410:** Consisting of: 8 x coarse and fast (≙ T 144 D), 8 x fine and clean (≙T 101 B), 4 x curve (≙ T 119 BO)
- **Ident. No. 510:** consisting of: 8 x fine (≙ T 118 A), 8 x medium (≙ T 118 B), 4 x coarse (≙ T 127 D)

Advantage:

- HCS hard carbon steel for extreme cutting stability

Number of pieces in assortment/set (PCS)		20	20
Composition of set		8x coarse and fast (corresponds to Bosch no. T 144 D) | 8x fine and clean (corresponds to Bosch no. T 101 B) | 4x curve (corresponds to Bosch no. T 119 BO)	8x fine (corresponds to Bosch no. T 118 A) | 8x medium (corresponds to Bosch no. T 118 B) | 4x coarse (corresponds to Bosch no. T 127 D)
Suitable for		Metal	Wood
Saw blade design		Straight-set (HSS) | Milled	Ground (HCS) | Restricted
71130...	Ident. No.	510 ●	410 ●

Prod. Gr. 793



Ident. No. 410

Ident. No. 510

BOSCH Jigsaw blades for metal and wood

For the following brands: BOSCH, Makita, Metabo, AEG, DeWALT, FESTOOL, FLEX, HOLZ-HER, Milwaukee

Advantage:

- **Ident. No. 416–485:** Bimetal, made from HSS and HCS, unbreakable, for extreme stresses, highly flexible, long service life
- **Ident. No. 485:** Used for materials with different densities, thanks to tooth geometry with progressively increasing tooth pitch
- **Ident. No. 496:**
  - Carbide Technology: Toothed strip welded onto the highly elastic carbon steel body using Carbide Technology; for extremely robust material
- For use with materials of different densities due to tooth geometry with progressively increasing tooth pitch

Notes:

Ident. No. 416–485: For use with jigsaws with T shank holder

Ident. No. 496: For use with T-shank jigsaws

Ident. No. 416

Ident. No. 425

Ident. No. 485

Model		T 321 AF	T 118 EOF	T 345 XF	T 367 XHM
Manufacturer Article Number		2608636705	2608634237	2608634994	2608900560
Cutting material		Bimetal	Bimetal	Bimetal	Carbide
Teeth spacing (mm)		1.2	1.5	-	-
Min./max teeth spacing		-	-	2.4-5 mm	3.5-5 mm
Length (mm)		92	83	132	132
Saw blade design		Milled | Corrugated	Milled | Corrugated	Restricted | Milled	Restricted | Ground
Cut		Fast cut	Curved cut	Straight | fast cut	Fast cut
Applications		Thin sheet metals | Perforated sheet metals (1-3 mm) | Sandwich materials (< 65 mm) | Thin-walled pipes | Closed profiles incl. aluminium (Ø < 65 mm) | Open profiles incl. aluminium (Ø < 65 mm) | GFRP (< 65 mm) | Epoxy (< 65 mm)	Sheet metals (1.5-4 mm)	Timber with nails (< 65 mm) | Wood-based materials | Plastics | Sheet metals | Pipes incl. aluminium (Ø 3-10 mm) | Profiles incl. aluminium (Ø 3-10 mm)	Timber with nails (< 65 mm) | Wood-based materials | Sheet metals | Pipes incl. aluminium (Ø 3-10 mm) | Profiles incl. aluminium (Ø 3-10 mm) | GFRP
Included in delivery		5 pieces	5 pieces	5 pieces	3 pieces
71132...	Ident. No.	416 ●	425 ●	485 ●	496 ●

Prod. Gr. 733

BOSCH Jigsaw blades for metal and aluminium

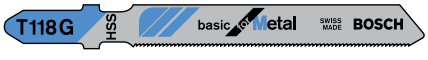
For the following brands: BOSCH, Makita, Metabo, AEG, DeWALT, FESTOOL, FLEX, HOLZ-HER, Milwaukee

Delivery:

Ident. No. 247: Pack of 5

Notes:

For use with jigsaws with T shank holder



Ident. No. 205

Ident. No. 215

Ident. No. 247

Ident. No. 265

Model		T 118 G	T 118 A	T 123 XF	T 118 B	T 127 D
Manufacturer Article Number		2608631012	2608631013	2608638473	2608631014	2608631017
Cutting material		HSS	HSS	HSS	HSS	HSS
Teeth spacing (mm)		0.7	-	-	-	3
Min./max teeth spacing		-	1.1-1.5 mm	1.2-2.6 mm	1.9-2.3 mm	-
Length (mm)		92	92	100	92	100
Saw blade design		Milled | Corrugated	Milled | Corrugated	Milled | Restricted	Milled | Corrugated	Restricted | Milled
Cut		Straight cut	Straight cut	Fast | straight cut	Straight cut	Fast | straight cut
Applications		Sheet metals (0.5-1.5 mm)	Thin sheet metals (1-3 mm)	Sheet metals (1.5-10 mm) | Pipes incl. aluminium (Ø < 30 mm) | Profiles incl. aluminium (Ø < 30 mm)	Sheet metals (2.5-6 mm)	Sheet metals (3-15 mm) | Pipes (Ø < 30 mm) | Profiles (Ø < 30 mm)
Number of pieces per packet		5	5	5	5	5
71132...	Ident. No.	205 ●	215 ●	265 ●	247 ●	275 ●

Prod. Gr. 733

BOSCH Jigsaw blades for wood

For the following brands: BOSCH, Makita, Metabo, AEG, DeWALT, FESTOOL, FLEX, HOLZ-HER, Milwaukee

Advantage:

- **Ident. No. 015–115, 135–185:** Outstanding edge holding ability
- **Ident. No. 118:** outstanding edge holding ability

Delivery:

Ident. No. 118: 1 pack of 25

Technical data:

- Cutting material: HCS

Ident. No. 105

Ident. No. 015

Ident. No. 185

Ident. No. 145

Ident. No. 065

Model		T 101 AO	T 119 BO	T 234 X	T 101 B	T 101 B	T 301 CD	T 111 C	T 144 D
Manufacturer Article Number		2608630031	2608630310	2608633528	2608630030	2608633622	2608637590	2608630033	2608630040
Teeth spacing (mm)		1.4	2	-	2.7	2.7	3	3	-
Min./max teeth spacing		-	-	2-3 mm	-	-	-	-	4-5.2 mm
Length (mm)		83	83	117	100	100	117	100	100
Saw blade design		Serrated tip | Ground	Corrugated | Milled	Ground	Ground taper and teeth	Ground taper and teeth	Ground taper and teeth	Restricted | Milled	Restricted | Ground
Cut		Curved cut	Curved cut	Clean | straight cut	Clean | straight cut	Clean | straight cut	Clean | straight cut	Fast cut	Fast | straight cut
Applications		Softwood | Plywood | Coated boards (1.5-15 mm)	Softwood (2-15 mm) | Plywood | Chipboard | Blockboard | Fibreboard	Softwood (2-65 mm) | Chipboard | Blockboard | Fibreboard	Softwood | Chipboard (3-30 mm) | Core boards (3-30 mm) | Fibreboard (3-30 mm) | Plastics (Ø < 30 mm) | Epoxy (Ø < 30 mm)	Softwood | Chipboard (3-30 mm) | Core boards (3-30 mm) | Fibreboard (3-30 mm) | Plastics (Ø < 30 mm) | Epoxy (Ø < 30 mm)	Softwood | Chipboard (10-65 mm) | Core boards (10-65 mm) | Fibreboard (10-65 mm)	Softwood (4-50 mm) | Chipboard | Blockboard | Fibreboard	Softwood (5-50 mm) | Chipboard | Blockboard | Fibreboard
Included in delivery		5 pcs.	5 pcs.	5 pcs.	5 pcs.	25 pieces	5 pcs.	5 pcs.	5 pcs.
71132...	Ident. No.	105 ●	015 ●	185 ●	115 ●	118 ●	145 ●	025 ●	055 ●

Model		T 244 D	T 101 D
Manufacturer Article Number		2608630058	2608630032
Teeth spacing (mm)		-	-
Min./max teeth spacing		4-5.2 mm	4-5.2 mm
Length (mm)		100	100
Saw blade design		Restricted | Ground	Ground taper and teeth
Cut		Curved cut	Clean | straight cut
Applications		Softwood (5-50 mm) | Chipboard | Blockboard | Fibreboard	Softwood | Chipboard (10-45 mm) | Core boards (10-45 mm) | Fibreboard (10-45 mm)
Included in delivery		5 pcs.	5 pcs.
71132...	Ident. No.	065 ●	135 ●

Prod. Gr. 733

ZIMMER MASCHINEN Band saws

Voltage 230 V, 50 Hz, shock-proof, noise-suppressed

Application:
Small bandsaw for professional use

Execution:
- Single-phase 1800 watt motor
- Safety switch
- Toothed gearing with long-life lubricants
- Electronic speed controller with torque control
- Automatic band tensioning

Delivery:
1x compatible saw blade

Ident. No. 010

Ident. No. 020

Practical transportation

Model		W. Z. 100/R	W. Z. 150/R
Manufacturer Article Number		WZ100/R	WZ150/R
Power input (W)		1800	1800
Min./max. belt speed		20-100 m/min	25-138 m/min
Cutting capacity of round materials at 0 degrees (mm)		100	150
Cutting capacity of round materials at 45 degrees (mm)		55	75
Cutting capacity of square materials at 0 degrees (mm)		-	125
Cutting capacity of square materials at 45 degrees (mm)		-	50
Cutting capacity of flat materials at 0 degrees		100 x 105 mm	150 x 125 mm
Cutting capacity of flat materials at 45 degrees		55 x 60 mm	70 x 50 mm
Saw band length (mm)		1138	1440
Saw band width (mm)		13	13
Saw band thickness (mm)		0.65	0.65
Weight (kg)		20	35
71200...	Ident. No.	010 ○	020 ●*

Prod. Gr. 703

Hot air blowers

Application:
For removing paint, shaping, shrink-fitting and welding.

Execution:
- **No. 71172 012:** With two temperature settings
- **No. 71172 014:** With three air flow settings
- **No. 71172 014–71172 016:** With adjusting wheel for continuous temperature adjustment
- **No. 71172 014–71172 018:** Hith high-quality ceramic heating
- **No. 71172 016:** With two air flow settings
- **No. 71172 018:** With LCD display to enable precise adjustment of the temperature and air flow to suit different materials and applications
- **No. 71180:**
  - Powerful 2300-W motor quickly achieves a temperature of 650°C
  - With thermal protection: Heating element switches off automatically in the event of motor overheating
  - With 10 airflow speeds, digitally controlled temperature settings and 4 adjustable programmes for comprehensive tool control

Advantage:
- **No. 71172 012–71172 014, 71172 018:** Safe stationary working thanks to large non-slip base
- **No. 71172 016:** Practical rod shape for a comfortable working position, e.g. when working on the floor
- **No. 71172 018:** Programmable settings for recalling frequently recurring tasks

Delivery:
No. 71172 012: Wide-jet nozzle (50 mm) and reflector nozzle; in metaBOX
No. 71172 014, 71172 018: Wide-jet nozzle (50 mm), reducing nozzle (9 mm) and reflector nozzle; in metaBOX
No. 71172 016: Slotted nozzle, welding nozzle and reducing nozzle (9 mm); in metaBOX
No. 71180: Glass protection nozzle (75 mm), area nozzle (50 mm), reducing nozzle (9 mm), welding shoe (10 mm) and reflector nozzle; in case

No. 71172 012

No. 71180

No. 71172 016

No. 71172 018

Model			HG 16-500	HG 20-600	HGS 22-630	HGE 23-650 LCD	GHG 23-66
Manufacturer Article Number			601067500	602066500	604063500	603065500	06012A6301
Min./max. air current			240-450 l/min	150-500 l/min	150-500 l/min	150-500 l/min	-
Min./max. blower temperature			300 to 500 °C	80 to 600 °C	80 to 630 °C	80 to 650 °C	50 to 650 °C
Power input (W)			1600	2000	2200	2300	2300
Cable length (m)			2.2	2.2	3	-	-
Weight (kg)			0.6	0.62	0.65	0.7	0.67
metabo	71172...	Ident. No.	012 ●	014 ●	016 ●	018 ●	-
BOSCH	71180...	Ident. No.	-	-	-	-	080 ●

BOSCH = Prod. Gr. 731
METABO = Prod. Gr. 745

metabo KE 3000 glue gun

Voltage 230 V, 50 Hz, shock-proof, noise-suppressed

Application:
Suitable for hot-melt gluing of wood, plastic, cardboard, glass, ceramics, stone, textiles, cork, leather and metal, and for sealing, caulking as well as for repairs with hot melt glue.

Execution:
- Wire bracket and support surface on the housing

Advantage:
- Exact metering due to mechanical adhesive feeding
- Optimum application of the glue due to PTC heating element for constant temperature
- Clean working, without dripping thanks to nozzle with ball seal

Delivery:
Hot melt glue stick (200 mm long, transparent)

Model		KE 3000
Manufacturer Article Number		618121000
Heat-up time (min)		6
Processing temperature (°C)		200
Weight (kg)		0.25
71175...	Ident. No.	010 ●

Prod. Gr. 745

PACKOUT case

Execution:
- Part of the modular PACKOUT™ storage system. Constructed with impact-resistant polymers - ideal for use on construction sites. IP65 protection class protects against dust, water and dirt. Metal struts reinforce the case corners. Fasteners with metal clasps. Includes additional boxes for neat storage of small parts. Additional metal carry handle in the case lid for ease of transport

Technical data:
- Width x height x depth: 560 x 170 x 410 mm
- With handle: Yes
- Material: Plastic

70801...	Ident. No.	003 ●

Prod. Gr. 7ME

PACKOUT case

With drawers

Execution:
- Access your tools easily, even if the case is near the bottom of the PACKOUT™ tower. Ball-bearing slides with a load capacity of up to 11 kg. The safety struts prevent you from accidentally opening a case during transport and can be locked with a padlock. Supplied with adjustable dividers for maximum customisation and enhanced organisation. Metal struts reinforce the case corners.

Construction made of impact-resistant polymers - ideal for use on construction sites.

Technical data:
- Width x height x depth: 560 x 360 x 410 mm
- Compartment type, boxes: Adjustable
- With handle: Yes

Ident. No. 005

Ident. No. 006

Number of drawers (PCS)		2	3
70801...	Ident. No.	005 ●	006 ●

Prod. Gr. 7ME

PACKOUT case, large

Execution:
- Part of the modular PACKOUT™ storage system. Constructed with impact-resistant polymers - ideal for use on construction sites. IP65 protection class protects against dust, water and dirt. Metal struts reinforce the case corners. Fasteners with metal clasps. Includes additional boxes for neat storage of small parts.

Technical data:
- Width x height x depth: 560 x 290 x 410 mm
- With handle: No
- Material: Plastic

70801...	Ident. No.	002 ●

Prod. Gr. 7ME

PACKOUT XL case

Execution:
- Large capacity for storing large power tools, such as bandsaws, angle grinders or hammer drills. 45 kg carrying capacity. Part of the modular PACKOUT™ storage solution. Construction made of impact-resistant polymers - ideal for use on construction sites. IP65 protection class protects against dust, water and dirt. Metal struts reinforce the case corners. Integrated tool carrier for smaller accessories

Technical data:
- Width x height x depth: 560 x 420 x 410 mm
- With handle: Yes
- IP protection class: IP 65
- Material: Plastic

70801...	Ident. No.	001 ●

Prod. Gr. 7ME

PACKOUT promo set

3 pieces

Execution:
- Part of the modular PACKOUT™ storage system. Constructed with impact-resistant polymers - ideal for use on construction sites. IP65 protection class protects against dust, water and dirt. Metal struts reinforce the case corners. Fasteners with metal clasps. Includes additional boxes for neat storage of small parts. Additional metal carry handle in the case lid for ease of transport
- Trolley case, Packout small tool box, Packout large tool box

70801...	Ident. No.	004 ●

Prod. Gr. 7ME

PACKOUT trolley case

Execution:
- Part of the modular PACKOUT™ storage solution.
- Constructed with impact-resistant polymers - ideal for use on construction sites. 113 kg carrying capacity.
- Pull-out handle with retractable telescopic pole of industrial quality.
- Robust 228 mm large heavy-duty wheels.
- IP65 protection class protects against dust, water and dirt.
- Metal struts reinforce the case corners.
- Fasteners with metal clasps.
- Includes tool carrier.

Technical data:
- Width x height x depth: 560 x 480 x 410 mm
- Compartment type, boxes: Adjustable
- With handle: Yes
- Material: Plastic

70801...	Ident. No.	000 ●

Prod. Gr. 7ME

PACKOUT organiser, incl. sorting boxes

Execution:
- Constructed with impact-resistant polymers - ideal for use on construction sites.
- Ideal for organising small parts and accessories.
- Transparent lid secures all sorting boxes when closed.
- IP65 protection class protects against dust, water and dirt.

Technical data:
- With handle: Yes
- IP protection class: IP 65

Ident. No. 013

Ident. No. 014

Ident. No. 015

Ident. No. 016

Length x width x height		500 x 380 x 120 mm	250 x 380 x 120 mm	500 x 414 x 65 mm	250 x 380 x 65 mm
70801...	Ident. No.	013	014	015	016
		●	●	●	○

Prod. Gr. 7ME

PACKOUT flat trolley

Execution:
- Durable castors for ease of movement under high loads at construction sites.
- 113 kg carrying capacity.
- Includes locking brake and 2 side locks to halt the flat trolley and easily connect PACKOUT™ cases and bags

Technical data:
- Length x width x height: 610 x 480 x 190 mm

70801...	Ident. No.	020
		●

Prod. Gr. 7ME

PACKOUT rail system set for wall mounting

2x wall brackets, 2x base plates

Execution:
- The rails can be mounted on different walls and are therefore highly versatile.
- Quick-action construction for simple installation, height adjustment and removal of the shelves.
- 22 kg carrying capacity per shelf.
- Metal struts reinforce the frames.
- Construction made of impact-resistant polymers.
- Part of the modular PACKOUT™ storage system.
- Each package contains 2 wall brackets and 2 base plates

Technical data:
- Length x width x height: 411 x 330 x 254 mm

70801...	Ident. No.	010
		○

Prod. Gr. 7ME

PACKOUT transport box

Execution:
- Versatile: can be used vertically and horizontally.
- 22 kg carrying capacity.
- Very spacious, even for larger tools such as the M18™ sabre saw or M18™ circular saw.
- Other PACKOUT™ products, such as the organisers, can be clicked onto the transport box.

Technical data:
- Length x width x height: 475 x 390 x 250 mm

70801...	Ident. No.	021
		○

Prod. Gr. 7ME

PACKOUT tool bag

Execution:
- Robust construction made of 1680 denier ballistic nylon.
- Robust plastic base.
- Metal hardware.
- High-quality jacketed carry handle.

Technical data:
- Number of compartments: 32 PCS
- Length x width x height: 280 x 500 x 430 mm

70801...	Ident. No.	026 ○

Prod. Gr. 7ME

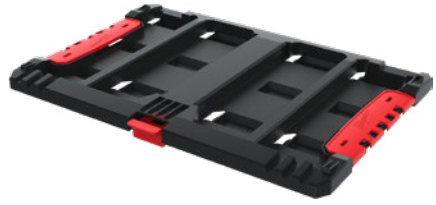
PACKOUT adapter

For connecting a PACKOUT case to an HD box

Execution:
- PACKOUT adapter for HD box

70801...	Ident. No.	034 ●

Prod. Gr. 7ME



PACKOUT wooden worktop

Execution:
- Robust marine plywood board with a smooth surface for light assembly work, writing, sketching or working on a laptop.
- Ready-to-mount surface for quick and simple mounting onto other PACKOUT™ materials.
- 22 kg carrying capacity per shelf.

Technical data:
- Length x width x height: 380 x 650 x 60 mm

70801...	Ident. No.	023 ○

Prod. Gr. 7ME

PACKOUT compact tool box

Execution:
- Quickly adjustable dividers allow you to store and organise accessories and consumables, such as fittings, connectors or cartridges.
- Very spacious, can also fit tools such as circular saws, sanders or cordless drills.
- 34 kg carrying capacity.
- Construction made of impact-resistant polymers - ideal for use on construction sites.
- IP65 protection class protects against dust, water and dirt.

Technical data:
- Length x width x height: 411 x 254 x 330 mm

70801...	Ident. No.	017 ○

Prod. Gr. 7ME

PACKOUT mounting plate

Execution:
- Can be installed in multiple ways.
- Transforms PACKOUT™ into a stationary storage system.
- 45 kg carrying capacity when installed on the floor.
- 22 kg carrying capacity when installed on a wall.

Technical data:
- Length x width x height: 600 x 470 x 30 mm

70801...	Ident. No.	022 ○

Prod. Gr. 7ME

Compressed air tools

Oil mist should be continuously added to the compressed air flowing through all pneumatic tools which are not explicitly labelled as suitable for oil-free operation. We therefore recommend using the corresponding conditioning unit, consisting of a filter pressure regulator and mist lubricator.

metabo BASIC mobile workshop compressors

IP 54 degree of protection, for simple commercial applications

Application:
Ident. No. 206: Handy 6-L compressor, ideal for stapling, nailing, tyre inflation and for working with cartridge guns, grease guns and riveters.

Execution:
- **Ident. No. 206:**
  - Oil-free piston compressor: easy to transport and reduced service costs
  - Instrument panel with easily legible manometers for tank and operating pressure
  - Adjustable working pressure suitable for the application due to pressure reducer and manometer
  - With overload protection
- **Ident. No. 214:**
  - For single-phase alternating current
  - Oil-lubricated piston compressor
  - Pressure reducer with manometer for controllable working pressure
  - Additional manometer for displaying tank pressure
  - Rubberised, robust wheels and handle for mobile applications
- **Ident. No. 312:** oil-lubricated piston compressor
- **Ident. No. 312–380:**
  - for single-phase alternating current
  - pressure reducer with manometer for controllable working pressure
  - additional manometer for displaying tank pressure
  - rubberised, robust wheels and handle for mobile applications
- **Ident. No. 380:** oil-free piston compressor

Advantage:
- **Ident. No. 206:**
  - Easy to carry and space-saving storage thanks to the folding handle and small dimensions
  - Simple condensate outlet via ball valve with butterfly handle
- **Ident. No. 206, 312–380:** 10-year boiler warranty against rust penetration
- **Ident. No. 214:**
  - Push button with starter valve for reliable cold start
  - 10-year tank warranty against rust penetration
  - No testing necessary before commissioning
- **Ident. No. 312–380:**
  - pressure switch with starter valve for reliable cold start
  - no testing necessary before commissioning
- **Ident. No. 380:** easier transport and reduced service costs thanks to oil-free piston compressor

Delivery:
Ident. No. 206, 312: universal quick-release coupling
Ident. No. 214: Universal quick-release coupling
Ident. No. 380: universal quick-release coupling, pull handle with rubber coating

Technical data:
- Operating pressure: 8 bar
- With overload protection: Yes

Ident. No. 214

Ident. No. 312

Ident. No. 206

Ident. No. 380

Model		Basic 160-6 W OF	Basic 250-50 W	Basic 250-24 W	Basic 280-50 W OF
Power input (W)		900	1500	1500	1700
Tank capacity (l)		6	50	24	50
Filling capacity (l/min)		65	110	110	140
Intake air capacity (l/min)		160	200	200	280
Max. rotation speed (rpm)		3500	2850	2850	2850
Sound-pressure level (dB)		-	97	97	85
Delivery quantity effective at 80% max. pressure (l/min)		55	95	95	130
Length x width x height		340 x 300 x 290 mm	830 x 445 x 715 mm	630 x 406 x 630 mm	770 x 386 x 662 mm
Weight (kg)		10	32	27	30
75290...	Ident. No.	206 ●	214 ●+	312 ●	380 ●+

Prod. Gr. 745

POWER mobile workshop compressors

IP 54 degree of protection, for flexible use in interior construction and on construction sites

Execution:
- For single-phase alternating current
- Oil-free piston compressor
- Pressure reducer with manometer for controllable working pressure
- Instrument panel with easily legible manometers for tank and operating pressure
- Cord wrap facility
- **Ident. No. 250:**
  - Rubberised, robust wheels and handle for mobile applications
- Lifting eye for secure transport on construction sites

Advantage:
- Push button with starter valve for reliable cold start
- Reduced service costs

Delivery:
Ident. No. 100: Universal quick-release coupling
Ident. No. 250: 2 universal quick-release couplings

Ident. No. 100

Model		Power 180-5 W OF	Power 250-10 W OF
Power input (kW)		1.1	1.5
Tank capacity (l)		5	10
Operating pressure (bar)		8	10
Filling capacity (l/min)		90	120
Intake air capacity (l/min)		160	220
Max. rotation speed (rpm)		2850	2850
Delivery quantity effective at 80% max. pressure (l/min)		75	140
Length x width x height		370 x 395 x 286 mm	470 x 480 x 348 mm
With overload protection		Yes	Yes
Weight (kg)		16	21
75290...	Ident. No.	100 ●	250 ●+

Prod. Gr. 745

MEGA mobile workshop compressors

IP 54 degree of protection, for demanding applications

Execution:
- Oil-lubricated piston compressor
- Belt drive for low motor speeds and quiet running
- Instrument panel with easily legible manometers for tank and operating pressure
- Cord wrap facility
- Rubberised, robust wheels and handle for mobile applications
- Steering rollers with parking brake for good manoeuvrability
- Filter pressure reducer including manometer and mist lubricator for improved air quality and controllable working pressure
- **Ident. No. 027:** For single-phase alternating current
- **Ident. No. 421:** For three-phase current

Advantage:
- Push button with starter valve for reliable cold start
- 10-year tank warranty against rust penetration

Ident. No. 027

Model		Mega 400-50 W	Mega 400-50 D
Power input (W)		2200	2200
Tank capacity (l)		50	50
Operating pressure (bar)		10	10
Filling capacity (l/min)		300	300
Intake air capacity (l/min)		400	400
Max. rotation speed (rpm)		1050	1050
Sound-pressure level (dB)		86	86
Delivery quantity effective at 80% max. pressure (l/min)		260	260
Length x width x height		1050 x 410 x 817 mm	1050 x 410 x 817 mm
With overload protection		Yes	Yes
Weight (kg)		73	73
75290...	Ident. No.	027 ●+	421 ●+

Prod. Gr. 745

Pneumatic drills

Application:
No. 75032: Ideal for bodywork and industry

Execution:
- **No. 75032:**
  - Exhaust air routed through handle
  - Handle insulated against cold
  - With quick-action drill chuck
- **No. 75066 103:**
  - Ergonomic shape
  - Left and right rotation
  - Noise-dampened air outlet through the handle
- **No. 75066 106:**
  - Anti-clockwise and clockwise rotation
  - Noise-dampened air outlet with handle

Advantage:
- **No. 75032:** Suitable for continuous operation

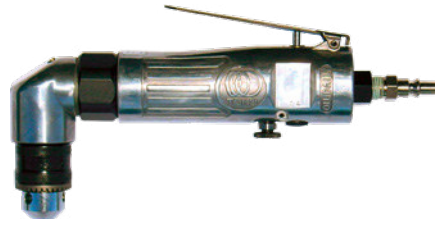
Delivery:
No. 75032: incl. coupling connector: Nominal width 7.2
No. 75066 103: Includes quick-action drill chuck and side handle

Model			9030N-1	RR-13DP	MD-3312B
Max. drilling Ø in steel (mm)			-	13	10
Max. idle speed (rpm)			2000	800	1900
Power rating (W)			373	350	380
Air consumption			113 l/min	8 l/s	6 l/s
Connection thread			IT 1/4 inch	1/4 inch	-
Min./max. drill chuck span width			1-10 mm	1.5-13 mm	1-10 mm
Inner hose Ø (mm)			10	10	6.5
Weight (kg)			1	1.3	0.91
With right/left-hand rotation			Yes	Yes	Yes
HAZET	75032...	Ident. No.	211 ●	-	-
RED ROOSTER	75066...	Ident. No.	-	103 ●	-
TOKU	75066...	Ident. No.	-	-	106 ●

75066... = Prod. Gr. 7AE
75032... = Prod. Gr. 738

No. 75032

No. 75066 103


No. 75066 106

Pneumatic needle scaler

Application:
No. 75061: For cleaning work, especially to remove rust and paint.
No. 75066 115: Suitable for longer-lasting work.

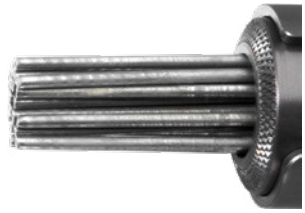
Execution:
- **No. 75061:**
  - With lever start function
  - With pistol grip
  - Exhaust air: front
  - Frequency 110 Hz
  - Vibration level ≤ 5 m/s²
- **No. 75066:** Ergonomic shape
- **No. 75066 115:** Vibration and thermally insulated handle

Advantage:
- **No. 75066:**
  - Very high impact frequency
  - For left- and right-handed use

Delivery:
No. 75061: Needle set (kit contents:19 needles Ø3.2 mm x 140 mm)

Model			MDNE 19	RRI-4006VL	TFC-N200
Number of needles			19	-	-
Ø of needle (mm)			3.2	3	3
Max. impact rate (rpm)			6600	2400	12000
Air consumption (l/s)			1.9	1.9	-
Connection thread			IT 1/4 inch	-	-
Inner hose Ø (mm)			10	6.5	6.5
Sound-pressure level (dB)			89	90	91
Vibration (m/s²)			3.2	-	-
Length (mm)			272	-	-
Weight (kg)			2.4	2.7	1.12
MANNESMANN DEMAG	75061...	Ident. No.	460 ●	-	-
RED ROOSTER	75066...	Ident. No.	-	115 ●	-
TOKU	75066...	Ident. No.	-	-	118 ●

75061... = Prod. Gr. 7AA
75066... = Prod. Gr. 7AE


No. 75061

No. 75066 118

No. 75066 115

Pneumatic ratchet wrench

Square drive 1/4 inch

Application:
No. 75053: For heavy screw-driving work in poorly accessible places.
No. 75061: For use in confined spaces

Execution:
- **No. 75053:** Handle insulated against cold
- **No. 75061:**
  - Thermally insulated soft handle
  - Exhaust air duct can be rotated 360°
  - With speed control

Advantage:
- **No. 75053:** Reduced vibration for effortless work

Delivery:
No. 75053: Includes coupling plug

No. 75061

No. 75053

No. 75066

Model			9020-2	MDR 2100	MR-2207C
Suitable for screw			-	M10	M8
Max. tightening torque (Nm)			35	55	28
Max. idle speed (rpm)			170	220	250
Air consumption			180 l/min	4.7 l/s	5 l/s
Tool holding device			1/4-inch external square	1/4-inch external square	1/4-inch external square
Connection thread			G 1/4 inch	NPT 1/4 inch	1/4 inch
Inner hose Ø (mm)			10	8	6.5
Sound-pressure level (dB)			83	82	81
Valve design			Lever valve	Lever valve	-
Head height (mm)			30	-	-
Length (mm)			179	200	165
Weight (kg)			0.5	0.6	0.5
With right/left-hand rotation			Yes	Yes	-
HAZET	75053...	Ident. No.	410 ●	-	-
MANNESMANN DEMAG	75061...	Ident. No.	-	200 ●	-
TOKU	75066...	Ident. No.	-	-	280 ●

MANNESMANN DEMAG = Prod. Gr. 7AA
TOKU = Prod. Gr. 7AE
HAZET = Prod. Gr. 738

Pneumatic ratchet wrench

Square drive 3/8 inch

Application:
No. 75061: For use in confined spaces

Execution:
- **No. 75061:**
  - Thermally insulated soft handle
  - Exhaust air duct can be rotated 360°

Advantage:
- **No. 75066:** Air outlet on the back rotates and is noise-dampened

No. 75061

No. 75066

Model			MDR 2101	RRW-2403
Suitable for screw			M10	M12
Max. tightening torque (Nm)			160	68
Max. idle speed (rpm)			180	150
Air consumption (l/s)			10.8	6
Tool holding device			3/8-inch external square	3/8-inch external square
Connection thread			NPT 1/4 inch	1/4 inch
Inner hose Ø (mm)			10	6.5
Sound-pressure level (dB)			84	85
Valve design			Lever valve	-
Length (mm)			270	250
Weight (kg)			1.3	1.2
With right/left-hand rotation			Yes	-
MANNESMANN DEMAG	75061...	Ident. No.	205 ●	-
RED ROOSTER	75066...	Ident. No.	-	285 ●

MANNESMANN DEMAG = Prod. Gr. 7AA
RED ROOSTER = Prod. Gr. 7AE

Pneumatic ratchet wrench

Square drive 1/2”

Application:
For heavy screw-driving work in poorly accessible places.

Execution:
- **No. 75053:** Handle insulated against cold

Advantage:
- **No. 75053:** Reduced vibration for effortless work

Delivery:
No. 75050: In cardboard box
No. 75053: Includes coupling plug

No. 75050

No. 75053

Model			9022-2	MR-2410 B
Suitable for screw			-	M12
Max. tightening torque (Nm)			70	78
Max. torque (Nm)			-	78
Max. idle speed (rpm)			160	135
Air consumption (l/min)			180	480
Tool holding device			1/2-inch external square	1/2-inch external square
Connection thread			G 1/4 inch	G 1/4 inch
Inner hose Ø (mm)			10	10
Sound-pressure level (dB)			88	81
Valve design			Lever valve	Lever valve
Head height (mm)			62	50
Length (mm)			270	255
Weight (kg)			1.2	1.9
With right/left-hand rotation			Yes	Yes
HAZET	75053...	Ident. No.	420 ●	-
TOKU	75050...	Ident. No.	-	200 ●

TOKU = Prod. Gr. 7AE
HAZET = Prod. Gr. 738

Pneumatic impact wrenches and drivers

Square drive 3/8”

Application:
extremely compact design enables work even in restricted spaces

Execution:
- 3 power levels in clockwise rotation, 1 power level in anti-clockwise rotation
- handle insulated against cold
- Exhaust air discharged downwards through the handle

Advantage:
- low-vibration
- one-handed operation for left-handed and right-handed users

Delivery:
Includes coupling plug

Model		9011M
Suitable for screw		M13
Max. tightening torque (Nm)		461
Max. releasing torque (Nm)		461
Max. idle speed (rpm)		6500
Air consumption (l/min)		85.2
Tool holding device		3/8-inch external square
Hammer mechanism system		Jumbo hammer mechanism
Length (mm)		92
Connection thread		G 1/4 inch
Inner hose Ø (mm)		10
Operating pressure (bar)		6.3
Sound-pressure level		90.3
Weight (kg)		1.24
With right/left-hand rotation		Yes
75065...	Ident. No.	071 ●

Prod. Gr. 738

Pneumatic impact wrenches and drivers

Square drive 1/2”

Application:
No. 75065 018: For heavy-duty bolting tasks.
No. 75065 031: For heavy-duty screw-driving tasks.
No. 75066 004: For heavy screw-driving work.

Execution:
- **No. 75065:**
  - Exhaust air discharged downwards through the handle
  - Thermally insulated handle
- **No. 75065 018:** Clockwise/anti-clockwise rotation: Two-stage (clockwise), one-stage (anti-clockwise)
- **No. 75065 031–75066 004:** 3 power levels in clockwise rotation, 1 power level in anti-clockwise rotation
- **No. 75066 226:**
  - Ergonomic shape
  - 4 adjustable torque levels
  - Noise-dampened air outlet through the handle

Advantage:
- **No. 75065 018:**
  - low-vibration
  - One-handed operation for left-handed and right-handed users
  - Compact design – optimised for working in confined spaces
- **No. 75065 031:** One-handed operation thanks to innovative switching on the back of the device

Delivery:
No. 75065 018: Includes Coupling connector
No. 75065 031: Includes coupling plug
No. 75066 004: In cardboard box

No. 75065 018

No. 75066 226

Model			9012 TT	9012 EL-SPC	RR-160 H	MI-17MG
Suitable for screw			M16	M16	M10	M16
Max. tightening torque (Nm)			1356	1054	580	650
Max. releasing torque (Nm)			2200	1700	-	1450
Max. idle speed (rpm)			8300	8000	8000	5500
Air consumption			147 l/min	139 l/min	252 l/min	8.8 l/s
Tool holding device			1/2-inch external square	1/2-inch external square	1/2-inch external square	1/2-inch external square
Hammer mechanism system			High-performance twin hammer mechanism	Twin hammer mechanism	Dynapact hammer mechanism	Twin hammer mechanism
Length (mm)			150	185	185	178
Connection thread			IT 1/4 inch	G 1/4 inch	3/8 inch	1/4 inch
Inner hose Ø (mm)			10	10	10	10
Operating pressure (bar)			6.3	6.3	6.3	-
Sound-pressure level (dB)			99.7	98.0	-	88
Weight (kg)			1.6	1.98	2.3	2.5
With right/left-hand rotation			Yes	Yes	Yes	Yes
HAZET	75065...	Ident. No.	018 ●	031 ●	-	-
RED ROOSTER	75066...	Ident. No.	-	-	004 ●	-
TOKU	75066...	Ident. No.	-	-	-	226 ●

75066... = Prod. Gr. 7AE
75065... = Prod. Gr. 738

MANNESMANN DEMAG

Pneumatic impact wrenches and drivers

Square drive 3/4 inch

Delivery: Threaded sleeve, impact grease, oil bottle

Model		E 27 P
Suitable for screw		M14 - M24
Max. tightening torque (Nm)		1600
Max. idle speed (rpm)		5400
Air consumption (l/s)		15
Tool holding device		3/4-inch external square
Hammer mechanism system		3 jaws striking mechanism
Length (mm)		182
Connection thread		IT 1/2 inch
Inner hose Ø (mm)		13
Sound-pressure level (dB)		94
Weight (kg)		5.95
With right/left-hand rotation		Yes
75061...	Ident. No.	355 ○

Prod. Gr. 7AA

Pneumatic straight grinder

With turning valve

Application:

Ident. No. 015, 035: For fine grinding, milling and engraving work.

Ident. No. 032: For spotting and reworking of moulds and tools.

Ident. No. 045: Universally applicable for fine and coarse work with milling bits of head diameter 3–8 mm.

Ident. No. 065: For coarser applications with milling bits of 6–10 mm head diameter.

Execution:

- **Ident. No. 015, 035–045:** Air discharge to the rear
- **Ident. No. 015, 035–065:** Environmentally friendly owing to central air discharge
- **Ident. No. 032, 065:**
  - with a long, thin tool spindle to enable work even in hard-to-access spaces
  - Rear air exhaust

Advantage:

- **Ident. No. 015, 035:** Very light and handy - extremely slim design.
- **Ident. No. 032:** The long, thin tool spindle allows the tool to be placed flat
- **Ident. No. 032–035:** Handy ergonomics for effortless grinding
- **Ident. No. 065:** Increased wear resistance

Delivery:

Ident. No. 015, 035: Includes Collet chuck ZG 5/3 mm, collet chuck spanner 6 + 8 and hose unit; in box

Ident. No. 032: Includes collet chuck ZG 5/3 mm and collet chuck key size 6 + 10; in box

Ident. No. 045: Includes collet chuck ZG 4/6 mm and collet chuck key size 9 + 11; in box

Ident. No. 065: Includes collet chuck ZG 7/6 mm and collet chuck key size 11 + 14; in box

Notes:

Please operate with oil. We recommend using a maintenance unit.

Ident. No. 015
Model SRD 3-85/2

Ident. No. 032
Model SRD 3-45/2

Ident. No. 035
Model SRD 3-55/2

Ident. No. 045–065
Model SRD 6-45/2

Model		SRD 3-85/2	SRD 3-55/2	SRD 3-45/2	SRD 6-45/2	SRD 8-30/2
Valve design		Rotary valve	Rotary valve	Rotary valve	Rotary valve	Rotary valve
Max. idle speed (rpm)		85000	55000	45000	45000	30000
Power output (W)		80	60	260	260	240
Air consumption (l/min)		170	170	380	380	450
Connection thread		M16	M16	-	R 1/8 inch	R 1/8 inch
Inner hose Ø (mm)		4.5	4.5	-	7	7
Length (mm)		173	151	196	182	189
Ø of housing (mm)		19.5	15.5	35	32	31
Max. clamping Ø (mm)		3	3	3	6	8
Collet chuck Ø (mm)		3	3	3	6	6
Suitable for max. sanding block Ø (mm)		6	8	-	10	16
Max. HM rotating milling cutter Ø (mm)		4	6	6	8	10
Weight (kg)		0.13	0.09	0.31	0.31	0.37
75036...	Ident. No.	015 ●	035 ●	032 ●	045 ●	065 ●

Prod. Gr. 748

Pneumatic straight grinder

With lever valve

Application:

No. 75036 025: For fine grinding, milling and engraving work.

No. 75036 055: For fine finishing, smoothing and deburring, for powerful working.

No. 75036 095: For coarse work with milling pins of head diameter up to 12 mm.

No. 75061 070: For light and heavy deburring work

No. 75061 075, 75061 090: For light deburring work

No. 75061 080: For heavy deburring work as well as high-precision milling, grinding and roughing

No. 75061 085: For heavy deburring work. Ideal for brushing.

Execution:

- **No. 75036:** Rear air exhaust
- **No. 75061 070:**
  - Rear exhaust via hose unit with integrated silencer
  - Safety lever valve conforms to EN 792
  - Vane motor with powerful throughput
- **No. 75061 075, 75061 090:**
  - Ergonomic design
  - With a high-torque vane motor
- **No. 75061 075–75061 090:** Exhaust air: rear (via hose unit with integrated silencer)
- **No. 75061 090:** With floating bearing

Advantage:

- **No. 75036 025:** Very light and handy - extremely slim design.
- **No. 75036 095:** Increased wear resistance.
- **No. 75061 090:**
  - Floating bearing ensures scratch-free workpiece processing
  - Reduced cutter wear and tool life extension - tooth breakage is avoided

Delivery:

No. 75036 025: incl. collet chuck ZG 5/3 mm, collet chuck key size 6 + 8 and hose unit; in box

No. 75036 055: Includes collet chuck ZG 4/6 mm and collet chuck key size 9 + 11; in box

No. 75036 095: Includes collet chuck ZG 7/6 mm and collet chuck key size 11 + 14; in box

No. 75061: Includes hose unit and collet chuck keys

Notes:

No. 75036: Please operate with oil. We recommend using a maintenance unit.

No. 75036 025
Model SRH 3-85/2

No. 75036 055
Model SRH 6-45/2

No. 75036 095
Model SRH 8-20/2

No. 75061 070

No. 75061 075

No. 75061 085

Model			SRH 3-85/2	SRH 6-45/2	SRH 8-20/2	G 352 H	GK 282 H	G 232 H	G 120 H	G 357 H
Valve design			Lever valve	Lever valve	Lever valve	Lever valve	Lever valve	Lever valve	Lever valve	Lever valve
Max. idle speed (rpm)			85000	45000	20000	35000	30000	25000	12000	38000
Min./max. idle speed			-	-	-	0-35000 rpm	0-30000 rpm	0-25000 rpm	0-12000 rpm	0-38000 rpm
Power output (W)			80	260	300	290	240	440	400	320
Air consumption			170 l/min	380 l/min	500 l/min	7.5 l/s	6.6 l/s	12 l/s	12 l/s	7.5 l/s
Connection thread			M6	R 1/8 inch	R 1/8 inch	G 1/4 inch	G 1/4 inch	G 1/4 inch	G 1/4 inch	G 1/4 inch
Sound-pressure level (dB)			-	-	-	73	67	76	74	73
Inner hose Ø (mm)			4.5	7	7	-	-	-	-	-
Length (mm)			180	197	218	171	141	180	205	170
Ø of housing (mm)			19.5	32	41	30	30	39	39	39
Max. clamping Ø (mm)			3	6	8	-	-	-	-	-
Collet chuck Ø (mm)			3	6	6	6	6	6	6	6
Suitable for max. sanding block Ø (mm)			6	10	24	16	16	24	32	16
Max. HM rotating milling cutter Ø (mm)			4	8	12	10	10	12	12	10
Weight (kg)			0.17	0.36	0.62	0.36	0.33	0.74	0.88	0.5
BIAX	75036...	Ident. No.	025 ●	055 ●	095 ●	-	-	-	-	-
MANNESMANN DEMAG	75061...	Ident. No.	-	-	-	070 ○	075 ●	080 ●	085 ●	090 ●

MANNESMANN DEMAG = Prod. Gr. 7AA
BIAX DRUCKLUFT = Prod. Gr. 748

Pneumatic straight grinder

Application:

No. 75039: For grinding and deburring, particularly in metal work, toolmaking, form construction and bodywork construction.

No. 75066: for deburring, finishing welding and cast seams as well as other light grinding work

Execution:

- **No. 75066:** Exhaust air: rear
- **No. 75066 050:** Motor housing made of composite ensures insulation of the machine at hand
- **No. 75066 054:** rubberised handle ensures good insulation between hand and power tool

Advantage:

- **No. 75039:** Single-handed operation
- **No. 75066:** Movable air connection guarantees easy mobility of the grinder
- **No. 75066 054:** The tool performance can be adjusted via the adjustment wheel if desired by the
- operator

No. 75066 050

No. 75066 054

Model			MG-7206B	RRG-1000RE	RRG-2690
Design			Straight	Straight	Offset
Valve design			Lever valve	Lever valve	Lever valve
Max. idle speed (rpm)			23000	22000	20000
Power output (W)			380	740	260
Air consumption (l/s)			5	11	7.5
Connection thread			1/4 inch	1/4 inch	1/4 inch
Sound-pressure level (dB)			81	89	84
Inner hose Ø (mm)			6.5	10	10
Length (mm)			164	190	166
Max. clamping Ø (mm)			6	8	6
Collet chuck Ø (mm)			6	6	6
Suitable for max. sanding block Ø (mm)			25	35	35
Weight (kg)			0.56	0.8	0.6
TOKU	75039...	Ident. No.	010 ●	-	-
RED ROOSTER	75066...	Ident. No.	-	050 ●	054 ●

Prod. Gr. 7AE

Pneumatic die grinder

Application:
for grinding, buffing, polishing and deburring.

Execution:
- sound-pressure level: 79 db(A)
- speed regulation with adjusting wheel
- 360° adjustable air outlet
- **Ident. No. 211:** straight version
- **Ident. No. 221:** angled version

Advantage:
- **Ident. No. 221:** Ideal for working in confined spaces

Delivery:
Includes coupling plug

Technical data:
- Valve design: Lever valve
- Power output: 224 W
- Air consumption: 74 l/min
- Connection thread: G 1/4 inch
- Inner hose diameter: 10.0 mm
- Max. clamping diameter: 6 mm
- Operating pressure: 6.3 bar

Model		9032N-1	9032N-5
Design		Straight	Offset
Max. idle speed (rpm)		25000	20000
Min./max. idle speed		2000-25000 rpm	2000-20000 rpm
Length (mm)		157	155
Weight (kg)		0.4	0.5
75038...	Ident. No.	211 ●	221 ●

Prod. Gr. 738

Ident. No. 211

Ident. No. 221

Pneumatic micro and miniature die grinder

Application:
Ident. No. 031: For precise machining of work-pieces even in very confined spaces.
Ident. No. 040: For precise machining of work-pieces even in extremely cramped conditions

Execution:
- **Ident. No. 040:** 6-mm chuck with 3-mm adapter to accommodate both sanding block sizes

Advantage:
- **Ident. No. 031:** Long service life thanks to Kevlar blades

Technical data:
- Connection thread: G 1/4 inch
- Inner hose diameter: 5 mm
- Operating pressure: 6.3 bar

Model		9032MK	9032M-36
Design		Micro	MINI
Max. idle speed (rpm)		60000	30000
Power output (W)		190	224
Air consumption (l/min)		75	43.7
Length (mm)		132	150
Weight (kg)		0.21	0.38
75038...	Ident. No.	031 ●	040 ●

Prod. Gr. 738

Ident. No. 031

Ident. No. 040

Pneumatic turbine grinder - oil-free operation

80 W

Application:

No. 75036 005: For the finest deburring work.

No. 75036 405: For working with milling pins of head diameter of up to 6 mm.

Execution:

- **No. 75036:** With elastic bearing
- **No. 75036 005:** Exhaust air discharge to the front
- **No. 75036 405:**
  - Air discharge to the rear
  - Controlled rotational speed for constant speeds
  - Run-out brake for increased safety
- **No. 75061:**
  - Exhaust air: rear
  - Elastic bearings significantly reduce the wear on the cutter
- High speed for excellent machining quality
- Oil-free operation

Advantage:

- **No. 75036:** Turbine motor - oil-free operation
- **No. 75036 005:** Optimum surface quality thanks to high speed and elastic bearing
- **No. 75036 405:** Constant speed at different loads thanks to centrifugal governor.
- **No. 75061:** High degree of concentricity for long run-times

Delivery:

No. 75036: Includes collet chuck ZG 5/3 mm, collet chuck key size 6 + 8 and hose unit; in box

No. 75061: Includes hose unit and collet chuck keys

No. 75036 005
Model TVD 3-100/2

No. 75036 405
Model T 365-2

No. 75061

Example application

Model			TVD 3-100/2	T 365/2	GT 652 D
Valve design			Rotary valve	Rotary valve	Rotary valve
Max. idle speed (rpm)			100000	65000	65000
Power output (W)			80	80	70
Air consumption			180 l/min	180 l/min	3.5 l/s
Sound-pressure level (dB)			70	70	66
Inner hose Ø (mm)			4.5	4	-
Length (mm)			98	164	173
Ø of housing (mm)			31	17/38	17
Max. clamping Ø (mm)			3	3	3
Collet chuck Ø (mm)			3	3	3
Suitable for max. sanding block Ø (mm)			5	8	6
Max. HM rotating milling cutter Ø (mm)			3	6	4
Weight (kg)			0.25	0.22	0.27
BIAX	75036...	Ident. No.	005 ●	405 ●	-
MANNESMANN DEMAG	75061...	Ident. No.	-	-	025 ●

MANNESMANN DEMAG = Prod. Gr. 7AA
BIAX DRUCKLUFT = Prod. Gr. 748

Pneumatic manual belt sander

Sanding belt 10 x 330 mm

Application:

No. 75066: For surface grinding in metal and wood processing as well as for deburring in hard-to-reach areas.

No. 75070: For working on narrow surfaces. For sanding belts 10 x 330 mm

Execution:

- **No. 75066:**
  - With safety trigger
  - With sound-proofed air outlet
  - With adjustable sound insulation
- **No. 75070:**
  - Head can be adjusted through 360°
- With continuously variable speed regulation
- With automatic belt adjustment
- With practical locking for fast sanding belt replacement

Delivery:

No. 75066: With sanding arm 6x330mm and 10x330mm

Technical data:

- Valve design: Lever valve
- Inner hose diameter: 10 mm
- Max. sanding belt width: 10 mm
- Grinding belt length: 330 mm

No. 75070

No. 75066

Model			9033N-4	RRG-3617K
Max. belt speed (m/min)			1370	-
Max. idle speed (rpm)			19000	20000
Power rating (W)			417	280
Air consumption			94 l/min	6.7 l/s
Sound-pressure level (dB)			83	80
Connection thread			IT 1/4 inch	1/4 inch
Length (mm)			291.4	265
Min. sanding belt width (mm)			10	6
Weight (kg)			0.81	0.75
HAZET	75070...	Ident. No.	011 ●	-
RED ROOSTER	75066...	Ident. No.	-	020 ●

RED ROOSTER = Prod. Gr. 7AE
HAZET = Prod. Gr. 738

Pneumatic sheet metal shears 9036N-5

Application:
Ideal for cuts with small radii (min. 4.5 mm). Also suitable for cutting plastic.

Execution:
- Continuous speed control via a rotary knob on the handle back
- Cold-insulating handle

Delivery:
Includes coupling connector nominal width 7.2

Technical data:
- Model: 9036N-5
- Air consumption: 104 l/min
- Operating pressure: 6.3 bar
- Inner hose diameter: 10 mm
- Max. cutting capacity of steel: 1.2 mm
- Max. cutting capacity in aluminium: 1.6 mm
- Cutting width: 4.5 mm
- Length: 185 mm
- Weight: 1 kg
- Max. sound-pressure-level: 80 dB

75033...	Ident. No.	200 ●

Prod. Gr. 738

Pneumatic sheet metal nibbler 9036N-1

Application:
for high-precision cutting of all aluminium and steel sheets. ideal for straight cuts, also suitable for contour cutting.

Execution:
- continuous speed control via a rotary knob on the handle back
- with high-performance blade for maximum cutting performance
- cold-insulating handle and cold-insulated housing
- vibration-dampened through double-bearing spindle

Delivery:
incl. coupling connector nominal width 7.2

Technical data:
- Model: 9036N-1
- Air consumption: 104 l/min
- Operating pressure: 6.3 bar
- Inner hose diameter: 10 mm
- Max. cutting capacity of steel: 1.2 mm
- Max. cutting capacity in aluminium: 1.6 mm
- Cutting width: 4.5 mm
- Length: 255 mm
- Weight: 1 kg
- Max. sound-pressure-level: 80 dB

75033...	Ident. No.	100 ●

Prod. Gr. 738

Pneumatic blow-out guns

Forged aluminium, silver anodised

Application:
For blowing out and cleaning machines, workpieces, bore holes, hollow parts etc.

Execution:
- **Ident. No. 013:** Connection nipple for couplings with nominal width 7.2-7.8

Technical data:
- Max. operating pressure: 10 bar
- Connection thread: M12 x 1.25
- Min./max. working pressure: 2-6 bar
- Min./max. working temperature: -10 to 50 °C
- Surface: Nickel plated

Nozzle design	Standard nozzle, bore 1.5 mm	
Connection	75101... Ident. No.	
LW 6	010	●
LW 9	011	●
LW 13	012	●
-	013	●

Prod. Gr. 7AD

Ident. No. 010, 013

RIEGLER Nozzles for blow-out guns

Connecting thread: M12 x 1.25

Execution:

- **Ident. No. 101:** With sintered insert
- **Ident. No. 107–108:** Bent

Ident. No. 100

Ident. No. 107

Ident. No. 101

Ident. No. 103

Ident. No. 104–105

	Nozzle design	Type	Length (mm)		
75101...	With damper nozzle and sinter insert	106/6		Ident. No.	101 ●
75101...	With low-noise round nozzle	22,206	35	Ident. No.	100 ●
75101...	With normal nozzle	105/5		Ident. No.	103 ●
75101...		23/100		Ident. No.	104 ●
75101...		23/150		Ident. No.	105 ●
75101...	100 mm long, curved	22/100		Ident. No.	107 ●
75101...	150 mm long, curved	22/150		Ident. No.	108 ●

Prod. Gr. 7AD

RIEGLER Low-noise energy-saving nozzle

For blow-out guns

Application:
For controlling the flow of air and reducing pressure.

Execution:

- aluminium basic body, other parts POM
- Volume flow: 10 to 95 l/min at 6 bar
- Controlled by turning the operating sleeve to one of 7 notches marked +/-, total 125°

Advantage:

- Regulating the flow downwards prevents sharp and pointed chips or harmful fluids flying around uncontrollably, for safe working.
- Saving energy and costs
- Additional effect is noise reduction

	Type		
75101...	109/44	Ident. No.	106 ●

Prod. Gr. 7AD

EJN Pneumatic blow-out gun

Made of plastic, blue

Application:
For cleaning workpieces, machine parts and the like.

Execution:

- with 30° angled extension, rotating and removable
- continuously variable air flow regulation

Delivery:
In cardboard box

Technical data:

- Connection thread: RC 1/4 inch

Connection type	75101... Ident. No.	
Grommet LW 6	040	●
Grommet LW 9	041	●
Grommet LW 13	042	●
Connection nipple for couplings NW 7.2 - 7.8	043	●

Prod. Gr. 7AD

Ident. No. 040

Pneumatic and liquid blow guns, series 208

for cleaning with compressed air or non-explosive water-based liquids

Application:
For cleaning work using compressed air, coolant or non-explosive water-based liquids.

Execution:
- **Ident. No. 003–006:**
  - Nozzle made of brass
  - With infinite flow control
- **Ident. No. 105:** Consisting of blow gun, silencer, rubber nozzle (diameter 14 mm), protective shield

Advantage:
- Ergonomic handle piece for working comfortably
- High blowing force
- Infinitely adjustable air flow
- **Ident. No. 005–006:** Satisfies OSHA and ArbStättV (German workplaces ordinance) requirements

Delivery:
Ident. No. 105: In cardboard box

Technical data:
- Max. operating pressure: 16 bar
- Burst pressure: 64 bar
- Connection thread: R 1/4 inch
- Min./max. temperature conditions: -20 to +60 °C

Ident. No. 005

Magnetic holder

Model		With 90 mm | permanently attached pipe	Removable 90 mm pipe	Star-Tip | low-noise | permanently attached pipe	Star-Tip | low-noise | removable pipe	Blow gun blister pack
Sound-pressure level (dB)		96	94	79	79	96
Weight (kg)		0.096	0.096	0.096	0.096	-
75179...	Ident. No.	003 ●	004 ●	005 ●	006 ●	105 ●

Prod. Gr. 7AI

Pneumatic and liquid blow guns MultiFLOW

for cleaning jobs using water, coolant or compressed air

Application:
For cleaning work using compressed air, coolant or non-explosive water-based liquids.

Execution:
- Precisely adjustable flow rate regulation
- Satisfies OSHA requirements
- **Ident. No. 010:**
  - Zinc-plated hardened steel nipple (Ø 7.6 mm)
  - Compatible with all standard pneumatic systems
  - Planar or pointed jet with adjustable jet nozzle
- **Ident. No. 020:** Brass nipple (Gardena nipple: particularly suitable for liquids)
- **Ident. No. 020–030:** Flat or concentrated jet with adjustable jet nozzle
- **Ident. No. 030:** Zinc-plated steel adapter, 1/4" female thread

Notes:
Ident. No. 010: Compatible coupling, e.g. no. 75135 010-113

Technical data:
- Min./max. flow capacity: 5-25 l/min
- Min. air consumption: 200 l/min
- Max. air consumption: 1200 l/min
- Max. operating pressure: 16 bar
- Burst pressure: 64 bar
- Connection thread: R 1/4 inch
- Min./max. sound-pressure-level: 79-101 dB
- Min./max. temperature conditions: -20 to +60 °C

Ident. No. 010

Removes swarf reliably, even in places difficult to access

Efficient cleaning of machines using coolant

Type		320 nipple	Liquid nipple	Steel nipple | 1/4 inch female thread
Weight (kg)		0.191	0.21	0.205
75103...	Ident. No.	010 ●	020 ●	030 ●

Prod. Gr. 7AI

RIEGLER Pneumatic spray gun
With swivelling nozzle

Application:
For spraying low-viscosity media such as oils.

Execution:
- Matt translucent plastic cup (container volume approx. 0.7 l)
- Jet adjustable with nozzle

Technical data:
- Type: SPR1L
- Max. operating pressure: 12 bar
- Nozzle size: 4.5 mm

75101...	Ident. No.	910 ●

Prod. Gr. 7AD

HAZET Suction and blow gun
Reversible

Application:
For suctioning dirt into dust bag and for blowing out surfaces

Execution:
- Metal housing
- With single hand switch
- Vacuum level: 7.5 mmHg

Advantage:
- Special deflector insert protects bag against damage, e.g. from metal chips

Technical data:
- Connection thread: IT 1/4 inch
- Sound-pressure level: 92 dB

75033...	Ident. No.	050 ●

Prod. Gr. 738

RIEGLER Pneumatic tyre inflation gauge
0-12 bar, can be calibrated; EU type approval

Application:
For filling, bleeding and testing tyre pressure in workshops and filling stations.

Execution:
- Manometer with plastic protective cap for protection against shock and impacts
- Manometer diameter: 80 mm
- Can be loaded up to final display value
- Scale interval in bar and psi

Delivery:
Includes Plug-in nipple

Technical data:
- Type: 37.013.2
- Min./max. pressure measuring range: 0-12 bar

75101...	Ident. No.	701 ●

Prod. Gr. 7AD

HAZET Pneumatic tyre inflation gauge
Calibrated and uncalibrated

Application:
Ident. No. 060: For filling, bleeding and checking tyre pressure
Ident. No. 064: Precise tyre inflation and testing of the air pressure

Execution:
- Rubber sheath protects the manometer against light impact
- Hose with integrated torque plug-in nipple
- **Ident. No. 060:**
  - Manometer diameter: 63 mm
  - Scale interval in bar and psi
  - Handle with actuating lever and drain button (for one-handed operation)
  - Flexible hose: Length: 400 mm
- **Ident. No. 064:**
  - Manometer diameter: 80 mm
  - Scale graduation in bar
  - Handle with actuating lever for filling and bleeding (one-handed operation)
  - Flexible hose: Length: 1000 mm

Advantage:
- **Ident. No. 064:** Calibrated device

Delivery:
Includes Plug-in nipple

Ident. No. 060

Ident. No. 064

Type		Non-calibrated	calibrated
Min./max. pressure measuring range		0-12 bar	0-10 bar
Hose length (mm)		400	1000
75033...	Ident. No.	060 ●	064 ●

Prod. Gr. 738

Pneumatic hose reels

In rotating, manual and automatic version

Application:

Ident. No. 210–231: For space-saving storage of pneumatic hoses and rolling up correctly.

Ident. No. 241: for space-saving storage of pneumatic hoses and correct rolling-up.

Execution:

- **Ident. No. 210–220, 241:** with 1/4” universal quick connection coupling and 1/4” plug-in nipple
- **Ident. No. 220:** With ergonomic handle for carrying comfort
- **Ident. No. 231:**
  - With wall and ceiling mounting bracket
  - Automatic function: lock and roll up simply by pulling
- **Ident. No. 241:**
  - with wall and ceiling mounting bracket
  - lock and roll up simply by pulling

Delivery:

Ident. No. 231: with 1/4in universal quick connection coupling and 1/4” plug-in nipple

Technical data:

- Material of hose: Polyurethane

Ident. No. 210

Ident. No. 220

Ident. No. 231

Ident. No. 241

Model		ST 200 pivot-mounted	SA 100 manual	SA 250 automatic	SA 312 automatic
Type		Rotatable	Manual	Automatic	Automatic
Hose length (m)		30	20	8	12
Inner hose Ø (mm)		9	9	8	8
Outer Ø of hose (mm)		12.5	15	12	12
Weight (kg)		8	4	2.9	8
Material of drum body		Plastic	Plastic	Plastic	Metal
Max. operating pressure (bar)		12	15	15	12
With connection male coupling		Yes	Yes	Yes	-
75014...	Ident. No.	**210**	**220**	**231**	**241**
		●	●	●	●

Prod. Gr. 745

Spiral hoses

Made of PA or PU (polyurethane)

Application:

For connection to compressed-air tools and compressed-air machines.

Execution:

- With brass quick-action coupling and plug-in nipple
- For a clearly organised workplace
- For reducing the risk of accidents

Technical data:

- Outer diameter of hose: 8.0 mm
- Inner hose diameter: 6.0 mm
- Max. operating pressure: 8 bar

Hose length (m)		5	7.5
75051...	Ident. No.	**002**	**004**
		●	●

Prod. Gr. 745

Pneumatic spiral hose

Made of polyamide

Application:

For connection to compressed-air tools and compressed-air machines.

Execution:

- With special fitting connections at both ends
- Suitable for water and air
- Max. pressure: 10 bar
- Max. temperature: 90°C
- For a clearly organised workplace
- For reducing the risk of accidents

Technical data:

- Connection thread: G 1/4 inch
- Max. operating pressure: 10 bar

Hose length (m)	Outer Ø of hose (mm)	Inner hose Ø (mm)	**75052...** Ident. No.	
2.5	8	6	**010**	●
2.5	10	8	**025**	●
5	8	6	**030**	●
5	10	8	**045**	●
10	8	6	**050**	●
10	10	8	**065**	●

Prod. Gr. 758

prevost Pneumatic spiral hose

Made of polyurethane

Application:
For connection to compressed-air tools and compressed-air machines.

Execution:
- With one fixed and one rotating screwed joint with ball bearing, can also be rotated with slight pressure
- connections pre-coated with PTFE, therefore scratch-resistant
- Max. pressure: 8 bar
- Max. temperature: 70°C

Advantage:
- Extremely flexible for better handling

Hose length (m)		2	4	4	6	8
Outer Ø of hose (mm)		8	8	10	10	10
Inner hose Ø (mm)		5	5	6.5	6.5	6.5
Connection thread		G 1/4 inch	G 1/4 inch	G 1/4 inch	G 1/4 inch	G 1/4 inch
Max. operating pressure (bar)		10	10	10	10	10
75054...	Ident. No.	015 ●	025 ●	035 ●	045 ●	055 ●

Prod. Gr. 758

EJN Pneumatic spiral hose eSafe

Series 320

Application:
for connection to compressed-air tools and compressed-air machines.

Execution:
- With eSafe safety coupling and nipple
- ends and rotary joint axially offset on both sides
- max. pressure: 10 bar

Advantage:
- Coupling and nipple (DN 7.6) pre-installed for immediate use
- Lightweight and flexible
- Long life with excellent ageing properties
- The ventilation function of the eSafe safety coupling reduces the noise level and prevents accidents caused by the whiplash effect

Ident. No. 011

Hose length (m)		2	4	6	4	6
Outer Ø of hose (mm)		10	10	10	12	12
Inner hose Ø (mm)		6.5	6.5	6.5	8	8
Max. operating pressure (bar)		10	10	10	10	10
75055...	Ident. No.	011 ●	021 ●	031 ●	041 ●	051 ●

Prod. Gr. 7AI

RIEGLER Pneumatic hoses

in various designs; for compressed air and water

Execution:
- Cadmium- and silicone-free
- **Ident. No. 400–404:**
  - PVC fabric hose with inlay for a wide range of applications
  - Partly oil-, gasoline- and alkali-resistant
  - Abrasion-proof, weatherproof and UV-resistant
  - Unlimited storage life
- **Ident. No. 405–407:**
  - Highly flexible three-ply fabric hose with canvas inlay
  - Made from high-quality polyester fibres in soft technology
  - Oil and petrol-repellent
  - Pressure- and UV-resistant

Technical data:
- Material of hose: PVC
- Max. operating pressure: 15 bar
- Hose length: 50 m
- Min./max. temperature conditions: -20 to +60 °C

Ident. No. 405–407

Colour		Transparent	Transparent	Transparent	Transparent
Inner hose Ø (mm)		6	8	9	10
Outer Ø of hose (mm)		12	14	15	16
Cladding (mm)		3	3	3	3
75101...	Ident. No.	400 ●	401 ●	402 ●	403 ●

Colour		Transparent	Light blue	Light blue	Light blue
Inner hose Ø (mm)		13	6.3	9	12.7
Outer Ø of hose (mm)		20	11	14.5	19
Cladding (mm)		3.5	2.35	2.75	3.15
75101...	Ident. No.	404 ●	405 ●	406 ●	407 ●

Prod. Gr. 7AD

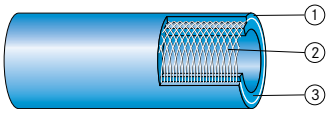
PUR pneumatic hose

With fabric lining

Execution:
- Shell made of ester-based polyurethane
- Polyester fibre fabric inlay
- Inner and outer layers made of polyester fibres
- Resistant to oil, solvents and non-aqueous solutions
- Straight version

Advantage:
- High elasticity, extremely flexible
- Long service life
- Excellent resistance to oil, solvents and non-aqueous solutions

Ident. No. 010



Material of hose		Polyurethane/ polyester fibres	Polyurethane/ polyester fibres	Polyurethane/ polyester fibres	Polyurethane/ polyester fibres	Polyurethane/ polyester fibres
Colour		Black | Blue	Blue	Blue	Blue	Blue
Inner hose Ø (mm)		6.5	8	9.5	11	13
Outer Ø of hose (mm)		10	12	13.5	16	18
Max. operating pressure (bar)		16	16	12	12	10
Burst pressure (bar)		64	64	48	48	40
Hose length (m)		50	50	50	50	50
Min./max. temperature conditions		-30 to +60 °C	-30 to +60 °C	-30 to +60 °C	-30 to +60 °C	-30 to +60 °C
75391...	Ident. No.	**010** ●	**020** ●	**030** ●	**040** ●	**050** ●

Prod. Gr. 7AI

Multiple socket outlets

In various versions for use in industry, skilled trades, offices or private homes

Execution:
- **Ident. No. 005:** 3 sockets, standard version
- **Ident. No. 010:** 6 sockets, standard version
- **Ident. No. 010–020:** With on/off switch for controllable power supply
- **Ident. No. 015:** 6 sockets with overvoltage protection
- **Ident. No. 020:** 6 sockets with splash-proof covers

Ident. No. 005

Ident. No. 010

Ident. No. 015

Ident. No. 020

Cable length (m)		1.4	1.4	1.4	3
Cable type		H05VV-F3G1.5 mm²	H05VV-F3G1.5 mm²	H05VV-F3G1.5 mm²	H07RN-F3G1.5 mm²
Cable material		PVC	PVC	PVC	Rubber
Number of sockets (Safety plug) (PCS)		3	6	6	6
Colour		Black	Black	Black	Black
IP protection class		IP 20	IP 20	IP 20	IP 44
Weight (kg)		0.3	0.4	0.43	0.95
75000...	Ident. No.	**005** ●	**010** ●	**015** ●	**020** ●

Prod. Gr. 7AG

Extension lead

Application:
For continuous use outdoors and on construction and installation sites.

Execution:
- Neoprene rubber cable
- AC power version

Technical data:
- Nominal voltage: 250 V
- Cable length: 5 m
- Cable type: H07RN-F3G1.5 mm²
- Cable material: Neoprene-rubber
- Number of sockets (Safety plug): 1 PCS
- Colour: Black
- IP protection class: IP 44
- Weight: 1.000 kg

EXTENDED PROGRAM

75000...	Ident. No.	**028** ●

Prod. Gr. 7AG

Extension cable

Approved for continuous use outside, as well as on construction and installation sites, in accordance with BGI 608

Execution:
- Heavy neoprene rubber extension cable
- With splash-proof coupling and plug
- Approved for continuous use outside and on construction and installation sites. BGI 608

Technical data:
- Cable material: Rubber
- Colour: Black
- IP protection class: IP 44

Nominal voltage (V/AC)		250	250	400	400	400
Cable length (m)		10	25	10	25	25
Cable type		H07RN-F3G1.5 mm²	H07RN-F3G1.5 mm²	H07RN-F5G1.5 mm²	H07RN-F5G1.5 mm²	H07RN-F5G2.5 mm²
Number of sockets (Safety plug) (PCS)		1	1	-	-	-
Number of sockets (CEE) (PCS)		-	-	1	1	1
Weight (kg)		1.7	4	2.4	6	9
75000...	Ident. No.	050 ●	055 ●	060 ●	065 ●	062 ●

Prod. Gr. 7AG

Ident. No. 050–055
Extension cable for 250 V DC

Ident. No. 060, 065
Extension cable for 400 V AC

Cable boxes

For use in dry environments, 250 V

Execution:
- Impact resistant housing made of special plastic
- Overload and overheating indicator lamps
- Ergonomically shaped carrying handle

Advantage:
- Robust twin feet for good stability

Technical data:
- Cable type: H05VV-F3G1.5 mm²
- Cable material: Plastic
- Number of sockets (Safety plug): 4 PCS
- Colour: Black | Light grey (bright grey)
- IP protection class: IP 20

Cable length (m)		5	15
Height x width x depth		250 x 195 x 75 mm	270 x 225 x 120 mm
Weight (kg)		0.9	2.3
75002...	Ident. No.	205 ●	215 ●

Prod. Gr. 750

Cable box

suitable for use in dry environments only

Execution:
- High quality, break-resistant plastic housing
- Thermal circuit breaker

Advantage:
- Good stability thanks to a robust double foot
- Easy to roll-up and to unroll

Technical data:
- Cable type: H05VV-F3G1.5 mm²
- Cable material: Plastic
- Number of sockets (Safety plug): 4 PCS
- Height x width x depth: 280 x 230 x 80 mm
- IP protection class: IP 20

EXTENDED PROGRAM

Cable length (m)		10	8	15
Colour		Blue	Turquoise blue	Red
Weight (kg)		1.66	1.66	2.4
75002...	Ident. No.	500 ●	501 ●	502 ●

Prod. Gr. 7AG

No. 75002 600 Bracket for mounting HEDI cable box
Ident. No. 75002 500 in the sidewall

Coworker cable reel made of solid plastic

suitable for use in dry environments

Application:
In dry environment

Execution:
- Solid plastic version
- AC power version

Advantage:
- Rotation stop switch
- Ergonomic carry handle
- Compact size

Technical data:
- Cable type: H05VV-F3G1.5 mm²
- Number of sockets (Safety plug): 4 PCS
- Material of drum body: Plastic
- Diameter: 250 mm
- Colour of cable: Black
- Width x height x depth: 250 x 345 x 230 mm
- IP protection class: IP 20

Cable length (m)		25	50
Weight (kg)		4.5	7.15
75006...	Ident. No.	006 ●	007 ●

Prod. Gr. 7AG

Ident. No. 006

Companion three-phase current cable reel made of solid plastic

For short-term outdoor use

Application:
Can be permanently used outdoors

Execution:
- Solid plastic version
- **Ident. No. 021:** Three-phase current version

Advantage:
- Ergonomic soft-touch carry handle
- Folding twist grip
- Rotation stop switch
- Cable guide
- **Ident. No. 022:** DiagS diagnostics system

Technical data:
- Cable type: H07RN-F5G2.5 mm²
- Number of sockets (Safety plug): 2 PCS
- Number of sockets (CEE): 1 PCS
- Material of drum body: Plastic
- Colour of cable: Black

Cable length (m)		20	25
Ø (mm)		250	290
Width x height x depth		265 x 370 x 270 mm	305 x 415 x 285 mm
IP protection class		IP 44	IP 54
Weight (kg)		9.4	12.25
75006...	Ident. No.	021 ●	022 ●

Prod. Gr. 7AG

Ident. No. 021

Champion cable reel made of solid plastic

for continuous use outdoors

EXTENDED PROGRAM

Application:
Can be permanently used outdoors

Execution:
- Solid plastic version
- AC power version
- Wall mounting
- Large tread surfaces
- Patented 7° inclination

Advantage:
- Ergonomic soft-touch carry handle
- Folding twist grip
- Rotation stop switch
- Cable guide
- DiagS diagnostics system

Cable length (m)		40	40	25	25
Cable type		H07RN-F3G1.5 mm²	H07RN-F3G1.5 mm²	H07RN-F3G1.5 mm²	H07RN-F5G2.5 mm²
Number of sockets (Safety plug) (PCS)		3	3	3	3
Material of drum body		Plastic	Plastic	Plastic	Plastic
Ø (mm)		250	250	250	250
Colour of cable		Black	Red	Black	Black
Width x height x depth		265 x 370 x 250 mm	265 x 370 x 250 mm	-	-
IP protection class		IP 44	IP 44	IP 44	IP 44
Weight (kg)		8.75	8.75	6.15	8.15
75006...	Ident. No.	011 ●	012 ●	061 ●	062 ●

Prod. Gr. 7AG

Ident. No. 011

Champion solid plastic cable reel

Application:
Can be permanently used outdoors

Execution:
- Solid plastic version
- AC power version

Advantage:
- Ergonomic soft-touch carry handle
- Folding twist grip
- Rotation stop switch
- Cable guide
- DiagS diagnostics system

Technical data:
- Cable length: 40 m
- Number of sockets (Safety plug): 4 PCS
- Material of drum body: Plastic
- Diameter: 290 mm
- Width x height x depth: 305 x 415 x 240 mm
- IP protection class: IP 54

Ident. No. 034

Cable type	Colour of cable	Weight (kg)	75006... Ident. No.	
H07BQ-F3G1.5 mm²	Orange	6.7	031	●
H07BQ-F3G1.5 mm²	Yellow	6.7	032	●
H07BQ-F3G1.5 mm²	Green	6.7	033	●
H07BQ-F3G1.5 mm²	Blue	6.7	034	●
H07BQ-F3G2.5 mm²	Orange	8.92	036	●
H07BQ-F3G2.5 mm²	Yellow	8.92	037	●
H07BQ-F3G2.5 mm²	Green	8.92	038	●
H07BQ-F3G2.5 mm²	Blue	8.92	039	●

Prod. Gr. 7AG

Full plastic cable drum
for continuous use outdoors

Execution:
- Fully plastic
- 4-way grounding contact sockets
- Neoprene-rubber cable H07RN-F
- Ergonomic handle with 2-component soft touch
- With HEDI DiagS diagnostics system
- With rotation stop switch

Advantage:
- Incline of drum body of approx. 7° degrees
- Optimum stability
- Improved visibility of the socket insert
- Safety in wet conditions: Drainage due to incline and drainage grooves; even when lying down
- Convenient wall mounting of cable drum through rear boreholes

Notes:
Complies with the provisions of DGUV-I 203-005, K2 and DGUV-I 203-006

Technical data:
- Cable length: 40
- Number of sockets (Safety plug): 4 PCS
- Material of drum body: Plastic
- Diameter: 290
- Colour of cable: Black
- IP protection class: IP 54

Ident. No. 400

Cable type		H07RN-F3G1.5 mm²	H07RN-F3G2.5 mm²
Weight (kg)		8.5	11.8
75006...	Ident. No.	400 ●	410 ●

Prod. Gr. 7AG

Spring loaded reels

Electric version for use in dusty and dirt-prone environments

Application:

Ident. No. 110–115: Cable drum for all operations in which carrying the drum is a hindrance.

Ident. No. 120: spring-operated automatic cable winding

Execution:

- **Ident. No. 110–115:**
  - Maximum power with cable wound: 800 W
  - Maximum power with cable unwound: 2000 W
  - 1.5 metre connecting cable
  - Robust, closed housing
  - Thermal circuit breaker
  - Swivelling wall or ceiling bracket with 150° rotation
  - Rotation-stop system: Cable can be snapped in lace
- **Ident. No. 120:**
  - cable lock, easy to switch off and control
  - impact-resistant plastic frame
  - painted steel swivel-mounted wall bracket

Technical data:

- Cable material: Neoprene-rubber
- Material of drum body: Plastic
- Colour of cable: Black
- IP protection class: IP 24

Ident. No. 110–115

Ident. No. 120

Cable length (m)		10	15	15
Cable type		H07RN-F3G1.5 mm²	H07RN-F3G1.5 mm²	H07RN-F5G2.5 mm²
Number of sockets (Safety plug) (PCS)		1	1	-
Number of sockets (CEE) (PCS)		-	-	1
Ø (mm)		290	290	-
Width x height x depth		275 x 325 x 18.5 mm	275 x 325 x 18.5 mm	450 x 361 x 208 mm
Weight (kg)		4.3	5	10
75006...	Ident. No.	110 ●	115 ●	120 ●

Prod. Gr. 7AG

Nilfisk Sweeping machines

For interior and exterior cleaning

Application:

Ideal choice for cleaning small production facilities, car parks, shopping centres, schools, workshops, bus and railway stations as well as in outdoor areas of office buildings.

Execution:

- with 2 side brooms
- main sweeping roller is equipped with a two-sided gear drive and the side brush is driven via a belt
- with adjustable handle with soft mould
- with dust filter for a clean exhaust air while sweeping
- working width 480 mm, not including side brooms

Advantage:

- cleaning is up to 6 times faster than when using a normal broom.
- virtually maintenance-free: a simple mechanical construction. no motor and no battery.
- easy to control thanks to large wheels

Delivery:

main sweeping roller, 2 side brooms, folding handle

Model			SW 250 920
Bin capacity (l)			38
Max. surface coverage per hour			1840
Weight (kg)			20
Nilfisk	75730...	Ident. No.	187 ●

Prod. Gr. 7AJ

Nilfisk Wet/dry vacuum cleaners

For use in workshops and industry

Application:

No. 75520: Handy and robust vacuum cleaner – ideal for small cleaning tasks in workshops

No. 75521 042: Multi-purpose vacuum cleaner for industry and skilled trades.

Execution:

- **No. 75520:** Blow-out function
- **No. 75521 042:** with cable and accessory holder
- **No. 75521 060:**
  - Anti-static design
  - Certified according to dust class M (extended warning levels according to BG Bau specifications)
  - 42l dirt container and robust chassis with steel castors
  - With InfiniClean™ - fully automatic filter cleaning system for highest cleaning requirements and high filter efficiency
  - With appliance socket including automatic switch-on for the use of power tools

Advantage:

- **No. 75520 012–75521 042:** washable PET filter element
- **No. 75521 042:** suction regulation on hand-held tube
- **No. 75521 060:**
  - PTFE flat pleated filter (M-Class) with a separation efficiency of at least 99.9%
  - Use the same maintenance-free filter for wet and dry cleaning to reduce maintenance requirements, costs and downtime.

Delivery:

No. 75520: With 1.8 m suction hose (dia. 32 mm), hand-held tube with suction regulation, extension tube, joint and floor nozzle, universal nozzle, filter element and fleece filter bag

No. 75521 042: suction hose D32 x 3.5 m, aluminium extension pipes D36 2 x 500 mm, floor nozzle, joint nozzle, PET filter element Ø 185 x 140 mm, filter bag

No. 75521 060: PTFE flat filter, suction hose antistatic red/black D32-4m, extension tubes stainless steel D36 2x505mm, hand tube, tool adapter, crevice nozzle and floor nozzle

Notes:

No. 75520: Not suitable for oil and coolants

Model		21-01 PC INOX	ATTIX 30-01	ATTIX 44-2M IC
Power input (W)		1250	1500	1400
Max. air delivery volume (l/min)		3600	3700	4500
Underpressure (mbar)		210	250	250
Bin capacity (l)		20	30	42
Sound-pressure level (dB)		64	59	60
Weight (kg)		8.5	10	16
Cable length (m)		5	7.5	7.5
Filter cleaning		Semi-automated	-	Fully automated
With device connector		No	No	Yes
With antistatic system		No	No	Yes
With automatic shut off		No	No	-
With accessory tray		Yes	Yes	Yes
With soft start		No	No	Yes
Material of bins		Stainless steel	-	Plastic
With speed control		No	No	Yes
Length x width x height		390 x 400 x 525 mm	450 x 380 x 595 mm	265 x 385 x 605 mm
75520...	Ident. No.	012 ●	-	-
75521...	Ident. No.	-	042 ●	060 ●+

Prod. Gr. 7AJ

No. 75520

No. 75521 042

No. 75521 060

Nilfisk Wet/dry vacuum cleaners

For professional applications

Application:

No. 75522: for professional use in wet and dry applications

No. 75524 020: flexible high-performance vacuum cleaner with two-motor drive (2x 1500 W) for demanding cleaning tasks.

No. 75524 030: For working in environments with explosive dust in accordance with ATEX Zone 22.

Execution:

- **No. 75524 020:** Tilting and removable container
- **No. 75524 030:**
  - Anti-static design
  - Approved for environments with explosive dust in accordance with ATEX Zone 22
  - Approved for working with class M hazardous dust
  - With automatic switch-on for power tools

Advantage:

- **No. 75522:** high vacuum performance with low noise levels
- **No. 75522 036–75524 020:** washable PET fleece filter element
- **No. 75524 030:**
  - Brushless long life motors (single phase) for maximum performance and durability.
  - PET filter element allows moist dirt to be sucked up without the use of the wet filter (separation efficiency of at least 99.9%)

Delivery:

No. 75522: 4-m suction hose (diameter 36 mm), rubber diagonal tube nozzle, curved hand-held tube, filter element and fleece filter bag

No. 75524 020: 4-m suction hose (38 mm), 2 x 0.5-m stainless steel extension tube, bent hand pipe, fleece filter bag and PET nano fibre filter element, 400-mm floor nozzle, 300-mm plastic joint nozzle

No. 75524 030: Paper filter bag (1 piece), suction hose diameter 27 mm x 3.5 m, PET filter element diameter 185 x 140 mm, engine cooling air filter and tool adapter

No. 75522

No. 75524 020

No. 75524 030

Model		ATTIX 751-11	ATTIX 961-01	ATTIX 791-2 M/B1
Power input (W)		1500	1500	1500
Max. air delivery volume (l/min)		3600	3600	3800
Underpressure (mbar)		230	250	250
Bin capacity (l)		70	70	70
Sound-pressure level (dB)		57	67	59
Weight (kg)		25	30	25
Cable length (m)		7.5	10	7.5
Filter cleaning		-	Semi-automated	Semi-automated
With device connector		Yes	No	Yes
With antistatic system		Yes	No	Yes
With accessory tray		Yes	Yes	Yes
With soft start		Yes	Yes	Yes
Material of bins		Stainless steel	Stainless steel	Stainless steel
With speed control		-	-	Yes
Length x width x height		605 x 580 x 970 mm	580 x 600 x 970 mm	605 x 580 x 970 mm
75522...	Ident. No.	036 ●	-	-
75524...	Ident. No.	-	020 ●	030 ○

Prod. Gr. 7AJ

KÄRCHER Wet/dry vacuum cleaners

For professional applications

Application:

No. 75523: for removing large quantities of fine dust, but also for coarse dirt and water. Ideal for use in construction, the food sector, the automotive branch and in industry in general.

No. 75526: for universal commercial use.

Execution:

- Maintenance-free suction turbines
- **No. 75523:**
  - Discharge hose (oil resistant)
  - tilting frame
  - stop castor
- **No. 75526:** mechanical float cut-off

Advantage:

- **No. 75523:**
  - two motors for consistently high suction power
  - filter cleans itself with targeted, powerful blasts of air. The process is triggered automatically and the suction power remains consistently high. Further advantages: low maintenance costs, long filter service life.
  - adjustable push handle and large wheels ensure easy transport to the site, even on uneven surfaces.

Delivery:

No. 75523: 4.0-m suction hose, C 40 with elbow, electrostatically earthed, 2 x 0.5-m metal suction tubes, wet/dry suction nozzle (360 mm), joint nozzle, flat folding filter

No. 75526: With 2.5-m suction hose with elbow, cartridge filter, metal suction hose 2 x 0.5 m, wet and dry floor nozzle, joint nozzle, paper filter bag (double layered, BIA C)

No. 75526

Model		NT 27/1 ME Advance	NT 65/2 Tact 2
Power input (W)		1380	2760
Max. air delivery volume (l/min)		4020	4440
Underpressure (mbar)		208	254
Bin capacity (l)		27	65
Sound-pressure level (dB)		72	73
Weight (kg)		8.2	24.5
Cable length (m)		7.5	10
With device connector		No	No
With antistatic system		No	Yes
With automatic shut off		No	Yes
With accessory tray		No	Yes
Material of bins		Stainless steel	Plastic
Length x width x height		420 x 420 x 540 mm	575 x 490 x 880 mm
Protection class		Protection class II/protective insulation	Protection class I/protective grounding
75526...	Ident. No.	**023** ●	-
75523...	Ident. No.	-	**017** ●+

Prod. Gr. 7NK

No. 75523

KÄRCHER Industrial vacuum cleaner

Application:

Ident. No. 210–220: For the toughest industrial applications. For collecting large quantities of liquid and/or solids such as cooling lubricants, water or metal chips (as dust-free as possible).

Ident. No. 225: For vacuuming medium quantities of oil, cooling emulsions and fine, light metal chips ■For medium quantities of coarse and abrasive chips

Execution:

- With tilt chassis
- With visual level indicator on the unloading hose
- **Ident. No. 210–220:**
  - With integrated cover of the exhaust air to prevent contamination in the motor area.
  - Drain via either the unloading hose or the tilt frame
  - Can be picked up by forklift
- **Ident. No. 225:**
  - With continuously adjustable drum pump (up to a height difference of 6 m)
  - With washable and durable pocket filter
  - With two-turbine solution

Advantage:

- **Ident. No. 210:** The optional chip basket allows the solids to be easily separated from the liquid
- **Ident. No. 210–220:**
  - 360° rotating hose connection on the suction head enables comfortable suction in all directions without the need to knot the suction hose
  - Increased safety during transport by attaching the cable to the head of the device.
- **Ident. No. 220–225:** With the optional chip basket, solids can be cleanly separated from absorbed liquid.
- **Ident. No. 225:** It is also possible to use a forklift or crane for emptying

Delivery:

Ident. No. 210–220: includes connecting bend

Ident. No. 225: Includes Connecting bend

Technical data:

- Power input: 2400 W
- Max. air delivery volume: 148 l/s
- Cable length: 10 m
- Inner hose diameter: 50
- Length x width x height: 620 x 740 x 1180 mm

Ident. No. 210

Ident. No. 220

Ident. No. 225

Model		IVR-L 100/24-2 Tc	IVR-L 120/24-2 Tc	IVR-L 100/24-2 Tc Dp
Bin capacity (l)		100	120	100
Weight (kg)		50	66	57
75730...	Ident. No.	**210** ○+	**220** ○+	**225** ○+

Prod. Gr. 7NK

KÄRCHER Accessories for Kärcher industrial vacuum cleaners

Ident. No. 300

Ident. No. 360

Type			For Kärcher industrial vacuum cleaner IVR-L 40/12-1	For Kärcher industrial vacuum cleaner IVR-L 40/12-1	-	For Kärcher industrial vacuum cleaner IVR-L 100/24-2 and 120/24-2	For Kärcher industrial vacuum cleaner IVR-L 100/24-2 and 120/24-2
Included in delivery			PU hose 3 m (9.989-617.0) | handle (9.977-679.0) | standard nozzle (9.989-401.0) | pipe reducer (9.989-690.0) | surface nozzle 120 mm (9.988-118.0)	-	-	ME-PU hose 3 m (9.989-623.0) | handle (9.977-678.0) | standard nozzle (9.989-673.0) | reducer (9.977-772.0) | surface nozzle (9.988-119.0)	-
75730...	Liquid accessory set DN40	Ident. No.	300 ○	-	-	-	-
75730...	Over-fill protection dia. 435 mm	Ident. No.	-	302 ○	-	-	-
75730...	Expansion from DN50 to DN70	Ident. No.	-	-	304 ○	-	-
75730...	Hose PU DN40 3 m	Ident. No.	-	306 ○	-	-	-
75730...	Handle DN40	Ident. No.	-	308 ○	-	-	-
75730...	Suction pipe 850 mm DN40	Ident. No.	-	310 ○	-	-	-
75730...	Standard nozzle PVC DN40	Ident. No.	-	312 ○	-	-	-
75730...	Joint nozzle flexible 20 mm x 45 mm DN40	Ident. No.	-	316 ○	-	-	-
75730...	Floor nozzle aluminium 370 mm DN40	Ident. No.	-	318 ○	-	-	-
75730...	Sieve basket stainless steel 20 litres, dia. 400mm	Ident. No.	-	320 ○	-	-	-
75730...	Accessories set for liquids/chips DN50	Ident. No.	-	-	-	360 ○	-
75730...	Over-fill protection dia. 540 mm	Ident. No.	-	-	-	-	362 ○
75730...	ME-PU DN50 hose 3 m.	Ident. No.	-	-	-	-	364 ○
75730...	Handle DN50	Ident. No.	-	-	-	-	366 ○
75730...	Suction pipe 850 mm DN50	Ident. No.	-	-	-	-	368 ○
75730...	Standard nozzle PVC DN50	Ident. No.	-	-	-	-	370 ○
75730...	Joint nozzle flexible 20 mm x 45 mm DN50	Ident. No.	-	-	-	-	374 ○
75730...	Floor nozzle aluminium 370 mm DN50	Ident. No.	-	-	-	-	376 ○
75730...	Sieve basket 40 litres stainless steel dia. 495 mm	Ident. No.	-	-	-	-	378 ○

Prod. Gr. 7NK

Nilfisk Industrial vacuum cleaner

Swarf and liquid vacuum cleaner

Application:
For demanding cleaning tasks in the metal industry; especially for picking up chips and liquid media.

Execution:
- **Ident. No. 110:**
  - With two bypass motors for demanding cleaning tasks
  - With integrated chip screen and drain valve
  - Manual filter shaker for a consistently high performance
  - Removable 37l container for a large holding capacity
  - Filter class L
- **Ident. No. 120:**
  - Powerful 2.4 kW 230V turbine
  - Robust industrial construction with manoeuvrable chassis
  - With air reversing valve for reliable and easy emptying of the dirt container.
  - With integrated chip basket

Advantage:
- **Ident. No. 110:**
  - The cyclone used ensures optimal filtration and protects the star filter from abrasive substances
  - Thanks to the vacuum display on the motor head, the operating behaviour can be easily monitored
  - Chips can be drawn directly from the processing machine, while the cyclone chip screen and drain valve ensure that the fluid can be easily separated from the chips.
- **Ident. No. 120:**
  - Separation of solids and liquids during the suction process
  - By switching the air reversing valve, the liquid can be pushed to the outside via the drain valve with the aid of the overpressure
  - If the amount of fluid to be removed outweighs the amount of solids, this machine is the first choice for safely recycling lubricants and oils.

Delivery:
Ident. No. 110: Includes machine cleaning kit (galvanized hose connection, polyurethane hose 5m with sleeves, galvanised curved fitting, antistatic hand and rubber nozzle)
Ident. No. 120: Includes oil protection kit (galvanised hose connection, antistatic and oil-resistant rubber hose 5m, galvanised curved fitting, galvanized flat nozzle and anti-static angled nozzle)

Technical data:
- Hose length: 5 m
- Inner hose diameter: 50 mm

Ident. No. 110

Ident. No. 120

Model		VHS120CB CC GV	VHO200 CB
Power input (W)		2000	2400
Max. air delivery volume (l/min)		5200	4500
Underpressure (mbar)		210	230
Bin capacity (l)		37	75
Length x width x height		560 x 570 x 1015 mm	580 x 880 x 1230 mm
Weight (kg)		38	60
75524...	Ident. No.	110 ○+	120 ○+

Prod. Gr. 7AJ

Rotoscriber labeller

Transformer-operated

Application:
For varied labelling tasks, such as labelling metal, plastic, glass, object carriers and much more.

Execution:
- Automatic adjustment as soon as it is brought into the writing position
- Shuts down when released from hand
- No tools necessary to replace the rotating writing tips
- To change tools, the worn-out tip is pulled out and the new one is attached with slight pressure

Delivery:
With transformer and writing tip for metal

Technical data:
- Operating voltage: 12 V/AC
- Current consumption: 400 mA
- Max. idle speed: 20000 rpm
- Material of housing: Aluminium
- Surface: Anodised
- Length: 150 mm
- Diameter of housing: 20 mm
- Weight: 0.07 kg

78035...	Ident. No.	010 ●

Prod. Gr. 780

Drills		
	Bench drill	2329
Grinding machines		
	Belt grinder	2330
Presses		
	Arbour presses	2330
	Knuckle joint presses	2331

ALZTRONIC bench drills

230 V power supply

Application:

Robust bench drilling machines for use in workshops.

Execution:

- On/Off switch with lockable EMERGENCY OFF cover
- reversing switch for clockwise and anti-clockwise rotation
- degree of protection IP 54
- spindle protection with electric protection
- connection plug (already fitted), cable length: 3 metres
- digital speed display (LED)
- paint DD structure finish RAL 7035 light grey and 7016 anthracite

Technical data:

- Platen area: 240 x 300 mm
- T-slots on clamping table (number x width x spacing): 2 x 12 x 80 mm
- Feed type: Manual
- Number of drive levels: Continuous
- Motor output: 0.54 kW

Model		ALZTRONIC 6	ALZTRONIC 9	ALZTRONIC 12	ALZTRONIC 14	ALZTRONIC 16
Max. drill Ø in steel E335/St 60 (continuous mode) (mm)		6	9	12	14	16
Drill chuck holder		B 16	B 16	B 16	MT 2	MT 2
Spindle stroke (mm)		40	40	40	80	80
Overhang (mm)		200	200	200	190	190
Column Ø (mm)		50	50	50	65	65
Weight (kg)		64	64	64	83	83
Min./max. spindle speed		700-10000 rpm	390-6500 rpm	250-5000 rpm	230-4000 rpm	100-2000 rpm
79110...	Ident. No.	010 O+	020 O+	030 O+	040 O+	050 O+

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Ident. No. 010–030
ALZTRONIC 6-12

Ident. No. 040–050
ALZTRONIC 14-16

TB 10 Plus/TB 10 eco Plus bench drills

230 V power supply

Application:

Ident. No. 010: Sensitive precision drill in alternating current version with electronically, infinitely variable controlled motor speeds, with quiet operation and excellent user comfort.

Ident. No. 020: The TB 10 Plus generation of table drills – innovative design combined with impressive technical features. Touchscreen display, ergonomically adapted drilling lever, ideal lighting and fewer operating controls for simplified use.

Execution:

- quickly adjustable drill depth stop
- emergency stop palm button
- infinitely variable speed control
- **TB 10 Plus** – digital display of rotation speed and drilling depth
- **TB 10 Eco Plus** – digital display of rotation speed
- LED lighting
- Electrical drill guard
- Thread cutting device (TB 10 Plus only)
- Spindle stop (TB 10 Plus only)

Technical data:

- Max. drill diameter in steel E335/St 60 (continuous mode): 10 mm
- Max. drill diameter in steel E335/St 60 (normal mode): 12 mm
- Drill chuck holder: B 16
- Feed type: Manual
- Rotational speed indicator: Digital
- Number of drive levels: Continuous

Model		TB 10 Eco Plus	TB 10 Plus
Max. thread-cutting performance		-	M6
Spindle stroke (mm)		50	60
Column Ø (mm)		50	70
Overhang (mm)		180	220
Platen area		180 x 260 mm	250 x 300 mm
Weight (kg)		30	44
Motor output (kW)		0.45	0.54
Min./max. spindle speed		500-3000 rpm	60-6000 rpm
79130...	Ident. No.	010 O+	020 O+

Prod. Gr. 788

Ident. No. 010
TB 10 Eco Plus (image shows options)

Ident. No. 020
TB 10 Plus (image shows options)

ZIMMER MASCHINEN Panther belt sanding machine

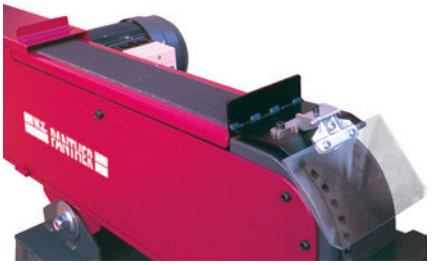
S1 three phase motor 400 V, 50 Hz

Application:
The belt sanding machines are suitable for the toughest applications in trade and industry. Equipped with S1 motors for 100% switch-on time. The capacity of S1 motors is 40% higher compared to S6 motors.

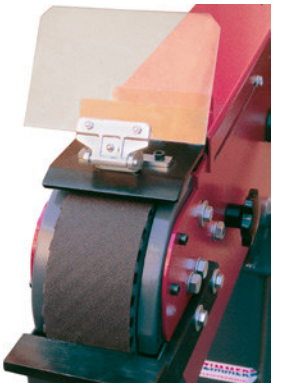
Execution:
- adjustable working height
- S1 three-phase motor 400 V, 50 Hz
- for surface and contact grinding
- low-vibration
- removable protective cover for surface grinding
- connection for double suction system
- with emergency stop switch

Delivery:
with underframe, sanding belt, spark protection and connection cable for optional fixed connection or CEE plug.

Technical data:
- Grinding belt length: 2000 mm
- Max. belt speed: 33 m/s
- Motor speed: 2800 rpm
- Motor output: 3 kW



Continuous surface grinding for processing longer workpieces.



Complete cover, no risk of injury.

Model		75/1/3	150/1/3
Max. sanding belt width (mm)		75	150
Weight (kg)		90	105
78236...	Ident. No.	010 ●+	020 ●+

Prod. Gr. 703

Accessories for		78236 010	78236 020
78236... suction connector 100 mm diameter for Panther and suction system ASA/4	Ident. No.	090 ●	090 ●
78236... Extractor fan Twister Turbo ASA/4	Ident. No.	904 ○	904 ○

Arbour presses

with underframe (optional)

Application:
Ident. No. 710–750: Arbour presses are invaluable for driving in and driving out arbours, spindles, pins etc. They are also essential in the CIM age for mechanical workshops and repair shops. The arbour presses are designed to be mounted on a workbench. Sizes 2, 3 A and 3 B are available with an underframe, which allows vibration-proof work processes.

Execution:
- **Ident. No. 710–750:** for mounting on a workbench
- **Ident. No. 730–750:** with underframe (optional)

Ident. No. 710
Size 0

Ident. No. 720
Size 1

Ident. No. 730
Size 2

Ident. No. 740
Size 3 A

Ident. No. 750
Size 3 B

Ident. No. 760

Model		Size 0	Size 1	Size 2	Size 3A	Size 3B	-
Max. Ø of workpiece (mm)		180	200	320	450	450	-
Throat depth to centre of spindle (mm)		100	104	164	230	230	-
Max. distance between table and rack (mm)		110	200	300	400	400	-
Slot widths of support table		10 mm | 15 mm | 20 mm | 25 mm	10 mm | 15 mm | 22 mm | 30 mm	15 mm | 25 mm | 35 mm | 50 mm	25 mm | 45 mm | 65 mm | 85 mm	25 mm | 45 mm | 65 mm | 85 mm	-
Pusher rod Ø (mm)		28	36	42	48	48	-
Cast iron body height (mm)		260	400	545	700	700	-
Compressive force (kN)		5.1	6.6	8.1	9	7.6	-
Width x depth		195 x 130 mm	277 x 172 mm	358 x 198 mm	480 x 250 mm	480 x 250 mm	-
Weight (kg)		11	25	42	92	96	-
Weight of base frame (kg)		-	-	55	55	55	-
79600...	Ident. No.	**710** ○+	**720** ○+	**730** ○+	**740** ○+	**750** ○+	**760** ○+

Prod. Gr. 788

Manual knuckle joint presses
with round ram

Application:
Knuckle joint presses do not generate their force until the end of the lift action and are ideal for assembly, punching, riveting, embossing etc. L models have an extra-large working height.

Execution:
- ergonomic ease of use
- laterally angled lever
- quick and easy to convert for left-handers
- available extras:
- pressure point precision setting
- stroke safety device – ensuring that the working stroke is always carried out in full
- counter
- Precision table bore 12H7

Model EP (image shows options)

Model		EP 500-40	EP 750-40	L-EP 750-40	EP 1200-60	L-EP 1200-60
Compressive force (kN)		5	7.5	7.5	12	12
Working stroke		40 mm	40 mm	40 mm	60 mm	60 mm
Overhang (mm)		63	80	80	80	80
Min./max. working height		40-213 mm	58-265 mm	55-375 mm	62-240 mm	75-338 mm
Min./max. working height with pressure point		20-197 mm	38-250 mm	39-359 mm	48-231 mm	53-328 mm
Table size		110 x 110 mm	157 x 157 mm	157 x 157 mm	157 x 157 mm	157 x 157 mm
Groove width (mm)		10	12	12	12	12
Pusher rod Ø (mm)		20	24	24	30	30
Length x width		110 x 164 mm	157 x 237 mm	157 x 280 mm	157 x 237 mm	157 x 280 mm
Weight (kg)		10	20	28	24	32
79600...	Ident. No.	**100** ○+	**110** ○+	**120** ○+	**130** ○+	**140** ○+

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PICTOGRAMS FOR MACHINING TOOLS

CUTTING MATERIALS AND COATINGS

HSS — High-performance high-speed steel

HSSE — High-performance high-speed steel with cobalt

HSSE-PM — Powder metallurgical HSSE steel

HSSE Co 8 — High-performance high-speed steel with 8% Co

HM — Cemented carbide

VHM — Solid carbide

VHM-TiAlN — Solid carbide with titanium aluminium nitride coating

Diamond-coated

TYPE, PROFILES, FORMS

Typ N — Normal teeth

Typ H — For hard materials

Typ W — For soft materials

Typ NR — Roughing teeth

Typ NF — Roughing/ finishing teeth

Typ HR — Fine cord teeth

Typ HF — Roughing/finishing teeth for hard materials

Typ WF — Roughing/finishing teeth for soft materials

Typ U4 — Twist drill for universal use

Typ NV — Standard drill with reinforced core

Typ VA — Twist drill for VA machining

Typ TLP — Twist drill with deep-hole profile

Concave

Convex

B — Tooth form B

45° — Edge protection chamfer

SEET 12T3 — Indexable insert type, shape and size

A (6-8) — Chamfer form and length

MILLING APPLICATIONS

Slot drills

Peripheral milling

Radius cutter (outside)

T-slot milling

Slot milling

Angular cutters

Copy milling

Torus milling

Circular milling

90° — 90° corner milling

45° — 45° surface milling

60° — 60° chamfer milling

SHANK TYPE

HA — HA straight shank

HB — HB straight shank

MK — Morse taper straight shank

Clarkson shank

APPLICATION HINTS

Using cutting direction

HPC >>ap>Vc — **High-Performance Cutting** Cutting with high delivery and high feed

HSC <ap>>Vc — **High-Speed Cutting** Cutting with minimal delivery and very high feed

TOLERANCES

H7 — Tolerance field

ISO 2 — Screw taps tolerance field

DIN 13 6g — Dies tolerance class

ANGLE ON TOOL

44°/45°/46° — Twist angle

135° — Angle of the tip

90° — Countersink angle

0° — Reamer angle of twist

THREAD TYPES

M — ISO metric screw thread

MF — Metric ISO fine thread

BSW — British Standard Whitworth thread

G — Pipe thread

Pg — Armoured conduit thread

Tr — Trapezoidal thread

NPT — National Pipe Taper thread

UNF — Unified National Fine thread

THREAD APPLICATIONS

Screw taps for blind hole

Screw taps for through hole

≤3xd — Screw taps for through hole and blind hole with max. thread depth <3xØ

OTHER INFORMATION

Z 4 — Number of teeth cut

IK — Internal cooling

3xD — Bore depth in relation to nominal diameter

MATERIALS

Material group P Steel materials

Material group P/H High-strength steels

Material group M Stainless steel

Material group N NF metals

Material group K Cast materials

Material group S Materials that are difficult to machine

Material group H Hard materials

APPLICATION TABLE

Application	Steel (N/mm²)			Stainless steel		Aluminium		Brass		Bronze		Plastics	Graphite/	GG(G)	Titanium	Nickel	Super	</=
No.	<700	<1.000	<1.300	Martensic	Austenit.	Short	Long	Short	Long	Short	Long		G(C)FK	G(C)FK	alloy	alloy	alloy	63 HRC
11175	●	●	○	●	●	●		●	●	●	●	○	○	●	●	○	○	

● Main application ○ Secondary application

VERNIER CALLIPERS AND MICROMETERS

PICTOGRAMS FOR USE

For measurements on the outside of round and rectangular parts

For measurements on the inside of round and rectangular parts

For depth measurements

For measuring the depth in narrow recesses

For measurements in T-slots

For measurements of through holes

For measurements of blind holes

For measurements of unequally divided tools

For measurements of internal recessing

For measurements of tooth width

For measurements of the parallelism

Sliding measuring bridge

Measurements of concave/convex profiles

Measurements of concave/concave profiles

For measurements of outside threads

Possibility of establishing any out-of-roundness

PICTOGRAMS FOR THE CHARACTERISTICS

Vernier calliper with Vernier scale

Vernier callipers with round scale

Scale reading 0.01 mm

Scale reading 0.001 mm

Electronic display with numerical step value of 0.01 mm

Electronic display with numerical step value 0.001 mm

Round scale 0.001 mm

Data output RS 232 optocoupled

Data output multiCOM: RS 232, USB or Digimatic

Protection class IP 40

Protection class IP 54

Protection class IP 65

Protection class IP 66

Protection class IP 67

Measuring surfaces Ø 8 mm

Measuring surfaces Ø 6.5 mm

Measuring surfaces Ø 2 mm

Replaceable anvil

Ratchet coupling

Advanced friction coupling

Spindle pitch 0.5 mm

Spindle pitch 1.0 mm

Stainless steel

COMPARISON MEASURING INSTRUMENTS

For measurements of through holes

For measuring the diameter of the core for inside threads

For measurements of blind holes

For measuring the track diameter for internal round threads

For measurements of short break-outs

For measurements of inner splines

For checking the cylindricity

For measurements of internal teeth

For checking the roundness

For measurements of recesses and pedestal bearings

For measuring spherical holes

For measurements of undercuts

SCALES

PICTOGRAMS FOR FUNCTION AND CHARACTERISTICS

Taring Empty container on the weighing plate, press the TARE key, display skips to zero. Can be repeated. Add-on weighing.

Quantities Reference quantities can be selected. Toggles display between unit and weight.

Formulation Separate memory for the weight of the container and the formulation ingredients (net total).

Percentage determination Display of deviation from reference weight (100%) as a percentage instead of in grammes.

DKD Certificate possible

Internal adjustment (CAL) Adjusting the accuracy with internal, motorised adjustment weight.

Adjustment program (CAL) For setting accuracy. External adjustment weight required.

Eligible for EU calibration, class 2 Calibration is required in all business transactions and applies in all EU states.

Eligible for EU calibration, class 3 Calibration is required in all business transactions and applies in all EU states.

Data interface RS 232 C, for connecting to printer or PC.

Battery operation Rechargeable set

Battery operation

Mains adapter 230V switch

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HAHN+KOLB Werkzeuge GmbH
Schlieffenstr. 40
71636 Ludwigsburg, Germany
Tel. +49 7141 498 40
info@hahn-kolb.de

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SCHLIEFFENSTRASSE 40
71636 LUDWIGSBURG
GERMANY

TEL. +49 7141 498 40
WWW.HAHN-KOLB.DE
INTERNATIONALSALES@HAHN-KOLB.COM